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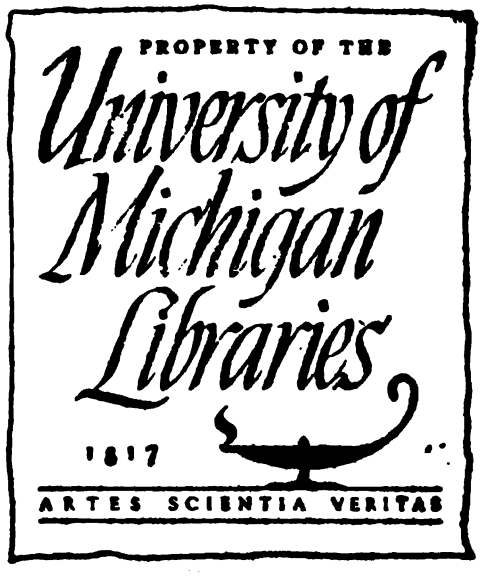

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OF

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Waste-Book.

as they take place. It begins with an inventory of every thing belonging to the owner, a list of the debts due to him, and of the debts he owes to others: It is carried on with a full relation of all the money he receives or pays; of all the goods he buys or sells; and of every other occurrence in his business. Each article should be entered as soon as the transaction takes place, and should be clearly expressed in the plainest language. It should require no supply from the accountant's memory, but should be fully intelligible to any person, however unacquainted with the business; at the same time, it should be written with all convenient brevity; and, therefore, sometimes refers to invoices and other accounts, for particulars. The accountant's first care should be to have nothing defective or ambiguous; his second, to have nothing superfluous.

3. The date is written in text on the top of each page. The articles are separated from each other by a line: and the transactions of one day are separated from those of another by a double line, in the middle of which there is left a blank space for inserting the day of the month. This book must be kept with the greater care, as it contains the materials from which the other books are composed; and any error or defect will occasion a like one in the others. Besides, it is the book whose authority is trusted to, and which must be exhibited to judges, or arbiters, when an account is disputed. As the journal is filled up from the waste-book, the authority of the former is esteemed more authentic, unless there be an obvious mistake through hurry; and either of these books is depended on rather than the leger, which, from its form, is more liable to error, and may be more easily vitiated by a fraudulent design.

4. As the waste-book contains the whole substance of the business, it may be applied so as to afford any information that can be wanted: but the labour of consulting it would be very great. For instance, if it were required to know how much any person owes us, we must look over the book from the beginning, and mark down every article in which we have dealt with him; or, if it were required to know what quantity of goods we should have on hand, we must look over the whole book, and mark down every article bought or sold. This operation would not only be found very tedious, but much exposed to the risk of omissions. To prevent these inconveniences, another book is used, in which the articles are arranged in a methodical order. This book is called the *Leger*, and we shall consider it next; because the journal, though it comes before it in the order of writing, cannot be well understood, till the nature of the leger be explained.

Sect. II. *Of the* Leger.

5. In the leger, articles of the same kind are collected together; and, for that purpose, it is divided into many accounts, under which the different branches of business are arranged. Each account is introduced by a proper title, to explain the nature of the articles it contains; and articles of opposite kinds, which belong to the same account, are placed on the opposite pages of the same folio: for instance, money received on the one side, and money paid on the other; or goods bought on the one side, and goods sold on the other. The left-hand page is called the *Debtor* or *Dr.* side of the account, and the right-hand page the *Creditor* or *Cr.* side. The difference between the sums of the Dr. and Cr. sides is called the *Balance*.

Leger.

Accounts in the leger are of three kinds, which answer to the three purposes of book-keeping mentioned § 1.

6. First, Personal Accounts. It is necessary to open an account for every person or company with whom there are any dealings on credit. At opening the books, if they be indebted to the owner, the debt is entered on the Dr.; but if he be indebted to them, it is entered on the Cr. During the course of the business, goods sold on trust, money paid, and every thing for which they are accountable to him, is entered on the Dr.; but goods bought on trust, money received, and every thing for which he is accountable to them, is entered on the Cr. The balance shows how much they owe him, when the Dr. side is greatest: and how much he owes them, when the Cr. side is greater.

7. Secondly, Real Accounts. By this we understand accounts of property, of whatever kind, such as ready money, goods, houses, lands, ships, shares in public companies, and the like.

The account of ready money is entitled *Cash*. On the Dr. side, the money on hand at opening the books is entered, and afterwards every article of money received. On the Cr. side there is entered every article of money paid out; and the balance shows how much ought to be on hand. The sum of the Dr. side of this account is always greater than that of the Cr. side.

8. Accounts of goods are generally ruled with inner columns for entering the quantities. When the books are opened, the goods on hand are entered on the Dr. side of the respective accounts; the quantities being placed in the inner, and the values in the outer column. Goods bought are entered in the same manner, and goods sold are entered on the Cr. side; the quantities and values being placed in the proper columns. Charges laid out on goods are entered on the Dr. side; and, when an incidental advantage arises from them, such as public bounty, it is entered on the Cr.

If the sums of the inner columns on the opposite sides be equal, it shows that the goods are all sold, and then the balance of the money-column shows the gain or loss. If the Cr. side be greater, it is gain: if the Dr. side be greater, it is loss. If the sum of the inner column be greater on the Dr. side, it shows that part of the goods are on hand; and their value must be added to the sum of the Cr. side, in order to determine the gain or loss.

9. If there be two or more kinds of the same sort of goods, they may be entered in the same account, allowing as many inner columns as there are kinds, and entering the quantities of each kind in the inner column reserved for it. This method exhibits the gain or loss on the whole goods; but does not show how much of it arises from each kind.

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Leger. Or, a separate account may be opened for each kind, distinguishing the titles by the qualities, or by some other mark. Thus, one account may be kept for fine linen, another for coarse linen; one for port-wine crop 1787, another for port-wine crop 1788; one for rum from Jamaica, another for rum from Barbadoes. This method shows the gain or loss on each kind.

When there are more kinds than can be conveniently introduced in the same account, they may be divided into several classes, each class being placed in a separate account: and the particular kinds distinguished in inner columns. Thus the account of fine linen may be divided into several columns, for different kinds, distinguished by the number of threads in the breadth, or by any other convenient character.

10. Accounts of ships contain on the Dr. the value of the ship when the books are opened, and all expences laid out thereon; on the Cr. all freights received. In like manner, accounts of houses or lands have the value of the subject, and all repairs or other charges, entered on the Dr. and all rents or other profits received on the Cr. If the subject be sold in whole or in part, the sale is entered on the Cr. And the balance after valuing the subject (if any) on hand, shows the gain or loss.

Accounts of property in the public funds, or shares in companies, public or private, contain the value, or money paid in, on the Dr. and the dividends received on the Cr. and are balanced as other real accounts.

Some persons open accounts for household furniture, plate, jewels, books, or the like. The entries on these accounts are made in the same manner.

In general, real accounts contain the value of the property, and all charges, on the Dr. and the sales and other returns on the Cr. When the account is to be balanced, if any property remains, the value thereof is placed on the Cr.; and then the balance shows the loss or gain, according as the Dr. or Cr. side is greatest.

11. Thirdly, Accounts of STOCK, PROFIT and LOSS, and its subsidiary accounts, which are sometimes called *fictitious accounts*.

The *stock* account contains on the Dr. the amount of the debts which the owner owes when the books are opened; and on the Cr. the amount of ready money, goods, debts, and property of every kind belonging to him: therefore the balance shows what his nett stock is; or, in case of bankruptcy, how much his debts exceed his effects. There is nothing further entered on this account till the books are balanced: and then, if the business has yielded profit, the nett gain is entered on the Cr.; if it has been unsuccessful, the nett loss is entered on the Dr.: after which, the balance shows the nett stock at the time the books are closed.

12. The *Profit and Loss* account contains every article of gain on the Cr. and every article of loss on the Dr. The balance shows the nett gain or loss, and is transferred to the proper side of the stock-account, as mentioned above. This account is partly composed of articles that occur while the books are running. For example, legacies received are entered on the Cr. goods destroyed on the Dr. The rest of the articles are those of gain and loss, arising from the real accounts, which are collected when the books are balanced. Leger.

13. It has been found convenient to open several subsidiary accounts, in order to shorten and methodize that of profit and loss. These contain certain articles of gain or loss, which may be reduced under distinct heads. They are in effect so many parts of the profit and loss account, and their balances are entered on the proper side of that account when the books are closed. The chief of these accounts are the following.

Interest account, Which contains on the Dr. sums paid or incurred for interest; and on the Cr. sums received, or become due for the same.

Commission account, Which contains on the Cr. articles of gain received or owing us for our trouble in transacting business for others. There are seldom any entries on the Dr.

Charges merchandise, Which contains on the Dr. all charges paid or incurred on the business, which do not belong to any particular account, as shop-rent, public burdens for trade, clerks wages, postages, and the like. If any of these should afterwards be charged to some other account, the sum so charged is entered on the Cr.

Proper expences, Which contains on the Dr. money or any thing else, withdrawn from the trade for our private use. There are seldom any entries on the Cr. The amount of this account, as well as the former, is not properly loss; but as it has the same effect in diminishing the stock, it is placed in the same manner to the Dr. of profit and loss.

Loss by bad debts, Which contains on the Dr. such debts as we reckon desperate; and on the Cr. any of these which may happen to be unexpectedly recovered.

Account of abatements, Which contains on the Dr. discounts allowed by us on payments received; on the Cr. discounts (if any) allowed to us on payments made. It is particularly useful in retail business, where discounts are often given, to show how much they amount to.

Insurance account, Which contains on the Cr. premiums received for making insurances; and, on the Dr. losses sustained on the same. There may be several accounts of this kind, such as insurance against sea-hazard, which is the most common; insurance against fire; insurance of lives; and insurance of debts. The balance shows the gain or loss which arises from being concerned in insurance.

More or fewer of these accounts may be used, according as the articles are frequent; and others may be invented to suit the purposes of the business which the books are kept for.

14. Every simple transaction in business belongs to two accounts, and must be entered on the Dr. of the one and on the Cr. of the other. Thus, when a person becomes indebted to us, the article he owes must be entered on the Dr. of his account; and, if it be for money paid him, it is also entered on the Cr. of cash; if for goods sold, it is entered on the Cr. of the account of goods; if for any thing delivered him by another person at our desire, it is entered on the Cr. of the deliverer's account; if for any wager or bargain, by which we are gainers, it is entered on the Cr. of profit and

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Leger. loss. Thus, in whatever way the debt arises, it is entered on the Cr. of some other account, as well as on the Dr. of the person's account who owes it.

In like manner, when we become indebted to any person, the article we owe must be entered on the Cr. of his account. If it be for money received, it is also entered on the Dr. of cash; if for goods bought, it is entered on the Dr. of the account of goods; if for any thing delivered to another person at our desire, it is entered on the Dr. of the receiver's account; and if it be in consequence of a losing bargain, it is entered on the Dr. of profit and loss.

Again, when goods are received, the transaction is entered on the Dr. of the account of goods. If they be bought for ready money, it is also entered on the Cr. of cash; if on trust, it is entered on the Cr. of the seller; if they be exchanged for other goods, it is entered on the Cr. of the goods delivered; if they be obtained by some profitable business, without any return, it is entered on the Cr. of profit and loss.

When goods are delivered, the transaction is entered on the Cr. of the account of goods; and, if they be sold for ready money, it is also entered on the Dr. of cash; if on credit, it is entered on the Dr. of the purchaser; if exchanged for other goods, it is entered on the Dr. of the goods received; and, if they be given gratis, or destroyed, it is entered on the Dr. of profit and loss.

Lastly, When any article of loss occurs, the transaction is entered on the Dr. of profit and loss; and as we must either pay it in money or goods, or remain indebted to some person for it, it must be entered on the Cr. of cash, or of goods delivered, or of the person entitled to receive it. And, when an article of gain occurs, it is entered on the Cr. of profit and loss, and also on the Dr. of cash or goods, if money or goods be received; and on the Dr. of the person accountable for it, if not immediately paid.

Thus, every article in any account, whether personal or real, or belonging to profit and loss, corresponds to some other article on the opposite of a different account. The same sum is entered on the Dr. of one account and on the Cr. of the other; and it follows from this, that, *If all the accounts in the leger be added, the amount of the sums of the Dr. will be equal to those of the Cr.*

Sect. III. *Of the* Journal.

15. The journal is a fair record of all the transactions compiled from the waste-book, in the same order as they stand there; but expressed in a technical style, that it may be transferred to the leger with more ease.

When we are to enter any article in the journal, we must consider which accounts in the leger it will require to be placed to, both on the Dr. and Cr. and write [*the former account*] *Dr. to* [*the latter account*]; then we annex an explanation of the article, and place the sum in the money-column.

Example.

Waste-book). Sold for ready money, 30 yards linen, at 3s. L. 4 10 —

Journal.) *Cash Dr. to Linen.* Sold 30 yards, at 3s. L. 4 10 — Journal.

Here we consider, that the article must be entered on the Dr. of cash, because money is received; and on the Cr. of linen, because linen is delivered: Therefore we write *Cash Dr. to Linen*, to which we annex the nature of the transaction. The article thus entered is called a *journal-post; Cash* is called the *Dr.; Linen* the *Cr.;* the words "Cash Dr. to Linen," the *Entry*, and the following words the *Narration.*

The purpose of expressing the article in this form, is to point out the accounts in the leger, to which it will require to be posted, and thereby enable the accountant to write the leger with more ease than he could do if it were filled up immediately from the waste-book.

The learner will be able, from this example, to enter any simple article in the journal, providing he knows the accounts to which it should be posted on the Dr. and Cr. of the leger. This must be collected from the description of the leger accounts already given § 6—13. and the nature and tendency of the article.

16. General Rules *for the* Journal-entries.

I. *Every thing received, or person accountable to us, is* Dr.

II. *Every thing delivered, or person to whom we are accountable, is* Cr.

17. As the whole art of writing the journal depends on a proper choice of the Drs. and Crs. we shall give some particular rules for the most common cases, and a few examples for the illustration and practice of each.

Rule I. *The person to whom any thing is delivered is* Dr. *to the thing delivered, when nothing is received in return.*

Therefore when money is paid, the receiver is Dr. to cash.

When goods or other property is sold on credit, the purchaser is Dr. to the thing sold. Thus,

Waste-book.) Paid John Bell in full	L. 52 — —
Journal.) *John Bell Dr. to Cash*, paid him in full	52 — —
Waste-book.) Sold 50 yards cloth to J. Hill, at 12s.	30 — —
Journal.) *J. Hill Dr. to Cloth*, sold him 50 yards, at 12s.	30 — —

18. Rule II. *A thing received is* Dr. *to the person from whom it is received, when nothing is delivered in return.*

Therefore, when money is received, Cash is Dr. to the payer: when goods are bought, the goods are Dr. to the seller. Thus,

Waste-book.) Received from Thomas Gay in full	L. 72 — —
Journal.) *Cash Dr. to Thomas Gay*, received in full.	72 — —

Waste-book.)

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Journal. Waste-book.) Bought from J. Hawley 60lb. wool, at 9d. L. 2 5 —
Journal.) *Wool Dr. to J. Hawley*, bought 60lb. at 9d. 2 5 —

19. Rule III. *A thing received is* Dr. *to the thing given for it.*

Therefore goods bought for ready money are Dr. to cash.

When goods are sold for ready money, Cash is Dr. to the goods.

When goods are bartered, the goods received are Dr. to the goods delivered. Thus,

Waste-book.) Bought for ready money 10 hds. wine, at 15l. L. 150 — —
Journal.) *Wine Dr. to Cash*, bought 10 hds. at 15l. 150 — —
Waste-book.) Sold for ready money 100 gallons rum, at 9s. 45 — —
Journal.) *Cash Dr. to Rum*, sold 100 gallons, at 9s. 45 — —
Waste-book.) Bartered 3 hds. wine, at 15l. for 100 gallons rum at 9s. 45 — —
Journal.) *Rum Dr. to Wine*, received 100 gallons at 9s. in barter for 3 hds. at 15l. 45 — —

20. Rule IV. *Goods and other real accounts are* Dr. *for all charges laid out on them. If money be laid out, they are* Dr. *to Cash; if any thing else be delivered, they are* Dr. *to the thing delivered: if the charge be taken in trust, they are* Dr. *to the person to whom it is due.* Thus,

Waste-book.) Paid for repairs to ship Traffick L. 18 — —
Journal.) *Ship Traffic Dr. to Cash*, paid for repairs 18 — —
Waste-book.) Delivered wood from my timber yard for repairing the Angel-tavern 15 — —
Journal.) *Angel Tavern Dr. to Wood*, delivered for repairing the same 15 — —
Waste-book.) Due to William Carpenter for repairs to the Angel-tavern 12 — —
Journal.) *Angel-tavern Dr. to William Carpenter*, due him for repairs 12 — —

21. Rule V. *When rents of houses or lands, freights of ships, bounties on goods, or any other profits from real accounts, are received, Cash is* Dr. *to the account from which the profit arises: if any thing besides money be received, the article received is* Dr.: *if they remain unpaid, the person who owes them is* Dr. Thus,

Waste-book.) Received freight of the ship Traffick for a voyage to London L. 35 — —
Journal.) *Ship Traffick Dr. to Cash*, received freight to London 35 — —
Waste-book.) Received 100 barrels salmon, being the rent of Inver fishery, at 52s. 260 — —
Journal.) *Salmon Dr. to Inver fishery*, received the rent, being 100 barrels, at 52s. 260 — —
Waste-book.) John Public owes me a year's rent of the Angel-tavern L. 52 — — Journal.
Journal.) *John Public Dr. to Angel-tavern*, for a year's rent due by him 52 — —

22. Rule VI. *When an article of loss occurs, Profit and Loss, or some subsidiary account, is* Dr. *If the loss be paid in ready money, it is* Dr. *to Cash: if it be paid in any thing else, it is* Dr. *to the thing delivered. If it remain unpaid, it is* Dr. *to the person to whom it is owing.* Thus,

Waste-book.) Given my daughter at her marriage L. 500 — —
Journal.) *Profit and Loss Dr. to Cash*, given my daughter at her marriage 500 — —
Waste-book. Taken for family use from my granary 3 bolls meal, at 13s. 4d. 2 — —
Journal.) *Profit and Loss* [or *Proper expences*] *Dr. to Meal*, taken for family use, 3 bolls, at 13s. 4d. 2 — —
Waste-book.) Due James Rich for a year's interest on 1000l. at 4 per cent. 40 — —
Journal.) *Profit and Loss* [or *Interest account*] *Dr. to James Rich*, due him a year's interest on 1000l. at 4 per cent. 40 — —

23. Rule VII. *When an article of gain occurs, that is not immediately connected with any real account, Cash, the article received, or the person accountable for it, is* Dr. *to Profit and Loss, or to some subsidiary account.* Thus,

Waste-book.) Received in a gift from my father L. 100 — —
Journal.) *Cash Dr. to Profit and Loss*, received from my father 100 — —
Waste-book.) Received in like manner at opening shop, 100 yards cloth at 12s. 60 — —
Journal.) *Cloth Dr. to Profit and Loss*, received from my father at opening shop 100 yards, at 12s. 60 — —
Waste-book.) James Barbour owes me a year's interest of 1000l. 50 — —
Journal.) *James Barbour Dr. to Profit and Loss* [or *Interest account*] due by him for a year's interest of 1000l. 50 — —

24. Rule VIII. *When one person pays money, or delivers any thing else to another on our account, the person who receives it is* Dr. *to the person who pays it.* Thus,

Waste-book.) James Goldsmith has paid the Bank of Scotland on my account, L. 100 — —
Journal.) *Bank of Scotland Dr. to James Goldsmith*, paid them by him 100 — —
Waste-book.). Arthur Young has delivered James Baker 100 qrs. wheat for which I am to account to him, at 30s. 150 — —
Journal.) *James Baker, Dr. to Arthur Young*, for 100 qrs. of wheat delivered him on my account, at 30s. 150 — —

Payments of this kind are often transacted by bills of exchange.

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25. These

Journal. 25. These examples will make the learner acquainted with the form of the journal, and the rules extend to the greatest part of the simple transactions that occur in domestic trade. We may observe, that the technical sense of the words *Dr.* and *Cr.* has an analogy to their meaning in common language, but is not precisely the same. Thus in *Ex.* 1. Rule VIII. the journal entry is, *Bank of Scotland Dr. to James Goldsmith*; by which we are not to understand that the bank is indebted to James Goldsmith; for a debt between them has no connection with our business, and therefore ought not to be entered in our books: the meaning of the entry is, that the bank becomes indebted to us by the transactions narrated; and that we become indebted to James Goldsmith by the same.

26. An article which contains more Drs. or more Crs. than one, is called a *complex post*. The form of these will appear from the following examples.

Ex. 1.] Sold William Drapier,
25 pieces cloth, at 15l.
per piece L.375 — —
130 stones wool, at 5s. 6d.
per stone 35 15 —
L.410 15 —

If the two articles sold to William Drapier were entered separately in the Waste-book, and transferred to the Journal by Rule I. they would stand thus:

William Drapier Dr. to Cloth, sold him
25 pieces, at 15l. L.375 — —
William Drapier Dr. to Wool, sold him
130 stones, at 5s. 6d. 35 15 —

And if these were posted to the leger, there would be two articles placed to the Dr. of William Drapier, one to the Cr. of Cloth, and one to the Cr. of Wool.

But the sales may be entered in the form of one complex journal post, as follows.

William Drapier Dr. to Sundries,
To Cloth, for 25 pieces,
at 15l. L.375 — —
To Wool, for 130 stones,
at 5s. 6d. 35 15 —
L.410 15 —

And then there is only one article on the Dr. of William Drapier in the leger.

Ex. 2.] Sold 10 pieces of cloth to W. Drapier,
at 15l. L.150 — —
12 ditto to J.
Mercer, at do. 180 — —
— L.330 — —
22

This example also falls under Rule I. But whereas there was one Dr. and two Crs. in the former example; there are two Drs. and one Cr. in this: William Drapier and John Mercer, the purchasers, are Drs. for their respective quantities; and cloth, which is the only thing delivered, is Cr. for the whole quantity. The journal post is,

Sundries Drs. to Cloth, Jo
W. Drapier, for 10 pieces, at 15l.
L.150 — —
J. Mercer, for 12 ditto at 15l. 180 — —
— L.330 — —
22

Ex. 3.] Bought from H. Hood,
5 puncheons rum, at 42l. L.210 — —
3 hds. claret, at 33, 99 — —
2 pipes madeira, at 56, 112 — —
L.421 — —

This example falls under Rule II. The articles received, rum, claret, and madeira, are Drs.; and the person from whom they are received is the only Cr.

Sundries Dr. to Henry Hood,
Rum, for 5 puncheons, at 42l. L.210 — —
Claret, for 3 hds. at 33, 99 — —
Madeira, for 2 pipes, at 56, 112 — —
L.421 — —

Ex. 4.] Bt. 50 qrs. wheat from J.
Tull, at 35s. L.87 10 —
12 from S. Ellis, 36s. 21 12 —
— L.109 2 —
62

This example also falls under Rule II. There is only one Dr. wheat being the only thing received; and two Crs. because it is received from different persons.

Wheat Dr. to Sundries,
To *J. Tull*, for 50 qrs. at 35s. L.87 10 —
To *E. Ellis*, for 12 qrs. at 36s. 21 12 —
— L.109 2 —
62

In like manner, examples might be given of complex posts under every rule, which contained either several Drs. or several Crs.; but as it is unnecessary to enlarge so far, we shall only add a few examples of cases, in which the different parts of the complex article fall under different rules.

Ex. 5.] Sold 150 qrs. beans to A. Arnot,
at 13s. 4d. L.100 — —
75 ditto to S. Berry,
at 13s. 4d. 50 — —
18 ditto for ready
money, 13s. 2d. 11 17 —
243 L.161 17 —

Here beans are delivered, some to different purchasers on trust, and some for ready money. The purchasers are Drs. for the quantity sold to each, by Rule I.; Cash is Cr. for the quantity sold for ready money, by Rule III.; and beans are Cr. for the whole.

Sundries Dr. to Beans,
A. Arnot, for 150 qrs. at 13s. 4d. L.100 — —
S. Berry, for 75 13s. 4d. 50 — —
Cash, for 18 13s. 2d. 11 17 —
L.161 17 —

Ex.

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Journal.

Ex. 6.] Bought from David Young
8 cwt. 3 qrs. copper, at 12l.
per cwt. L.105 —
Paid in part, L.50 — —
Balance 55 — —
L.105 — —

Here the article received, copper, is the only Dr.; but as it is bought partly for ready money, and partly on credit, it is Dr. to cash for the value of the former, by Rule III. and to the seller for the value of the latter, by Rule II.

Copper Dr. to Sundries.
For 8 cwt. 3 qrs. at 12l. per
cwt. L.105 — —
To Cash in part, L.50 — —
To D. Young, for balance due him, 55 — —
L.105 — —

Ex. 7.] James Wilson being bankrupt, I have accepted a composition on the debt due by him to me of 150l. and discharged the same.
The composition received, at
15s. per L. is, L.112 10 —
And the balance lost 37 10 —
L.150 — —

Here the whole debt of 150l. due by James Wilson, is cancelled; and he must therefore be stated as Cr. for that sum. Cash is Dr. for the sum received, by Rule II.; and Profit and Loss, or Loss by bad debts, for the rest, by Rule VI.

Sundries Dr. to James Wilson,
Cash, for compt, on 150l.
at 15s. per L. L.112 10 —
Profit and Loss, for balance lost 37 10 —
L.150 — —

Ex. 8.] Shipped for William Smith, per the Bonadventure, Forbes, from Leith to London,
1000 yds linen, at 1s. 2d. L.58 6 8
600 lb. leather, bought
from J. Currier, at 1s. 30 — —
Paid charges at shipping — 13 4
L.89 — —

Here William Smith is Dr. for the amount of the cargo; he is debtor to linen for the quantity delivered, as by Rule I. and to J. Currier for the leather delivered by him, by Rule VIII. and to cash for the charges paid by us, by Rule I.

William Smith Dr. to Sundries,
To Linen, for 1000 yards
at 1s. 2d. L.58 6 8
To J. Currier, for 600 lb.
leather at 1s. 30 — —
To Cash, for charges at shipping — 13 4
Shipped per the Bonadventure, Forbes, from
Leith to London. L.89 — —

27. The learner may be assisted in understanding these and other complex posts, by resolving them into simple ones. Most of them might have been stated in that manner; and the complex form is only preferred for abridging the leger. In some articles the different classes are so connected, that they cannot be separated with propriety. Journal

The narration is sometimes equally diffused through the post, after the Dr. and Cr. as in the five first examples. Sometimes the chief circumstances are narrated before the Drs. or Crs. be specified, as in Ex. 6.; sometimes after the first, as in Ex. 7.; and sometimes at the end, as in Ex. 8.

28. In some articles, there are both more Drs. and more Crs. than one. These may be entered in one journal-post, *Sundries Dr. to Sundries*, specifying first the Drs. and then the Crs. But, as this method is somewhat confused, we would recommend it as a better way to divide the transaction into two journal-posts; so that the first may contain only one Dr. and the second only one Cr.

Ex. Bartered with James Fotheringal 100 pieces osnaburgs, at 12s. L.60 — —
100lb. thread, at 3s. 6d. 17 10 —
L.77 10 —
For 10 hds. lintseed, at 50s. L.25 — —
500 yds. linen, at 1s. 6d. 37 10 —
And received the balance in money 15 — —
L.77 10 —

JOURNAL. *Sundries Dr. to Sundries.*
Lintseed, for 10 hds. at 50s. L.25 — —
Linen, for 500 yds. at 1s. 6d. 37 10 —
Received in barter from J. Fotheringal
Cash, for balance 15 — —
L.77 10 —

To Osnaburgs, for 100 pieces,
at 12s. L.60 — —
To Thread, for 100lb. at 3s. 6d. 17 10 —
Delivered him in barter, L.77 10 —
Or rather,

Sundries Dr. to James Fotheringal.
Lintseed, for 10 hds. at 50s. L.25 — —
Linen, for 500 yds. at 1s 6d. 37 10 —
Received in barter
Cash, received balance, 15 — —
L.77 10 —

James Fotheringal Dr to Sundries.
To Osnaburgs, for 100 pieces,
at 12s. L.60 — —
To Thread, for 100lb. at 3s. 6d. 17 10 —
Delivered in barter L.77 10 —

29. It is neither practicable nor necessary to enumerate all kinds of complex posts that may occur in business. We shall here only mention the entries which occur at opening the books.

The first journal post contains the substance of the inventory. The entry is *Sundries Drs. to Stock*; the particular Drs. are Cash, the different kinds of goods and other property belonging to us, and the persons indebted to us.

The

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Journal. The second journal-post contains the debts due by us. The entry is, *Stock Dr. to Sundries;* the particular Crs. are the persons to whom we are indebted.

The form of these entries is more fully exhibited at the beginning of the following sets.

30. The journal should be written by one person, in a fair hand and at leisure hours. The articles are separated, and the titles and dates marked in the same manner as in the waste-book, § 3. The entries are written in half-text for ornament and distinction. In the inventory, the designation (or the business, station, and the place of residence) of every person is mentioned; and the same is done the first time that any name occurs in journal-entry. At other times it is sufficient to enter the name without the designation, unless we have dealings with two persons of the same name; in which case, it is always necessary to annex the designation, in order to distinguish them. The narration should be complete, without referring to the waste-book; and so clear, that every person, acquainted with the style of the journal, may understand it with ease. When the post is written, we mark a dash / against the article, on the margin of the waste-book, to show how far the writing of the journal is advanced.

Sect. IV. *Of* Posting *and* Balancing *the* Leger.

31. The first thing to be done in the leger, is to allot a proper space for each account. The accounts may be either opened in the same order that they occur in the journal; or accounts of the same kind may be placed together, the personal accounts in one part of the leger, and the real accounts in another. The accounts of Stock and Profit and Loss are generally placed at the beginning. The room which each will require cannot be exactly known, but it must be conjectured from the number of transactions that are likely to follow.

The number of the folio is marked in strong text at each corner of the top-line; and the titles of the accounts are written in fair text through both folios, if necessary. The designations of the personal accounts may be written in half text, or Italian hand: and some write the titles in Saxon hand for ornament. The word *Dr.* is prefixed to the title on the left-hand page: and *Contra Cr.* annexed to it on the right-hand page.

32. Next, An Index must be provided for pointing out the folios where the accounts are opened. The titles of the accounts are entered alphabetically in the index, and the number of the folio annexed. Personal accounts are entered by the first letter of the surname; companies, by the first letter of the surname of the first partner; and all other accounts by the first letter of the first word. The most convenient kind of index is a long narrow book, of 24 leaves, one for each letter of the alphabet. A is marked on the top of the first leaf, and the paper pared away below it; B is marked on the second leaf under A; and the other letters on the following leaves, in the same manner; by means of which we can turn at once to any letter required.

33. In posting the leger, proceed by the following directions. First, look for the Dr. of the journal-post in the index, under the proper letter, and this directs you to the folio of the leger where the account is, if it be already opened; if not, you must allot a space for it, write the title, and enter it in the index. Then enter the article on the left-hand page of the account under the title of the former article, by writing the date on the margin, and the name of the creditor on the line, with the word *To* prefixed, and a short narration of the transaction annexed, and inserting the sum in the money column, and the quantity, if it be an account of goods, in the inner column. Then turn to the account of the Cr. of the journal-post, and enter the article in the right-hand page, prefixing the word *By* to the name of the Dr. Posting and Balancing the Leger.

34. This being done, turn to the journal, and mark on the margin the number of the folios to which the article is posted. The figures which point out the reference to the Dr. and Cr. folios should be separated by a line: for example, if the Dr. entry be on the third folio, and the Cr. entry on the fifth, the reference is marked $\frac{3}{5}$. These figures show how far the posting is advanced, and are useful in comparing the books.

The figures for dates or references should be written in a lighter hand than the figures in the columns for money or quantity.

35. There is often a reference-column ruled in the leger, for pointing out the other entry, corresponding to any article. In this column, the folio of the Cr. entry is marked against the Dr. article, and the folio of the Dr. entry against the Cr. article.

Sometimes the accounts are numbered according to their order in the leger; and the references, both in the journal and leger, point out the number of the account instead of the folio.

36. In complex posts turn to the several Drs. or Crs. in their order, and enter the articles according to the foregoing directions; placing the sums belonging to each in the money-column against their respective entries.

37. An article in the leger is generally comprehended in one line. The narration should be as full as can be contained in that bounds. If it cannot be narrated completely, the journal is referred to for further particulars, by writing *per Journal*, (or *p. J.*), either after an incomplete narration, or immediately after the Dr. or Cr. when there is no room for a proper narration. In complex posts there can seldom be any narration annexed to the single Dr. or the single Cr. The entry is generally to *To Sundries per J.* or *By Sundries per J.* If the sense of the whole article can be narrated, it should be done; but it is improper to narrate the first or any other part of the article, and omit the others.

38. When the space allotted for an account in the leger is filled up, the account must be transported to another folio. For this purpose add the columns on both sides, and write against the sum, *Transported to folio* , inserting the number of the folio where the new account is opened, in the reference column, or on the line, if no reference-column be used. Then, after titling the new account, and entering the number of the folio in the index, write on the Dr. *To amount brought from folio* , inserting the number of the folio

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Posting and Balancing the Leger.

lio where the old account was; and on the Cr. *By amount, brought from folio* ; and place the sums and quantities, if any, in the proper columns.

When either side of an account is full, both sides should be transported, and diagonal lines drawn, to fill up the vacant space of the side which requires it.

39. The books should be written up as frequently as can be done conveniently; so that the journal may keep pace nearly with the waste-book, and the leger with the journal. Each book should be carefully revised, and compared with the book from which it is posted. In comparing the leger, observe the following directions:

Begin with the first journal post, and turn to the folio of the leger where the Dr. is entered, which you are directed to by the marginal reference, and compare the date, entry, and sum. If you find them to correspond, it is well; if not, the leger must be altered till it correspond with the journal. Then place a dot before the reference-figure in the journal, and a mark ʌ before the sum in the leger.

Proceed in the same manner to compare the Cr. of the journal post, and all the following posts in their order. The dots in the journal show how far the comparison is advanced, and the marks in the leger show what articles are compared.

The sums of accounts transported should be left blank till the books be compared; as an error in any article will occasion an alteration in the sum.

40. Some accountants correct all errors in the leger, without erazing any thing, by the following methods: 1st, If the sum be entered too small, they make a second entry for the deficiency. 2d, If it be entered too large, they make an entry on the opposite side for the excess. 3d, If it be entered on the wrong side of the account, they enter it twice on the other; once, to counterbalance the error, and a second time for the true entry. 4th, If it be entered on a wrong account, they charge the wrong account Dr. to, or Cr. by, the right one.

41. We do not much approve of these methods, as they give the books a confused appearance; and would rather recommend the following rules; 1st, If an article be omitted, do not attempt to interline at the place where it should have been; but insert it under the last article when you discover the omission, and make a cross × against it on the margin, and another at the place where it should have been. 2d, If you discover a mistake immediately when committed, correct it, without cancelling any thing, as in this example. *To Cash, say, To James Spiers received to account.* 3d, If you have written a line entirely wrong, or in a wrong place, write the word *Error* at the end, prefix a cross, and omit or cancel the sum. 4th, Cancel errors, by drawing a line lightly through them, so that the old writing may still be legible; by which it will be evident, that the book has not been vitiated for a fraudulent purpose. The same method should be followed in correcting errors in the journal.

42. When the comparison of the books is finished, glance over the leger, to observe if the mark of comparison be affixed to every article. If not, you must turn to the journal, and observe if the articles be right which had been marked.

43. Because the whole sum of the Dr. side of the leger should be equal to the whole sum of the Cr. it is proper to try if they correspond. For this purpose, you may add the Dr. of every account, except such as are already balanced, placing the sums in an inner column, and extending them at the end of one or more folios, as you find most convenient, to the outer column; and as you go along add the Cr. in the same manner. If the sum total of both sides be equal, it gives a presumption that the books are right; if they differ, there is certainly some mistake. This is called the *Trial-balance.* The labour bestowed upon it is not lost, as the sums may be reserved for assisting us to collect the balances: the method of which will be explained afterwards. § 14.

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44. If the sums of the trial balance do not correspond, the books must be examined again. For this purpose, begin with the first article on the Dr. side of the first account, and turn to the account where the corresponding entry is, which you will find by the figure in the reference-column. If the articles agree, mark them with a dot. Proceed in like manner with the other articles on the Dr. of the first account; then with the articles on the Cr. of the same; and then with the following accounts in their order, till the error or errors be discovered. In complex entries, observe if the amount of the sums on one side be equal to the sum on the other. When you come to a dotted article, you may pass it by, because it has been examined already.

If the errors be not discovered at the first revisal, you must repeat the same operation again, till you bring the books to balance. Marks different from the former ones, or differently placed, may be used, to signify that an article has been examined a second or third time. As the detection of errors is the most tedious and disagreeable part of book-keeping, the accountant will be induced to guard against them with all possible care, when he has once experienced the trouble which they occasion.

45. Before we explain the method of balancing the books, it will be proper to direct the learner how to balance particular accounts. When we settle accounts with any person, and ascertain how much is owing at either hand, it is necessary to balance his account in the leger, and open a new one, beginning with the sum that was due according to the settlement; and when we clear accounts again, we must go back to that article, and no farther.

If any articles be charged on either side, at the time of settling, they must be immediately entered on the waste-book; from which they will pass in course to the journal and leger; and a remark must be entered in the waste-book, that the account was settled, and the balance transferred to the proper side of the new account. This remark is transcribed in the journal; and the leger account is balanced, when it occurs, in the course of posting.

If the balance be due to you, write on the Cr. *By balance due to him to Dr. new account*, and insert the sum due you; after which, the amount of both sides will be equal. Add the account, placing the sums opposite to each other; and, if the sides be unequal, draw a diagonal line through the vacant space of the shorter side, and close the old account by drawing lines under the sums. Then open the new account immediately

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Posting and Balancing the Leger.

diately under the old one, or in a new folio, if the old one be full, by writing on the Dr. *To balance of former account due by him.* If the balance be due by you to him, the entries are made on the opposite sides, with the necessary alterations. When the new account is opened in the same folio, it is unnecessary to repeat the title; but the year and month, as well as the day, are repeated at the date of the first article.

46. Sometimes when an account is balanced, one or more articles are left out on purpose: For example, goods lately bought on credit, may be left out, and the settlement may only relate to articles of longer standing. When this is the case, if the articles omitted be on the Dr. of the leger, we write on the Cr. thus, *By articles sold him since 1st January replaced*: and when we have balanced the account, and opened a new one, we write on the Dr. *To articles replaced at settling, furnished since 1st January:* or, if the articles were left out for any other reason, we explain the same in the narration. If the omitted articles be on the Cr. the like entries are made on the opposite sides. It should be noticed in the waste-book and journal when this operation is necessary.

47. When we post any common article from the journal, we enter the sum on the Dr. of one account, and on the Cr. of another: when we balance an account, we place the balance sum on the Dr. of the old account, and on the Cr. of the new one, or contrarywise: and when we replace an article, as above directed, to the Dr. or C. of the old account, we place it after balancing to the Cr. or Dr. of the new one. Thus, in these entries, as well as in common posts, there are like sums entered on the Dr. and Cr. of the leger, and the general equality of the sides is still preserved.

48. Merchants generally balance their books once a-year. The design of this operation is, to collect the various branches of their business, diffused through the books, into a concise abstract; to ascertain their gain or loss since the last balance; and exhibit the present state of their funds. If the business be of such a kind, that most of the branches naturally come to an issue at a certain time of year, that time is the proper one for making the balance. Otherwise the end of the year, or the least busy time, may be chosen.

49. It is proper, before balancing, to settle as many personal accounts as possible; to clear all arrears and small charges; to take an exact inventory of the goods on hand, as far as can be done; and affix a moderate value to each article, according to the current prices at the time; such a value as you would be willing at present to buy for. It is more proper to value the goods on hand in conformity to the current prices, than at prime cost; for the design of affixing any value is to point out the gain or loss, and the gain is in reality obtained so soon as the prices rise, or the loss suffered so soon as they fall; therefore it is impossible to make up a just state of the affairs, unless the present prices be attended to.

50. These things being done, proceed to make the balance as follows: Prepare two sheets of paper, ruled with money-columns, in the form of Dr. and Cr.; write *Profit and Loss* as the title of the first, and *Balance* as the title of the second.

Prepare also some paper for computing the balances, and mark down the folios, titles, and sums of each account in the leger, in a regular order. If a trial-balance was made, the sums may be transcribed from it. Pass by such accounts as are already closed; also the accounts of Stock and Profit and Loss, which are always the last of being balanced. Then subtract the lesser sum from the greater, and enter the difference on either of the sheets that the nature of the article points out, and on the side of that sheet which corresponds to the greater sum of the account. More particularly,

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In personal accounts, enter the difference, which is the debt owing to you, or by you, on the proper side of the balance-sheet.

In the cash account, enter the difference, which is the money in hand, on the Dr. side of the balance-sheet.

In accounts of goods or other property, if there be nothing remaining on hand, enter the difference, which is the gain or loss, on the proper side of the profit and loss sheet.

If the whole be still on hand, enter the present value on the Dr. of the balance-sheet; and if this be different from the prime cost, charges included, enter the difference in the proper side of the profit and loss sheet.

If part be sold, and part on hand, place the value of the quantity on hand under the sum of the Cr. and add them. The sum is the whole return that will be obtained, if the rest of the goods be sold at the estimated value; and this, being compared with the sum of the Dr. which is the whole expence, shows the gain or loss. Enter the same in the proper side of the profit and loss sheet, and enter the quantity and value on hand on the Dr. of the balance-sheet.

Observe if the quantities in the inner columns be equal on both sides, when the goods are all sold; or, if the difference, when only part is sold, be equal to the quantity on hand. If they correspond, you have a just account of the goods. If the Dr. be greater, there is something amissing, which you must enter on the Dr. of the balance-sheet, and mark the cause of the deficiency, as inlake, waste, or the like. If the Cr. be greater, there is an excess, which you must enter on the Cr. of the balance-sheet, together with the occasion of it, as difference of measure, or the like.

In accounts subsidiary to profit and loss, enter the difference on the proper side of the profit and loss sheet.

When there is nothing written on one side of an account, enter the sum of the article or articles on that sheet which the kind of the account points out.

51. When you have collected all the balances, sum up both sheets, and add to the profit and loss sheet the sums of the profit and loss account in the leger: then subtract the lesser sum of each sheet from the greater.

This being done, mark the sums of the stock-account on your computation paper, and add thereto the balance of the profit and loss sheet on the side which corresponds with the greater sum of that account: then subtract the lesser sum from the greater. The remainder will be equal to the difference of the sides of the balance-sheet, if the books be right, and the balances exactly collected.

52. We shall prove that this equality must always hold,

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Posting and Balancing the Leger.

hold, from the nature of the articles collected. The Dr. of the balance-sheet contains every kind of property belonging to you, and every debt owing to you; and the Cr. contains every debt owing by you: therefore the difference of the sides shows what your nett estate amounts to. The profit and loss sheets, when the articles from the leger are included, contain every thing you have gained on the Cr. and every thing you have lost on the Dr.; and the difference of the sides is your nett gain or loss. The stock-account contained your effects and debts at the time the books were opened; and therefore, when the gain or loss is added to the proper side, it must show the extent of your nett estate at present. Thus the stock-account and the balance-sheet both point out how much you are worth at present; the one from your former stock, allowance being made for your gains or losses; the other from a view of your present effects and debts; and they will correspond, because both must be agreeable to the truth, if the books be correct.

53. Though the books must balance, if free from error, yet it is sometimes difficult to adjust them exactly, especially when the business is extensive, and the errors trifling. If there be still a difference, which we do not think it worth while to make further search for, we may close the books, by making Profit and Loss Dr. or Cr. for the same. This introduces an article on one side of the leger, which has none corresponding to it on the other, but is balanced by some undiscovered error.

54. The balance being struck, your next work is to close the books. Every article in the leger should be posted from the journal; therefore, the most regular way of finishing both is by inserting the following articles in the journal, and posting them in the common manner to the leger.

1st, *Profit and Loss Dr. to Sundries, for loss, on the following accounts.* The particulars are taken from the Dr. of the Profit and Loss sheet.

2d, *Sundries Dr. to Profit and Loss, for gain, on the following accounts.* The particulars are taken from the Cr. of the Profit and Loss sheet.

3d, *Balance-account Dr. to Sundries, for debts and property belonging to me.*

4th, *Sundries Dr. to balance-account, for debts due by me.* The particulars of this and the former are taken from the respective sides of the balance-sheet.

5th, *Profit and Loss Dr. to Stock for nett gain;* or *Stock Dr. to Profit and Loss, for nett loss.*

6th, *Balance-account Dr. to Stock for nett stock.*

55. When the four first of these articles are posted in the leger, all the personal, real, and subsidiary accounts will balance, and you may add them as you go along. In accounts of goods, if there be any deficiency, you must enter it on the Cr. in the inner column; and, if there be any outcome, you must enter it on the Dr. before you add the account. Then the sums of every account and every column on the opposite side will be equal.

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The only accounts that remain open are, *Profit and Loss, Stock and Balance.* The fifth post balances the profit and loss account, and the sixth balances the stock-account. It was noticed, § 14. that the whole sums of Dr. and Cr. of the leger are equal; and therefore, if the sides of every account, except one, be balanced, that one will balance of its own accord. The balance account alone remains open, and, upon trial, you will find that the sides are equal. This affords an additional proof, or, at least, a different view of what was demonstrated, with respect to the balance of the books, in § 52.

The lines above and under the sums, at a general balance, may be drawn with red ink; and, at the balancing of particular accounts, with black ink, for distinction.

56. Some choose to insert the particulars of the profit and loss and balance sheets in the respective accounts of the leger. If this be done, it is unnecessary to enumerate them also in the journal.—Some choose to balance the accounts of goods, whenever the quantity is sold off; and we approve of this method, as it lessens the work at the general balance, which is always sufficiently laborious.

57. Thus is the state of a person's affairs brought together, in a short compass, under his view; and the articles of the balance-sheet supply materials for a new inventory. It is convenient, however, to alter the order, and arrange the real accounts together, and the personal ones together.

58. It is not necessary to begin new books, nor open the accounts anew, unless the old folios be full. The accounts may be continued in the former folios; but it is best to begin a new leger, if the old one be not likely to hold all the business of the next year. When one comes to have several sets of books, it is common to distinguish them by the letters of the alphabet. The first waste-book, journal, and leger, are marked A, the second B; and so on.

In the following specimen, the waste-book and journal are placed on opposite pages, that the learner may easily compare them; and the rules are referred to by their numbers.

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(1) **WASTE-BOOK.**

Edinburgh, JANUARY 1. 1789.

INVENTORY of ready money, goods, and debts, belonging to James Oswald merchant in Edinburgh.

Ready money - -		L.75 10 —	
200 bolls meal, at 13s	L.130 — —		
6 hds Port-wine, at 15l	90 — —		
70 reams paper, at 10s 6d	36 15 —		
120 sp. five-hank yarn, at 1s 3d -	13 10 —		
		270 5 —	
A house in Lawn-market Edin. value	300 — —		
James Boswell merch. Edin. owes per account	L.73 4 —		
Thomas Price writer Edin. owes per do.	12 3 8		
Henry Hardy merch. Glasgow per bill	75 — —		
David Miller manufacturer Haddington, per receipt	18 — —		
		178 7 8	
§ 29			824 2 8

LIST of debts by the said James Oswald.

To the Royal bank per account	L.230 — —		
To Tho. Smith merchant London per do.	54 — —		
To Will. Nisbet carpenter Leith per do.	28 7 3		
			312 7 3

§ 29

3.

Bought for ready money 105 yards calicoe, at 3s 2d — 16 12 6

Rule III.

Sold to James Cuthbert merchant Leith, 50 bolls meal, at 13s 3d - - — 33 2 6

Rule I.

5.

Bartered 60 spindles five-hank yarn, at 2s 4d for 80 yards diaper, at 1s 9d - - — 7 — —

Rule III.

10.

Paid William Nisbet in full - - — 28 7 3

Rule I.

13.

Bought from Will. Bruce merchant Leith, 200 bushels salt, at 1s 8d L.16 13 4
300 stone iron, at 3s 4d 53 6 8
— 70 — —

Rule II.

15.

Sold 30 rms paper to Ja. Boswell, at 12s L.18 — —
12 to John Henderson stationer Edinburgh, at 12s 7 4 —
5 for ready money, at 11s 2 15 —
47 — 27 19 —

Rule I. III.

19.

Sold Will. Hunter merchant Dunbar, 150 bush. salt, at 1s 9d L.13 2 6
Received in part - - L.10 — —
And he owes the balance - 3 2 6
— 13 2 6

Rules I. III.

JOURNAL.

Edinburgh, JANUARY 1. 1789.

(1)

Sundries Dr. to Stock for articles belonging to James Oswald merchant Edinburgh.

.1	*Cash* on hand - -		L.75 10 —	
.1	*Meal.* For 200 bolls at 13s	L.130 — —		
.1	*Port-wine.* For 6 hds at 15l	90 — —		
.2	*Paper.* For 70 rms. at 10s 6d	36 15 —		
2	*Yarn.* For 120 sp. five-hank, at 2s 3d	13 10 —		
			270 5 —	
.2	*House in Lawn-market Edin.* value		300 — —	
2	*J. Boswell* mer. Ed. per ac.	L.73 4 —		
2	*Tho. Pirie* writer Ed. per do.	12 3 8		
2	*Hen. Hardie* merchant Glasgow per bill -	75 — —		
2	*David Miller* manufacturer			
.1	Haddington, per receipt	18 — —		
			178 7 8	
				824 2 8

.1 *Stock Dr. to Sundries.*

.2	*To Royal Bank* per account	L.230 — —	
.3	*To Tho. Smith* merch. London per ac.	54 — —	
.3	*To Will. Nisbet* carpenter Leith per do.	28 7 3	
			312 7 3

3.

.3 .1 *Calicoe Dr. to Cash.* Bought 100 yards, at 3s 2d — 16 12 6

.3 .1 *James Cuthbert* merchant Leith, *Dr. to Meal*, sold 50 bolls, at 13s 3d - - — 33 2 6

5.

.3 .2 *Diaper Dr. to Yarn.* Delivered 60 sp. five-hank, in barter of 80 yards, at 1s 9d — 7 — —

10.

.3 .1 *William Nisbet Dr. to Cash.* Paid him in full — 28 7 3

13.

Sundries Dr. to William Bruce merchant Leith.

.3	*Salt.* For 200 bushels, at 1s 8d		L.16 13 4	
.3	*Iron.* For 320 stones, at 3s 4d		53 6 8	
.3				70 — —

15.

Sundries Drs. to Paper.

.2	*James Boswell for*	30 rms, at 12s	L.18 — —	
.4	*John Henderson* stationer Edinburgh, for	12 at 12s	7 4 —	
.1	*Cash*, For	5 at 11s	2 15 —	
.2		47		27 19 —

19.

Sundries Drs. to Salt, for 152 bsh. at 1s 9d L.13 2 6

.1	*Cash.* Received in part -	L.10 — —	
4	*William Hunter* merchant Dunbar, for		
.3	balance due by him -	3 2 6	
			13 2 6

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(2) **WASTE-BOOK.**

Edinburgh, JANUARY 22. 1789.

Received from Henry Hardy in payment of his bill L.75 — —
And for interest on do. 2 10 — — 77 10 —

Rules II. VII.

Paid the Royal Bank - - 100 — —

Rule I.

26.

Bought from Alex. Sharp. merch. Dundee 500 sp. four-hank yarn, at 1s 11d L.47 18 4
Paid him in part L.15 — —
And the balance due him is 32 18 4 — 47 18 4

Rules II. III.

30.

Received 150 bolls meal, at 13s 2d L.98 : 15s, in barter for 6 hds. Port wine, at 16l. L.96 — —
Paid the balance . 2 15 — — 98 15 —

Rule III.

Edinburgh, 2d FEBRUARY 1789.

Sold James Boswell
48 bush. salt, being the rem. at 1s 8½d L.4 2 —
60 sp. five-hank yarn, at 2s 3½d 6 17 6
100 stone iron, at 3s 4½d 16 17 6 — 27 17 —

Rule I.

3.

Received from James Cuthbert in part 30 — —

Rule II.

10.

Bartered 22 reams paper, at 12s L.13 4 —
30 bolls meal, at 13s 6d 20 5 —
L.33 9 —
For 334½ sp. four-hank yarn, at 2s 33 9 —

Rule III.

Taken for the use of my shop the remaining ream paper, value — 10 6

Rule VI.

16.

Received from William Hunter in full L.3 2 6
from James Boswell in part 70 — — — 73 2 6

Rule II.

Paid the Royal Bank 100 — —

Rule I.

19.

Bartered 100 yards calicoes, at 3s 6d L.17 : 10

For one hd. Port wine L.14 10 —
Received the balance 3 — — — 17 10 —

Rule III.

JOURNAL.

Edinburgh, JANUARY 22. 1789.

(2)

Cash Dr. to Sundries.
To Henry Hardy, Rec. paym. of his bill L.75 — —
To Profit and Loss. Rec. interest on do. 2 10 — — 77 10 —

Royal Bank Dr. to Cash. Paid them 100 — —

26.

Yarn Dr. to Sundries, for 500 spindles four-hank, at 1s 11d L.47 18 4
To Cash. Paid in part L.15 — —
To Alex. Sharp. merch. Dundee for bal. 23 18 4 — 47 18 4

30.

Meal. Dr. to Sund. for 150 bolls, at 13s 2d L.98 : 15s
To Port-wine. For 6 hds. delivered in barter, L.16. L.96 — —
To Cash. Paid balance 2 15 — — 98 15 —

Edinburgh, 2d FEBRUARY 1789.

James Boswell Dr. to Sundries.
To Salt, for 48 bush. being the rem. at 1s 8½d L.4 2 —
To Yarn, for 60 sp. five-hank, at 2s 3½d 6 17 6
To Iron, for 100 stones, at 3s 4½d 16 17 6 — 27 17 —

3.

Cash Dr. to James Cuthbert. Received in part 30 — —

10.

Yarn Dr to. Sundries. For 334½ sp. four-hank yarn, at 2s. L.33 : 9s
To Paper. For 22 reams delivered in barter, at 12s L.13 4 —
To Meal. For 30 bolls, at 13s 6d 20 5 — — 33 9 —

Charges Merchandise Dr. to Paper taken for the use of shop, 1 ream, value — 10 6

16.

Cash Dr. to Sundries.
To William Hunter. Received in full L.2 2 6
To James Boswell. ——— in part 70 — — — 73 2 6

Royal Bank Dr. to Cash. Paid them 100 — —

19.

Sundries Drs to Calicoes. For 100 yards delivered in barter at 3s 6d L.17 : 10s
Port-wine. For 1 hd. L.14 10 —
Cash. Received balance 3 — — — 17 10 —

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Edinburgh

(3) WASTE-BOOK.

Edinburgh, 19th FEBRUARY, 1789.

Sold 30 bolls meal for ready money, at 13s 8d L. 20 10 —
45 to Henry Hardy, 13s 10d 31 2 6
24 to William Hunter, at 13s 10d 18 13 6
52 to Baillie and Bell, Borrowstownness, at 13s 10d 35 19 5
154 — 106 5 4

Rules I. III.

Drawn on the Royal Bank — 120 — —

Rule II.

Paid William Bruce in part L. 50 — —
Alexander Sharp in full 32 18 4
And Tho. Smith's bill on me at sight 35 — —
— 117 18 4

Rule I.

Edinburgh, 2d MARCH, 1789.

Paid Charges and cellar-rent of salt L. 1 2 6
Charges and loft-rent of meal 3 3 —
— 4 5 6

Rule IV.

4.

Received from Thomas Pirie in full L. 12 — —
Discounted him — 3 8
— 12 3 8

Rule II. VI.

5.

Sold James Dalton, Manchester
60 spindles four-hank yarn, at 2s ½d L. 6 1 3
300 do do at 1s 11¼d 29 13 9
360 — 35 15 —

Rule I.

12.

Received from Jan. Jonkheer Rotterdam, 6 bags clover seed, qt. 200 lb. each, amount per invoice *f.* 212, at 22d per *f*, L. 28 12 —
Paid freight and charges 1 5 —
— 29 17 —

Rules II. IV.

17.

Bartered with James Boswell 2 bags clover-seed, at 6l. L. 12 for 2 hds. lints. at 55s L. 5 10 —
Received in money 5 — —
And he owes the balance 1 10 —
— 12 — —

Rule III. I.

Paid Tho. Smith in full L. 19 — —
And for interest 1 10 —
— 20 10 —

Rule I. IV.

21.

Sold 140 lb. clover-seed to John Scott farmer at Haugh-head, 7½d L. 4 7 6
70 to James Cuthbert at 7½d 2 3 9
120 for ready money, at 7½d 3 12 6
330 — 10 3 9

Rules I. II.

JOURNAL.

Edinburgh, 19th FEBRUARY, 1789.

(3)

Sundries Drs to Meal.

.1 *Cash.* For 30 bolls, at 3s 8d L. 20 10 —
.2 *Henry Hardy.* For 45 13s 10d 31 2 6
.4 *William Hunter.* For 27 13s 10d 18 13 6
.4 *Baillie and Bell*, Borrowstownness. For 52 13s 10d 35 19 4
.1 — 154 — 106 5 4

23.

.1 *Cash Dr. to Royal Bank.* Drawn on them — 120 — —
.2

Sundries Drs. to Cash.

.3 *William Bruce.* Paid him in part L. 50 — —
.4 *Alex. Sharp.* Paid him in full 32 18 4
.1 *Tho. Smith.* Paid his bill on me at sight 35 — —
— 117 18 4

Edinburgh, 2d MARCH, 1789.

Sundries Drs. to Cash.

.3 *Salt.* Received in full L. 1 2 6
.1 *Meal.* Paid charges and loft-rent 3 3 —
.1 — 4 5 6

4.

Sundries Drs. to Thomas Pirie.

.1 *Cash.* Received in full L. 12 — —
.1 *Profit and Loss.* Discounted him — 3 8
.2 — 12 3 8

4.

James Dalton, Manchester, *Dr. to Yarn.*

.4 For 60 sp. four-hank, at 2s ½d L. 6 1 3
.2 And 300 do. at 1s 11¼ 29 13 9
— 360 — 35 15 —

12.

Clover-seed, Drs. to Sundries.

.4 *To Jan Jonkheer*, for 6 bags, qt. 200 lb. each, is 1200 lb. amount per invoice, *f.* 312, at 22d L. 28 12 —
.1 *To Cash.* Paid freight and charges 1 5 —
— 29 17 —

17.

Sundries Drs. to Clover-seed. For 2 bags, at 6l. L. 12 — —
.4 *Lint-seed*, for 2 hds. recd. in bart. 55s 5 10 —
.3 *Cash.* In part 5 — —
.1 *James Boswell*, for balance 1 10 —
— 12 — —

Sundries Drs. to Cash.

.3 *Thomas Smith.* Paid him in full L. 19 — —
.1 *Profit and Loss.* Paid him interest 1 10 —
— 20 10 —

21.

Sundries Drs. to Clover-seed.

.5 *John Scott*, farmer at Haugh-head, for 140 lb, at 7½d L. 4 7 6
.3 *James Cuthbert*, for 70 7½d 2 3 9
.1 *Cash* for 120 7½d 3 12 6
.2 — 330 — 10 3 9

Edinburgh,

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(4) WASTE-BOOK.

Edinburgh, 24th MARCH, 1789.

James Boswell has paid the Royal Bank on my acct. 40 —
Rule VIII.

25

Bought from William Ainslie merchant Alloa $\frac{1}{3}$ share of the ship Hazard, for 150 —
Rule II.

Sold Baillie and Bell,
150 stone Iron, at 3s 7d L.26 17 6
1 hd. Port-wine 15 5 —
42 2 6
Rule I.

Edinburgh, 2d APRIL, 1789.

Sold for ready money
50 yards diaper, at 1s 11d L. 4 15 10
30 bolls meal, at 13s 7d 20 7 6
1 hd. lint-seed 3 3 0
160 lb. clover-seed, at 7¼d 5 3 4
30 stone iron, at 3s 6½d 5 6 3
38 15 11
Rule III.

6

Drawn on the Royal Bank for 60 —
Rule II.

Bought for ready money
30 casks train oil, at 22s. L.33 — —
30 bolls meal, at 13s. L.19 10 —
40 do. at 13s. 2d 26 6 8
70 Rule III. 45 16 8
78 16 8

Sold Will. Ainslie 30 yds. diaper, at 2s L. 3 — —
And paid him 30 — —
Rule I. 33 —

8

Baillie and Bell have paid Will. Ainslie, at my desire, balance of my share of the ship Hazard 117 —
Rule VIII.

11

Sold James Boswell 20 casks train-oil, at 27s 27 —
Rule I.

14

Sold George Gordon merch. Stirling
10 casks train-oil, at 28s L.14 — —
1 hd. lint-seed 3 5 —
35 bolls meal, at 13s 8d 23 18 4
L.41 3 4
Received in part L.35 — —
and he owes the balance 6 3 4
41 3 4
Rule I. II.

16

Paid Baillie & Bell's bill on me to C. Cowan, at sight 38 18 2
Rule I.

JOURNAL.

Edinburgh, 24th MARCH, 1789.

(4)

Royal Bank Dr. to James Boswell. Paid by him 40 —

25.

Share of the ship Hazard Dr. to William Ainslie merchant Alloa, bought $\frac{1}{3}$ share for 150 —

28.

Baillie and Bell Drs. to Sundries.
To Iron. For 150 stone, at 3s 7d L.26 17 6
To Port-wine. For 1 hd. 15 5 —
42 2 6

Edinburgh, 2d APRIL, 1789.

Cash Dr. to Sundries.
To Diaper. For 50 yards, at 1s 11d L.4 15 10
To Meal. For 30 bolls, at 13s 7d 20 7 6
To Lint-seed For 1 hd. 3 3 —
To Clover-seed. For 160 lb. at 7¼d 5 3 4
To Iron. For 30 stone, at 3s 6½d 5 6 3
38 15 11

6.

Cash Dr to Royal Bank. Drawn on them for 60 —

Sundries Drs. to Cash.
Train-oil. For 30 casks, at 22s L.33 — —
Meal. For 30 bolls, at 13s L.19 10 —
And 40 at 13s 2d 26 6 8
70 45 16 8
78 16 8

William Ainslie Dr. to Sundries.
To Diaper. For 30 yards, at 2s L. 3
To Cash. Paid him 30
33 —

8.

William Ainslie Dr. to Baillie and Bell. Paid him by them on my account, being balance of share of ship Hazard 117 —

11.

James Boswell Dr to Train-oil. Sold him 20 Casks at 27s 27 —

14.

George Gordon Dr. to Sundries.
To Train-oil. For 10 casks, 28s. L.14 — —
To Lint seed. For 1 hd. 3 5 —
To Meal. For 35 bolls at 13s 8d 23 18 4
41 3 4

Cash Dr to George Gordon. Received in part 35 —

16.

Baillie and Bell Dr. to Cash. Paid their bill on me to C. Cowan, at sight. 38 18 2

Edinburgh.

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(5)

WASTE-BOOK.

Edinburgh, 18th APRIL, 1789.

Taken for the use of my family, the remaining five yards calicoe, at 3s 2d — 1 5 10
Rule VI.

22.

The Royal Bank have paid Jan. Jonkheer's bill on me, 1 mdt. at my desire. 28 12 —
Rule VIII.

25.

Received my proportion of profits on a voyage to Rotterdam by the Hazard. 33 — —
Rule V.

30.

Paid for small charges on my business since January L. 5 3 8
Personal and family expences 32 — —
37 3 8
Rule VI.

Due Thomas Sharp, my clerk, for wages 8 — —
Rule VI.

Due to the Royal Bank for interest 2 11 2
Rule VI.

Previous to the balancing of my books, I have taten an inventory of the goods in my shop and warehouse,

124 bolls meal, at 13s 6d.	L.83 14 —	
474 sp. four-hank yarn, at 2s	47 8 —	
40 stone iron, at 3s 4d.	6 13 4	
300 lb. clover-seed, at 6d	7 10 —	
	L.145 5 4	
I value my house at	300 — —	
And my share of ship Hazard	140 — —	
	L. 585 5 4	

JOURNAL.

Edinburgh, 18th APRIL, 1789.

(5)

.5 .3 *Proper expences Dr. to Calicoes.* For 5 yards taken for family use, at 3s 2d. — 1 5 10

22.

.4 .2 *Jan. Jonkheer Dr. to Royal Bank.* For his bill on me 1 mdt. paid by them 28 12 —

25.

.1 .5 *Cash Dr. to share of ship Hazard.* Received my proportion of profits on a voyage to Rotterdam 33 — —

30.

Sundries Drs. to Cash.

.4 *Charges Merchandise.* Paid small charges since Jan. 1. L. 5 3 8
.5 .1 *Proper Exp.* Paid pers. and family charges 32 — —
37 3 8

.4 .5 *Charges of Merchandise Dr. to Thomas Sharp*, my clerk. Due him for wages 8 — —

.1 *Profit and Loss Dr. to Royal Bank.* Due them for int. 2 11 1

2 .1 *Profit and Loss Dr. to Sundries*, for articles of loss.

.1 *To Salt*	L.— 11 4	
.3 *To Charges Merchandise*	13 14 2	
4 *To Proper Expences*	32 15 10	
.5 See § 54.		47 1 4

Sundries Drs. to Profit and Loss, for articles of gain.

.1 *Meal*	L.9 18 —	
.1 *Port-wine*	6 15 —	
.2 *Paper*	4 18 6	
.2 *Yarn*	2 3 2	
.3 *Calicoes*	1 13 4	
.3 *Diaper*	— 15 10	
.3 *Iron*	2 7 11	
.4 *Clover-seed*	5 — 1	
.4 *Lintseed*	— 18 —	
.5 *Share of Ship Hazard*	23 — —	
.5 *Train oil*	8 — —	
.1		65 9 10

.5 *Bal. Account Dr. to Sun.* for articles belonging to me.

.1 *To Cash*	L. 8 3 10	
.1 *To Meal.* For 124 bolls, at 13s 6d	83 14 —	
2 *To Yarn.* For 474 sp. at 2s	47 0 —	
Amissing $\frac{1}{8}$ spindle.		
.2 *To house in Lawnmarket*	300 — —	
.2 *To James Boswell*	37 11 —	
.2 *To Henry Hardy*	31 2 6	
.2 *To David Miller*	18 — —	
.3 *To James Cuthbert*	5 6 3	
.3 *To Iron.* For 40 stone at 3s 4d	6 13 4	
4 *To John Henderson*	7 4 —	
.4 *To William Hunter*	18 13 6	
.4 *To James Dalton*	35 15 —	
.4 *To Clover-seed.* For 300 lb. at 6d.	7 10 —	
Inlake 10 lb.		
.5 *To John Scott*	4 7 6	
.5 *To share of ship Hazard*	140 — —	
.5 *To George Gordon*	6 3 4	757 12 3

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(6) JOURNAL.

Edinburgh, 30th APRIL 1789.

Sundries Drs. to Balance-account.

.1	*Meal.* Outcome 3 bolls						
.2	*Royal Bank* - -	L.	201	3	2		
.3	*William Bruce* - -		20	—	—		
.5	*Thomas Sharp* - - -		8	—	—		
.5						229	3 2
.1	*Profit and Loss Dr. to Stock*, for nett gain					16	19 8
.1	*Stock Dr. to Balance-account*, for nett stock					528	9 1
.5							

The next JOURNAL would begin thus:

Sundries Drs. to Stock.

Cash on hand - -	L.	8	3	10		
Meal. For 124 bolls, at 13s	L.	83	14	—		
Yarn. For 474 sp. 4 hank, at 2s		47	8	—		
Iron. For 40 stone, at 3s 4d		6	13	4		
Clover-seed. For 300lb. at 6d		7	10	—		
					145	5 4
House in Lawn-market Edinburgh, value	L.	300	—	—		
Share in Ship Hazard. For one-third -		140	—	—		
					440	— —
James Boswell Edinburgh. Due by him -	L.	37	11	—		
Henry Hardy Glasgow.	Do.	31	2	6		
David Miller Haddington.	Do.	18	—	—		
James Cuthbert Leith.	Do.	5	6	3		
John Henderson Edinburgh.	Do.	7	4	—		
William Hunter Dunbar.	Do.	18	13	6		
James Dalton Manchester.	Do.	35	15	—		
John Scott Haughhead.	Do.	4	7	6		
George Gordon Stirling.	Do.	6	3	4		
					163	3 1
					757	12 3

Stock Dr. to Sundries.

To Royal Bank. Due them	L.	201	3	2		
To William Bruce, Leith. Due him		20	—	—		
Thomas Sharp, my clerk. Do.		8	—	—		
					229	3

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(1) LEGER. Fo.

Dr. *Stock,*

1789			Fo.			
Jan.	1	To Sundries, per J.	1	311	7	3
Apr.	30	To Balance-account for nett stock	5	528	9	1
				840	16	4

Dr. *Profit and Loss.*

1789			Fo.			
Mar.	4	To Thomas Pirie, discounted him	2		3	8
Apr.	17	To Cash, paid Tho. Smith interest	1	1	10	
	30	To Royal Bank, for interest due them		2	11	2
	—	To Sundries, per J.		47	1	4
	—	To stock, for nett gain	1	16	13	8
				67	19	10

Dr. *Cash,*

1789			Fo.			
Jan.		To Stock on hand	1	75	10	
	15	To Paper, for 5 reams, at 11s.	2	2	15	
	19	To Salt, in part, per J.	3	10		
	22	To Sundries, for Hen. Hardy's bill, with int.		77	10	
Feb.	3	To James Cuthbert, in part	3	30		
	16	To Sundries, per J.		73	2	6
	19	To Calicoes, for bal. of 100 yards, per J.	3	3		
	—	To Meal, for 30 bolls, at 13s 8d	1	20	10	
	20	To Royal Bank, drawn on them	2	120		
Mar.	4	To Thomas Pirie, in full	2	12		
	17	To Clover-seed, in part, for 2 bags	4	5		
	21	To Clover-seed, 120 lb. at 7¼d	4	3	12	6
Apr.	2	To Sundries, per J.		38	15	1
	6	To Royal Bank, drawn on them	2	60		
	14	To George Gordon, in part	5	35		
	25	To Share of ship Hazard, for share profits, p. J.	5	33		
				599	15	11

Dr. *Meal,*

1789			Bolls	Fo.			
Jan.	1	To Stock on hand, at 13s	200	1	130		
	30	To Sundries, per J. at 13s 2d	150		98	15	
Mar.	2	To Cash, paid charges and loft-rent		1	3	3	
Apr.	6	To Cash, per J.	70	1	45	16	8
	30	To profit and loss, for gain		1	9	18	
		Outcome	3				
			423		287	12	8

Dr. *Port wine,*

1789			Hds	Fo.			
Jan.	2	To Stock on hand, at L. 15	6	1	90		
Feb.	19	To Calicoes, in barter	1	3	14	10	
Apr.	30	To Profit and Loss, for gain		1	6	15	
			7		111	5	

LEGER. Fo. (1)

Contra *Cr.*

1787			Fo.			
Jan.	1	By Sundries, per J.	1	824	2	8
Apr.	30	By Profit and Loss, for nett gain	1	16	13	8
				840	16	4

Contra *Cr.*

1789			Fo.			
Jan.	22	By Cash, received int. on Hen. Hardy's bill	1	2	10	
Apr.	30	By Sundries, per J.		65	9	10
				67	19	10

Contra *Cr.*

1789			Fo.			
Jan.	3	By Calicoes, for 106 yards, at 3s 2d	3	16	12	6
	10	By William Nisbet, in full	3	28	7	3
	22	By Royal Bank, paid them	2	100		
	26	By Yarn, in part, for 500 sp. four hank	2	15		
	30	By Meal, paid balance of 150 bolls	1	2	15	
Feb.	16	By Royal Bank, paid them	2	100		
	21	By Sundries, per J.		117	18	4
Mar.	2	By Sundries, per J.		4	5	6
	12	By Clover-seed, paid freight and charges	4	1	5	
	17	By Sundries paid Tho. Smith, with int. per J.		20	10	
Apr.	6	By Sundries, per J.		78	16	8
	—	By William Ainslie, paid him	5	30		
	16	By Baillie and Bell, paid their bill on me st.	4	38	8	2
	30	By Sundries, for charges and expences per J.		37	3	8
	—	By Balance account	5	8	3	10
				599	15	11

Contra *Cr.*

1789			Bolls	Fo.			
Jan.	3	By James Cuthbert, at 13s 3d	50	3	33	2	6
Feb.	10	By Yarn, in barter, at 13s 6d	30	2	20	5	
	19	By Sundries, per J.	154		106	5	4
Apr.	2	By Cash, at 13s 7d	30	1	20	7	6
	14	By George Gordon, at 13s 8d	35	5	23	18	4
	30	By Balance account at 13s 4d	124	5	83	14	
			423		287	12	8

Contra *Cr.*

1789			Hds	Fo.			
Jan.	10	By Meal, in barter, at L. 16	6	1	96		
Mar.	18	By Baillie and Bell	1	4	15	5	
			7		111	5	

Dr.

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(2) LEGER. Fo.

Dr. *Paper,*

1789		R.	Fo.	£	s.	d.
Jan. 1	To Stock on hand, at 10s 6d	70	1	36	15	—
Apr. 30	To Profit and Loss, for gain		1	4	18	6
		70		41	13	6

Dr. *Yarn,*

1789		Spindles. 4 H	Spindles. 5 H	Fo.	£	s.	d.
Jan. 1	To Stock on hand, at 2s 3d		120	1	13	10	—
26	To Sundries, per J. at 1s 11d	500	—		47	18	4
Feb. 10	To Sundries, per J. at 2s	334½	—		33	9	—
Apr. 30	To Profit and Loss, for gain			1	2	3	2
			100				
		834½	—		97	—	6

Dr. *House in Lawnmarket,*

1789		Fo.	£	s.	d.
Jan. 1	To Stock, for value	1	300	—	—

Dr. *James Boswell merchant Edinburgh,*

1789		Fo.	£	s.	d.
Jan. 1	To Stock due by him, per account	1	73	4	—
15	To Paper, for 30 reams, at 12s	2	18	—	—
Feb. 2	To Sundries, per J.		27	17	—
Mar. 17	To Clover-seed, for bal. of 2 bags, per J.	4	1	10	—
Apr. 11	To Train-oil, for 20 casks, at 27s	5	27	—	—
			147	11	—

Dr. *Thomas Price writer Edinburgh,*

1789		Fo.	£	s.	d.
Jan. 1	To Stock due by him per account	1	12	3	8

Dr. *Henry Hardy merchant Glasgow,*

1789		Fo.	£	s.	d.
Jan. 1	To Stock due by him per bill	1	75	—	—
Feb. 19	To Meal, for 45 bolls, at 13s 10d	1	31	2	6

Dr. *David Miller manufacturer Haddington,*

1789		Fo.	£	s.	d.
Jan. 1	To Stock due by him per receipt	1	18	—	—

Dr. *Royal Bank of Scotland,*

1789		Fo.	£	s.	d.
Jan. 22	To Cash, paid them	1	100	—	—
Feb. 16	To Cash, paid them	1	100	—	—
Mar. 24	To Ja. Boswell, paid them by him	2	40	—	—
Apr. 30	To Balance-account	5	201	3	2
			441	3	2

LEGER. Fo. (2)

Contra *Cr.*

1789		R.	Fo.	£	s.	d.
Jan. 15	By Sundries per J.	47		27	19	—
Feb. 10	By Yarn in barter, at 12s	22	2	13	4	—
	By Charges Merchandise, for shop use	1	4	—	10	6
		70		41	13	6

Contra *Cr.*

1789		Spindles. 4 H	Spindles. 5 H	Fo.	£	s.	d.
Jan. 5	By Diaper at 2s 4d	—	60	3	7	—	—
Feb. 2	By James Boswell, at 2s 3½d	—	60	2	6	17	6
Mar. 5	By James Dalton, per J.	360	—	4	35	15	—
Apr. 30	By Balance-account, at 2s	474	—	5	47	8	—
	Amissing	½					
		834½	120		97	—	6

Contra *Cr.*

1789		Fo.	£	s.	d.
Feb. 30	By Balance-account	5	300	—	—

Contra *Cr.*

1789		Fo.	£	s.	d.
Feb. 16	By Cash in part	1	70	—	—
Mar. 24	By Royal Bank, paid in by him	2	40	—	—
Apr. 30	By Balance	5	37	11	—
			147	11	—

Contra *Cr.*

1789		Fo.	£	s.	d.
Mar. 4	By Sundries in full, with discount, per J.		12	3	8

Contra *Cr.*

1789		Fo.	£	s.	d.
Jan. 22	By Cash in full	1	75	—	—
Apr. 30	By Balance-account	5	31	2	6

Contra *Cr.*

1789		Fo.	£	s.	d.
Apr. 30	By Balance-account	5	18	—	—

Contra *Cr.*

1789		Fo.	£	s.	d.
Jan. 1	By Cash, drawn on them	1	230	—	—
Feb. 23	By Stock, due them per account	1	120	—	—
Apr. 6	By Cash, drawn on them	1	60	—	—
22	By J. Jonkheer, for his bill paid them, p. J.	4	28	12	—
30	By Profit and Loss, for interest due them	1	2	11	2
			441	3	2

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C 2

(3) LEGER. FO.

Dr. *Thos. Smith merchant London,*

1789							
Feb.	23	To Cash, paid his bill on me at sight		1	35	—	—
Apr.	17	To Cash, in full		1	19	—	—
					54	—	—

Dr. *William Nisbet carpenter Leith,*

1789							
Jan.	10	To Cash, paid him in full		1	28	7	3

Dr. *Calicoes,*

1789			Yds.				
Jan.	3	To Cash, at 3s 2d	105	1	16	12	6
Apr.	30	To Profit and Loss, for gain		1	1	13	4
			105		18	5	10

Dr. *Ja. Cuthbert merchant Leith,*

1789							
Jan.	3	To Meal, for 50 bolls at 13s 3d		1	33	2	6
Mar.	21	To Clover-seed, for 70lb. at 7½d		4	2	3	9
					35	6	3

Dr. *Diaper,*

1789			Yds.				
Jan.	5	To Yarn in barter, at 1s 9d	80	2	7	15	10
Apr.	30	To Profit and Loss, for gain		1			
			80		7	15	10

Dr. *Salt,*

1789			Bush.				
Jan.	13	To William Bruce, at 1s 8d	200	3	16	13	4
Mar.	2	To Cash, paid charges and cellar rent		P	1	2	6
			200		17	15	10

Dr. *William Bruce merchant Leith,*

1789							
Feb.	23	To Cash in part		1	50	—	—
Apr.	30	To Balance-account		5	20	—	—
					70	—	—

Dr. *Iron,*

1789			Stones.				
Jan.	13	To William Bruce, at 3s 4d	320	3	53	6	8
Apr.	30	To Profit and Loss, for gain		1	2	7	11
			320		55	14	7

LEGER. FO. (3)

Contra *Cr.*

1789							
Jan.	1	By Stock, due him per account		1	54	—	—
					54	—	—

Contra *Cr.*

1789							
Jan.	1	By Stock, due him per account		1	28	7	3

Contra *Cr.*

1789			Yds.				
Feb.	19	By Sundries, per J. at 3s 6d	100		17	10	—
Apr.	19	By proper Expences taken at 3s 2d	5	5	—	15	10
			105		18	5	10

Contra *Cr.*

1789							
Feb.	3	By cash in part		1	30	—	—
Apr.	30	By balance account		5	5	6	3
					35	6	3

Contra *Cr.*

1789			Yds.				
Apr.	2	By Cash at 1s 11d	50	1	4	15	10
	3	By William Ainslie, at 2s	30		3	—	—
			80		7	15	10

Contra *Cr.*

1789			Bush.				
Jan.	19	By Sundries, per J. at 1s 9d	150		13	2	6
Feb.	1	By J. Boswell, for the rem. at 1s 8½d	48	2	4	2	—
Apr.	30	By Profit and Loss Inlake	2	1	—	11	4
			200		17	15	10

Contra *Cr.*

1789							
Jan.	17	By Sundries, per J.			70	—	—
					70	—	—

Contra *Cr.*

1789			Stones.				
Feb.	2	By James Boswell, at 4s 4½d	100	2	16	17	6
Mar.	28	By Baillie and Bell, at 3s 7d	150	4	26	17	6
Apr.	2	By Cash, at 3s 6½d	30	1	5	6	3
	30	By Balance-account, at 3s 4d	40	5	6	13	4
			320		55	14	7

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Dr.

(4) LEGER. FO.

Dr. *Jo. Henderson stationer Edinburgh,*

1789
Jan. 14 To Paper, for 12 reams, at 12s — 2 — 7 4

Dr. *William Hunter merchant Dunbar,*

1789
Jan. 19 To Salt, for balance of 150 bushels, per J. — 3 — 3 2 6
Feb. 19 To Meal, for 27 bolls, at 13s 10d — — 18 13 6

Dr. *Alex. Sharp merchant Dundee,*

1789
Feb. 23 To Cash, in full — 1 — 32 18 4

Dr. *Charges Merchandise,*

1789
Feb. 10 To Paper taken for shop-use, 1 ream — 2 — — 10 6
Apr. 30 To Cash, for small charges since 1st Jan. — 1 — 5 3 8
To Tho. Sharp, for wages — 5 — 8 — —
— — — 13 14 2

Dr. *Baillie and Bell Borrowstounness,*

1789
Feb. 19 To Meal, for 52 bolls at 13s 10d — 1 — 35 19 4
Mar. 28 To Sundries, per J. — — — 42 2 6
Apr. 16 To Cash, paid their bill on me to C. Cowan, st. — 1 — 38 18 2
— — — 117 — —

Dr. *James Dalton Manchester,*

1789
Mar. 5 To Yarn, for 360 spindles four hank, per J. — 2 — 35 15 —

Dr. *Clover-seed,*

1789 lb.
Mar. 12 To Sundries per J. for pr. cost and char. — 1200 — 29 17 —
Apr. 30 To Profit and Loss for gain — — 1 — 5 —
1200 — 34 17 1

Dr. *J. Jonkheer merchant Rotterdam,*

1789
Apr. 22 To Ro. Bank, for his bill on me paid by them — 2 — 28 12 —

Dr. *Lint-seed,*

1789 Hds.
Mar. 17 To Clover-seed, in barter, at 55s — 2 4 — 5 10 —
Apr. 30 To Profit and Loss, for gain — — 1 — — 18 —
2 — 6 8 —

LEGER. FO. (4)

Contra Cr.

1789
Apr. 30 By Balance-account — 5 — 7 4 —

Contra Cr.

1789
Feb. 16 By Cash in full — 1 — 3 2 6
Apr. 30 By Balance-account — 5 — 18 13 6

Contra Cr.

1789
Jan. 20 By Yarn, for balance of 300 spindles, per J. — 2 — 32 18 4

Contra Cr.

1789
Apr. 30 By Profit and Loss — 1 — 13 14 2

Contra Cr.

1789
Apr. 8 By William Ainslie, paid him by them — 5 — 117 — —

Contra Cr.

1789
Apr. 7 By Balance-account — 5 — 35 15 —

Contra Cr.

1789 lb.
Mar. 7 By Sundries, per J. — — 400 — 12 —
17 By Sundries, per J. — — 330 — 10 3 9
Apr. 2 By Cash, at 7½d — — 160 1 5 3 4
30 By Balance-account, at 6d — 5 300 — 7 10 —
Inlake — — 10 — — —
1200 — 34 17 1

Contra Cr.

1789
Mar. 12 By Clover-seed, for 6 bags, per J. — 6 — 28 12 —

Contra Cr.

1789 Hds.
Apr. 2 By Cash — — 1 1 — 3 3 —
4 By George Gordon — 1 5 — 3 5 —
2 — 6 8 —

Dr.

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(5) LEGER. Fo.

Dr. *John Scott farmer at Haughhead.*

1789
Mar. 21 To Clover-seed. for 140 lb. at 7½d — 4 — 4 7 6

Dr. *Share of ship Hazard,*

1789
Mar. 25 To William Ainslie, bought ⅓ share for — 5 — 150 — —
Apr. 30 To Profit and Loss — 1 — 23 — —
— — 173 — —

Dr. *William Ainslie merchant Alloa,*

1789
Apr. 6 To Sundries, per J. — — 33 — —
10 To Baillie and Bell, for bal. paid him for them — 4 — 117 — —
— — 150 — —

Dr. *Train oil,*

1789 Casks
Apr. 6 To Cash, at 22s — 30 — 1 — 33 — —
30 To Profit and Loss, for gain — — 1 — 8 — —
— 30 — 41 — —

Dr. *George Gordon merchant Stirling,*

1789
Apr. 14 To Sundries, per J. — 9 — 41 3 4
— — 41 3 4

Dr. *Proper expences,*

1789
Apr. 18 To Calicoes, for 5 yards, at 3s 2d — 3 — — 1 5 10
30 To Cash, for charges since 1st January — 1 — 32 — —
— — 32 15 10

Dr. *Thomas Sharp, my clerk,*

1789
Apr. 30 To Balance account — 5 — 8 — —

Dr. *Balance account,*

1789
Apr. 30 To Sundries, per J. — 5 — 757 12 3
— — 757 12 3

LEGER. Fo. (5)

Contra *Cr.*

1789
Apr. 30 By Balance-account — 5 — 4 7 6

Contra *Cr.*

1789
Apr. 25 By Cash, for share profit of a voyage to Rot. — 1 — 33 — —
30 By Balance-account — 5 — 140 — —
— — 173 — —

Contra *Cr.*

1789
Mar. 25 By Share of ship Hazard, for ⅓ bt. from him — 5 — 150 — —
— — 150 — —

Contra *Cr.*

1789 Casks
Apr. 11 By James Boswell, at 27s. — 20 — 2 — 27 — —
14 By George Gordon, at 28s — 10 — 5 — 14 — —
— 30 — 41 — —

Contra *Cr.*

1789
Apr. 14 By Cash in part — 1 — 35 — —
30 By Balance-account — 5 — 6 3 4
— — 41 3 4

Contra *Cr.*

1789
Apr. 30 By Profit and Loss — 1 — 32 15 10
— — 32 15 10

Contra *Cr.*

1789
Apr. 30 By Charges Merchandise, due him for wages — 4 — 8 — —

Contra *Cr.*

1789
Apr. 30 By Sundries, per J. — 1 — 229 3 2
By Stock — — 528 9 1
— — 757 12 3

TRIAL-

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TRIAL-BALANCE.

	Dr.						*Cr.*					
1	Stock	L.312	7	3			L.824	2	8			
	Profit and Loss	4	4	10			2	10	—			
	Cash	499	15	11			591	12	1			
					L.916	8 —				L.1418	4	9
2	Meal	L.277	14	8			L.203	18	8			
	Port wine	104	10	—			111	5	—			
	Paper	36	15	—			41	13	6			
	Yarn	94	17	4			49	12	6			
	House in Edinburgh	300	—	—			—	—	—			
					813	17 —				406	9	6
3	James Boswell	L.247	11	—			L.110	—	—			
	Henry Hardie	31	2	6			—	—	—			
	David Miller	18	—	—			—	—	—			
	Royal Bank	140	—	—			441	3	2			
					436	13 6				551	3	2
4	Calicoes	L.16	12	6			L.18	5	10			
	James Cuthbert	35	6	3			30	—	—			
	Diaper	7	—	—			7	15	10			
	Salt	17	15	10			17	4	6			
					76	14 7				73	6	2
5	Iron	L.53	6	8			L.49	1	3			
	William Bruce	50	—	—			70	—	—			
	John Henderson	7	4	—			—	—	—			
	William Hunter	18	13	6			—	—	—			
	Charges Merchandise	13	14	2			—	—	—			
					142	18 4				119	1	3
6	James Dalton	L.35	15	—			L.—	—	—			
	Clover-seed	29	17	—			27	7	1			
	Flax-seed	5	10	—			6	8	—			
	John Scott	4	7	6			—	—	—			
	Share of Ship Hazard	150	—	—			33	—	—			
					225	9 6				66	15	1
7	Train oil	L.33	—	—			L.41	—	—			
	George Gordon	41	3	4			35	—	—			
	Proper Expences	32	15	10			—	—	—			
	Thomas Sharp	—	—	—			8	—	—			
					106	19 2				84	—	—
					L.2719	— 1				L.2719	—	1

COMPU-

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COMPUTATIONS.

	Dr.	Cr.
Cash	L.599 15 11	L.591 12 1
	591 12 1	
	L. 8 3 10	
2 Meal	L.277 14 8	L.203 18 8
Dr 420 bolls		83 14 —
Cr. 299	L. 83 14 —	
		L.287 12 8
121		277 14 8
124		
	Profit	L. 9 18 —
3 outcome		
Port wine	L.104 10 —	L.111 5 —
		104 10 —
	Profit	L. 6 15 —
Paper	L. 36 15 —	L. 41 13 6
		36 15 —
	Profit	L. 4 18 6
Yarn	L. 94 17 4	L. 49 12 6
Spindles		47 8 —
834½ 120	L. 47 8 —	
360 120		L. 91 — 6
		94 17 4
474½		
Amissing ½	Profit	L. 2 3 2
House in Edinburgh	L.300 — —	
3 Ja. Boswell	L.147 11 —	L.110 — —
	110 — —	
	L. 27 11 —	
Henry Hardy	L. 31 2 6	
David Miller	L. 18 — —	
Royal Bank	L.240 — —	L.441 3 2
		240 — —
		L.201 3 2
4 Calicoes	L. 16 12 6	L. 18 5 10
		16 12 6
	Profit	L. 1 13 4
J. Cuthbert	L. 35 6 3	
	30 — —	
	L. 5 6 3	
Diaper	L. 7 — —	L. 7 15 10
		7 — —
	Profit	L. — 15 10

	Dr.	Cr.
4 Salt	L. 17 15 10	L. 17 4 6
	17 4 6	
	Loss — 11 4	
5 William Bruce	L. 50 — —	L. 70 — —
		50 — —
		L. 20 — —
Iron	L. 53 6 8	L. 49 1 3
320 stone		6 13 4
280	L. 6 13 4	
		L. 55 14 7
40		53 6 8
	Profit	L. 2 7 11
J. Henderson	L. 7 4 —	
W. Hunter	L. 18 13 6	
Chur. Merchan.	L. 13 14 2 loss	
6 Ja. Dalton	L. 35 15 —	
Clover-seed	L. 25 17 —	L. 27 7 1
1200 lb.		7 10 —
890	L. 7 10	
		L. 34 17 —
310		29 17 —
300		
	Profit	L. 5 — 1
10 inlake		
Lint-seed	L. 5 10 —	L. 6 8 —
		5 10 —
	Profit	L. — 18 —
J. Scott	L. 4 7 6	
Share Hazard	L.150 — —	33 — —
		140 — —
	L.140 — —	
		L.173 — —
		150 — —
	Profit	L. 23 — —
7 Train-oil	L. 33 — —	L. 41 — —
		33 — —
	Profit	L. 8 — —
George Gordon	L. 41 3 4	L. 35 — —
	35 — —	
	L. 6 3 4	
Proper Ex.	L. 32 15 10 loss	
Thomas Sharp		L. 8 — —
STOCK	L.312 7 3	L.824 2 8
Balance	528 9 1	prof.16 13 8
	L.840 16 4	L.840 16 4

PROFIT

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PROFIT AND LOSS SHEET.

Salt			L. — 11 4	Meal			L. 9 18 —
Charges Merchandise			13 14 2	Port-wine			6 15 —
Proper Expences			32 15 10	Paper			4 18 6
			L. 47 1 4	Yarn			2 3 2
In Leger			4 4 10	Calicoes			1 13 4
			L. 51 6 2	Diaper			— 15 10
				Iron			2 7 11
				Clover-seed			5 — 1
				Lint-seed			— 18 —
				Share of ship Hazard			23 — —
				Train oil			8 — —
							L. 65 9 10
Nett gain			16 13 8	In Leger			2 10 —
			L. 67 19 10				L. 67 19 10

BALANCE-SHEET.

Cash			L. 8 3 10	Meal, outcome 3 b.			
Meal, 124 b. at 13s 4d			83 14 —	Royal Bank			L. 201 3 2
Yarn, 474 sp. at 2s			47 8 —	William Bruce			20 — —
Amissing ½				Thomas Sharp			8 — —
House in Edinburgh			300 — —				
James Boswell			37 11 —				L. 229 3 2
Henry Hardy			31 2 6				
David Miller			18 — —				
J. Cuthbert			5 6 3				
Iron, 40 stone, at 3s 4d			6 13 4				
J. Henderson			7 4 —				
W. Hunter			18 13 6				
James Dalton			35 15 —				
Clover-seed, 300 lb. at 6d			7 10 —				
Inlake 10 lb.							
J. Scott			4 7 6				
Share of ship Hazard			140 — —				
George Gordon			6 3 4	STOCK			528 9 1
			L. 757 12 3				L. 757 12 3

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Subsidiary Books.

The present article, it is hoped, will appear sufficiently extended for a work of this nature. It contains the general principles of Italian book-keeping; and is sufficient to unfold the nature and design of that art to the speculative inquirer, to direct the accountant in common and easy cases, and prepare him for understanding those that are more complicated. In fact, if he has a clear apprehension of the sense of the transactions, the tendency of the journal entries, and the import of the balances in the leger, he will seldom be at a loss how to proceed.

Subsidiary Books used by Merchants.

Though all merchants accounts may be kept by the *Waste-book*, *Journal*, and *Leger*, alone; yet men of great business find it convenient, either for abridging these, or for other ends, to use some others, generally called *Subsidiary* or *Subservient Books*; the most common of which are the nine following, viz.

1. *Cash-Book.* This book is kept in a folio form, like the leger, and serves to abridge the cash-account there. On the left-hand page, or Dr. side, *Cash* is charged Dr. for all the sums received; and on the right-hand page *Cash* is made creditor for all the sums paid. Once a week, or, which is more ordinary, once a month, this book is posted to the leger; or, if you please, first to the journal, by two entries, viz. *Cash* Dr. to *Sundries*, for all the receipts, and *Sundries*, Drs. to *Cash*, for all the payments. By this means the cash account in the leger will be so far contracted as to consist of 12 lines, viz. one for each month in the year.

2. *Book of Charges of Merchandise.* This book is only paged, and designed to abbreviate the cash-book. It contains particular charges on goods and voyages; such as carriage, custom, freight, cranage, wharfage, &c.: as also other expences that affect trade in general; such as, warehouse-rent, shop-rent, accountant's wages, postage of letters, and the like. At the end of each month the money-columns of this book are added up, and the sum carried to the credit-side of the cash-book.

3. *Book of House-expence.* This book is also paged, and designed likewise to ease the cash-book. It contains all disbursements for family provisions, servants wages, house-rent, apparel, utensils, &c. The money-columns of this book are also added up at the end of each month, and the sum transferred to the credit side of the cash-book.

4. *Invoice-book.* This book, which is used chiefly by factors, is paged, and contains doubles or copies of the invoices of goods sent to sea, or of goods received from abroad.

5. *Sales-book.* This book too is chiefly used by factors; and into it are posted, from the waste-book, the particular sales of every consigned cargo; by which means the several articles of a sale, that lie scattered in the waste-book, are brought together, and represented under one view, and that in a manner more full and minute than they are collected in the leger account. This book exhibits the sales of every consignment separately and by themselves: to which are subjoined the respective charges, such as freight, custom, the factor's commission, as also abatements allowed to buyers, &c. whose sum subtracted from the gross amount of sales gives the neat proceeds. From this book, when a cargo is sold off, an account of sales is drawn out, in order to be transmitted to the employer.

Subsidiary Books.

6. *Bill-book.* The design of this *Bill-book*, or *Month-book*, is to furnish a merchant with a ready way of knowing the time when bills or other debts become payable to or by him. It consists of 12 folios, one for each month in the year. The left-hand page contains the debts that fall due to the merchant in the month on the top, and the right-hand page contains the debts payable by him to others in the same month.

7. *Receipt-book.* In this book a merchant takes receipts of the payments he makes. The receipt should contain the date; the sum received, expressed in words at large, and also in figures in the money-columns; the reason why; and whether in full or in part; and must be signed by the person receiving. But there is no occasion to mention the merchant's name; for the book being his own, sufficiently implies that.

8. *Letter-book.* It is very imprudent in any person to send away a letter of business, without keeping a double of it to himself; and therefore to prevent the bad consequence of such a careless practice, merchants are provided with a large book in folio, into which is copied *verbatim* every letter of business before it be sent off. So that this book, together with the letters received (which must also be carefully kept in files or boxes), makes a complete history of all the dealings that pass betwixt a merchant and his correspondents; which may be very useful and necessary on many occasions.

9. *Pocket-book.* This is a small book, of a portable size, which a merchant carries in his pocket when business calls him abroad to a tavern, a fair, the country, or other places. In this he sets down the bargains he makes, the expences he is at, the debts he pays, or sums he receives, with every other part of business he transacts while abroad; as also any occurrence or piece of news he thinks worth while to record. And when he comes home to his counting house or shop, he transfers the things contained in this book, each to their proper places in the waste-book, or book subsidiary.

Factors of great business sometimes keep another small book called the *Memorandum-book.* Into this book is copied, from letters as they come to hand, short notes of the several commissions for buying goods contained in them; and as the commissions are effected, the notes are crossed, or have some mark affixed to them. This is more convenient in doing business, than to be continually running to the letters themselves.

The above are the subsidiary books most in use: but a merchant is not tied down or restricted to them; he may keep some, and neglect others, or invent more as the nature of his business requires, and he finds convenient.

New Method of BOOK-KEEPING by *Mr Jones.*

A new method of keeping books, entitled the *English System of Book-keeping*, has been proposed by Mr Edward Thomas Jones of Bristol, for which a patent was granted in January 1796.

Three books are required in the *English System of book-keeping*, viz. a *Day-book* or *Journal*, an *Alphabet*, and a leger. The day-book must have three columns on each page; one of which to receive the amount of debits

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A new Method.

debits and credits; one column to receive the debits only; and one column to receive the credits only; or it may be ruled with only two columns on each page, one of which to receive the amount of the debits, and the other to receive the amount of the credits. On each page of the day-book, there must also be four other columns ruled, two on the left side next the amount of the debits, and two on the right side next the amount of the credits. These columns are intended for receiving the letter or mark of posting, and the page of the leger to which each amount is to be posted. It is not necessary that the alphabet be ruled, but it must contain the name of every account in the leger, the letter annexed to it as a mark of posting, and the page of the leger. The leger is to be ruled with three, four, five, or seven columns on each page, as may be most agreeable, for receiving the amounts of the transactions which are entered in the day-book. The plan of making up books of accounts, according to this system, is the following:

When a person begins trade, either as an individual or in company, he must open an account with himself in the leger. He must first enter in the day-book, and then to the credit of his account in the leger, the amount of the property which he has advanced into the trade. His name only may be placed at the head of the account, or it may be called *stock-account*.

When goods are purchased, give the person credit of whom they are bought; when goods are sold, debit the person to whom they are sold. When you pay money, debit the person to whom it is paid, not only for the amount you pay, but also for any discount or abatement that may be allowed, and give the cashier credit for the neat amount paid. When money is received, credit the person of whom it is received, not only for what he pays, but also for any discount you have allowed, and debit the cashier for the neat sum received. In these entries a plain narrative of the fact should only be introduced. Technical phrases, excepting the terms debit and credit, should be avoided. These are the only terms applicable to every transaction, and may be affixed to every entry.

In the hurry of business, entries may be made to the debit instead of the credit of an account in the day-book, and *vice versa*. To obviate this evil, Mr Jones proposes to have only one column for receiving the amount of every transaction, whether debit or credit, at the time of making the entry; and that the debits may be conveniently separated from the credits, previous to posting, which is necessary to prevent confusion, he has two other columns in the same page; the column on the left side receives the amount of every debit, and the column on the right side receives the amount of every credit. These columns must be cast up once a month. The column of debits and credits of itself forms one amount; the column of debits forms a second amount; and the column of credits a third amount. The second and third amounts, when added together, it is plain, must agree with the first amount, which includes both the debits and credits, otherwise there must be some error, either in making the entry or in the addition.

In this manner the accountant may obtain an accurate statement of the transactions recorded in his books for every month, which will shew how much he owes for that month, and how much is owing to him; and by subtracting the amount of the credit from the whole amount of the debits for any given time, with the value of the stock of goods on hand, the profits of the trade for that period will at once appear.

The next part of the operation in this system is that of posting. An account is opened in the leger with every person to whose debit or credit an entry has been made in the day-book; and to each account a letter is affixed, which is to be used as a mark of posting. The name of the person, his place of abode, and the folio of the leger, must then be entered in the alphabet, with the same letter prefixed to each name, as is affixed to the account in the leger. The next step of the process is to affix to each amount in the day-book in the column for that purpose, the page of the leger on which each account is opened. This will be seen in the alphabet. The date and amount of each debit are then to be posted in the proper columns in the leger, on the left or debit side of that account to which it relates; taking care to enter as a mark of posting in the day-book, against each amount, the same letter that is affixed to the account in the leger to which said amount may be posted. The debits of January, February, March, &c. it is to be observed, must be posted into the column for those months in the leger, and the credits must also be posted in like manner, each account being filled up in the centre, at the expiration of every month, with the whole amount of the month's transactions. Thus may the whole statement of each person's account for the year be included in a small space. The columns to the right and left contain the separate amount of each transaction. The column in the centre exhibits a monthly statement.

Having shewn in what manner the entries are to be made and carried through the different books, according to this system; the next thing is to describe the method of examining them, so as to ascertain with certainty their accuracy; and not only to discover if each transaction has been correctly posted, with regard to its amount, but also that it has been rightly entered to the debit or credit of its proper account. The mode of examination proposed by this system is different from those which have been hitherto practised, both in expedition and accuracy. All that is necessary is to add together the different sums in the debit and credit columns, through the leger: and the amount of these columns, if right, must agree with the columns in the day-book for the same period. This examination should take place once every month; and if the amounts do not agree, the posting must be called over, and when the time allotted to each column of the leger, whether it be for one or more months, has expired, the amount of each column should be put at the bottom of the first page, and carried forward to the bottom of the next, and so on to the end of the accounts. The amount in the day-book for each month's transactions, must be brought into one gross amount for the same time.

But this process, although it proves that the leger contains the whole contents of the day-book, is not to be considered as complete without some mode of ascertaining if each entry be posted to the right account. To discover this the following method is adopted. It is to be admitted as a rule, that a letter, which may be

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used

A new Method.

used alphabetically in any form or shape, is to be affixed to each account in the leger, and the same letter prefixed to the names in the alphabet. These letters are to be used as marks in posting, and affixed to each account in the day-book as it is posted. It is therefore only necessary to compare and see that the letter affixed to each entry in the day-book is the same as that which is prefixed to the same name in the alphabet. If there be no difference, it must be right, otherwise there must be some error.

When the accounts are to be balanced at the end of the year, or at any other time, if the profits of the trade are to be stated in the books, the value of the stock of goods on hand at prime cost, either in one sum, or by specifying the amount of every article, may be entered in the day-book, and an account opened for it in the leger, to the debit of which it is to be posted. The casting up of the leger is then to be completed; and when it is found to agree with the day-book, and the amount placed at the bottom of each column, subtract the credits from the debits, and the difference will show the profit of the trade; but if the credits be the greater amount, then a loss has followed. To avoid error in taking off the balances of the leger, one rule must be observed. First, find out the difference between the whole amounts of the credits and debits on each page for the year, with which the differences of the outstanding balances of the several accounts on each page must exactly agree, otherwise the balances have not been taken right. Proceeding in his way every page will be proved, and the balances of any number of legers, according to this plan, cannot be taken off wrong without being observed.

A new Method.

Bookseller.

BOOKSELLER, one who trades in books, whether he prints them himself, or gives them to be printed by others.

Booksellers, among us, are the same with the *bibliopolæ* of the ancients, whose office was distinct from that of *librarii*. Petty dealers, or venders of small ware, were distinguished by the diminutive appellation *libelliones*. At Rome, the Argiletum was the mart of books, as Paul's Church-yard, or Fleet-street, and Paternoster-row, have been in London: whence that of Martial.

Argiletanas mavis habitare tabernas,
Cum tibi, parve liber, scrinia nostra vacent.

Booksellers in many places are ranked among the members of universities, and entitled to the privileges of students: as at Tubingen, Saltsburg, and Paris, where they have always been distinguished from the vulgar and mechanical traders, and exempted from divers taxes and impositions laid on other companies.

Formerly, the offices of booksellers and printers were united in the same persons. Labbe gives a list of learned booksellers; most of whom were also authors. Of late, booksellers have drawn their business into less compass, and leaving the labour of composing books to one set of persons, and that of printing them to another, content themselves with the gainful part; thus ministering to the republic of letters not with the head or the hand, but the purse only. In this view, they have been very important and useful agents between authors and the public; and have contributed, in no small degree, to the encouragement of genius and literary industry, and the spread of science. There are few authors, who have undertaken the printing and publishing of any work likely to be transmitted to posterity, without being connected with some bookseller, or booksellers, eminent in their profession.

The fairs of Francfort and Leipsic are famous for the resort of booksellers, not only from all parts of the empire, but Holland, Flanders, &c. They have each their shop or warehouse, over which is inscribed the name of some celebrated bookseller of former times; *Officina Elzeviriana*, *Frobeniana*, *Morelliana*, *Jansoniana*, &c.

Bookseller, Boom.

An acquaintance with the booksellers marks or signs frequently expressed on the title page of their books, is of some use; because many books, especially in the last century, have no other designation either of printer, bookseller, or even city. The anchor is the mark of Raphelengius at Leyden; and the same with a dolphin twisted round it, of the Manutii at Venice and Rome; the Arion denotes a book printed by Oporinus at Basil; the caduceus, or Pegasus, by the Wecheliuses at Paris and Francfort; the cranes, by Cramoisy; the compass, by Plantin at Antwerp; the fountain, by Vascosan at Paris; the sphere in a balance, by Janson or Blaew, at Amsterdam; the lily, by the Juntas at Venice, Florence, Lyons, and Rome; the mulberry-tree, by Morel at Paris; the olive-tree, by the Stephenses at Paris and Geneva, and the Elzeviers at Amsterdam and Leyden; the bird between two serpents, by the Frobeniuses at Basil; the Truth, by the Commelins at Heidelberg and Paris; the Saturn, by Colinæus; the printing-press, by Badius Ascencius, &c.

The traffic of books was anciently very inconsiderable, insomuch that the book-merchants of England, France, Spain, and other countries, were distinguished by the appellation of *stationers*, as having no shops, but only stalls and stands in the streets. During this state, the civil magistrates took little notice of the booksellers, leaving the government of them to the universities, to whom they were supposed more immediate retainers; who accordingly gave them laws and regulations, fixed prices on their books, examined their correctness, and punished them at discretion. But when, by the invention of printing, books and booksellers began to multiply, it became a matter of more consequence; and the sovereigns took the direction of them into their own hands, giving them new statutes, appointing officers to fix prices, and granting licenses, privileges, &c.

BOOM, in the sea-language, a long piece of timber with

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Boom & Boot

with which the clew of the studding-sail is spread out; and sometimes the boom is used to spread or boom out the clew of the main-sail.

BOOM, denotes also a cable stretched athwart the mouth of a river or harbour; with yards, top-masts, battling or spars of wood lashed to it, to prevent an enemy's coming in.

BOOMING, among sailors, denotes the application of a boom to the sails. A ship is said to come booming forwards, when she comes with all the sail she can make.

BOONEN, ARNOLD, portrait painter, was born at Dort in 1669, and at first was a disciple of Arnold Verbuis, a painter of history and portrait. Afterwards he placed himself with Godfrey Schalcken, and continued with that artist for six years. The sweetness of his colouring, and the neatness of his touch, with a striking likeness in his portraits, procured him a number of admirers. He painted in the manner of his master, particularly subjects by candle-light, which were very delicate, and very natural; and much more of his work was requested by the lovers of the art than it was possible for him to undertake. He had the honour to paint the portraits of the czar of Muscovy; of Frederick I. king of Prussia; of the victorious duke of Marlborough, as well as many of the princes of Germany; and most of the noblemen who attended the czar. His style of colouring was extremely good, and he had an elegant manner of disposing the attitudes of his figures: his handling was neat, and the whole had so much harmony that he was justly ranked among the ablest artists of his time. The small pictures of Boonen are in the taste of his master Schalcken; but his excessive application, to answer the multitude of his engagements, impaired his health, and destroyed while it enriched him. He died in 1729.

BOOPTHALMUS, a kind of agate with large circles in it, bearing some resemblance to an ox's eye, from whence it has got this name.

BOOPS, in *Zoology*, the trivial name of a species of balæna. See BALÆNA, CETOLOGY *Index*.

BOOSHATTER, formerly the city of Utica, famous for the retreat and death of Cato, lies about seven miles inland from PORTO FARINA in the bay of TUNIS. Nothing remains of its ancient grandeur except part of a large aqueduct, some cisterns, and other magnificent ruins, which cover a large extent of ground, and show it to have been a very considerable place. The sea, it is known, came up anciently to this city, though now seven miles distant.

BOOT, a leathern cover or defence for the leg, used on horseback, both to keep the body more firm, and defend the part from the injuries of the weather. Boots seem to have taken their name from the resemblance they bear to a sort of jacks or leathern bottles formerly in use, and called *bottæ*, in the old French *bouts*. Borel derives the name from the old French word *bot*, a stump, by reason the boot gives the leg this appearance. The Chinese have a kind of boots made of silk or fine stuff, lined with cotton, a full inch thick, which they always wear at home. This people are always booted; and when a visit is made them, if they happen to be without their boots, their guest must wait till they put them on. They never stir out of doors without their boots on; and their scrupulousness in this respect is the more remarkable, as they are always carried in their chairs.

Boot & Booth.

The boot was much used by the ancients, by the foot as well as by the horsemen. It was called by the ancient Romans *ocrea*; in middle-age writers, *greva*, *gamberia*, *bainberga*, *bembarga* or *benbarga*. The boot is said to have been the invention of the Carians. It was at first made of leather, afterwards of brass or iron, and was proof both against cuts and thrusts. It was from this that Homer called the Greeks *brassen-booted*. The boot only covered half the leg; some say the right leg, which was more advanced than the left, it being advanced forwards in an attack with the sword; but in reality it appears to have been used on either leg, and sometimes on both. Those who fought with darts or other missile weapons, advanced the left leg foremost, so that this only was booted.

Fishing-Boots, are a thick strong sort used in dragging ponds and the like. Hunting-boots, a thinner kind used by sportsmen. Jack-boots, a kind of very strong boots used by the troopers.

BOOT, is likewise a kind of torture for criminals; to extort a confession, by means of a boot, stocking, or buskin of parchment; which being put on the leg moist, and brought near the fire, in shrinking squeezes the leg violently, and occasions intolerable pain.

There is also another kind of boot; consisting of four thick strong boards bound round with cords: two of these are put between the criminal's legs, and the two others placed one on the outside of one leg and the other on the other; then squeezing the legs against the boards by the cords, the criminal's bones are severely pinched, or even broken, &c.

The boot is now disused in England and Scotland; but it subsists still in some other countries.

Boot-Tree, or *Boot-last*, an instrument used by shoemakers to widen the leg of a boot. It is a wooden cylinder slit into two parts, between which, when it is put into the boot, they drive by main force a wedge or quoin.

BOOTES, a constellation of the northern hemisphere, consisting of 23 stars according to Ptolemy's catalogue, of 18 in Tycho's, of 34 in Bayer's, of 52 in Hevelius's, and of 54 in Mr Flamstead's catalogue.

BOOTH, BARTON, a famous English actor, born in Lancashire in 1681, and educated in Westminster school under the celebrated Dr Bushby, where his success in the Latin plays customarily performed by the scholars gave him an inclination for the stage. He was intended for the church; but running away from school to Dublin, he there commenced actor. His first appearance was in the part of Oroonoko, in which he came off with every testimonial of approbation from the audience. From this time he continued daily improving; and after two successful campaigns in that kingdom, conceived thoughts of returning to his native country, and making a trial of his abilities on the English stage. To this end, he first, by letter, reconciled himself to his friends; and then, as a farther step towards insuring his success, obtained a recommendation from Lord Fitzharding (one of the lords of the bedchamber to Prince George of Denmark) to Mr Betterton, who with great candour and good nature took him under his care, and gave him all the assistance in his

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Booth. his power. The first part Mr Booth appeared in at London was that of Maximus in Lord Rochester's Valentinian, his reception in which exceeded even his most sanguine expectations; and very soon after his performance of Artaban, in Rowe's Ambitious Stepmother, which was a new tragedy, established his reputation as second at least to his great instructor. Pyrrhus, in the Distressed Mother, was another part in which he shone without a rival. But he was indebted to a happy coincidence of merit and chance, for that height of fame which he at length attained in the character of Cato, as drawn by Mr Addison, in 1712. For this play being considered as a party one, the Whigs, in favour of those principles it was apparently written, thought it their duty strongly to support it, while at the same time the Tories, who had too much sense to appear to consider it as a reflection on their administration, were still more vehement in their approbation of it, which they carried to such a height, as even to make a collection of 50 guineas in the boxes during the performance, and present them to Mr Booth, with this compliment, "That it was a slight acknowledgment for his honest opposition to a perpetual dictator, and his dying so bravely in the cause of liberty." Besides this, he had a present of an equal sum from the managers, in consideration of the great success of the play, which they attributed in a good measure to his extraordinary merit in the performance; and certain it is, that no one since that time has ever equalled, or even nearly approached, his excellence in that character.—But these were not the only advantages which were to accrue to Mr Booth from his success in this part; for Lord Bolingbroke, then one of the principal secretaries of state, in a little time after, procured a special license from Queen Anne, recalling all the former ones, and nominating Mr Booth as joint manager with Wilkes, Cibber, and Dogget; none of whom were pleased at it; but the last especially took such disgust as to withdraw himself from any further share in the management. In 1704, Mr Booth had married a daughter of Sir William Barkham, Bart. who died in 1710, without issue. Being now established in the management, he once more turned his thoughts towards matrimony; and in the year 1719 united himself to the celebrated Miss Hester Santlow, a woman of a most amiable disposition, whose great merit as an actress, added to the utmost discretion and prudential economy, had enabled her to save up a considerable fortune. During the 20 years in which Mr Booth continued a manager, the theatre was in the greatest credit; and his illness and death, which happened on the 10th of May 1733, contributed not a little to its decline.

Mr Booth wrote a dramatic entertainment called *Dido and Æneas*; but his masterpiece was a Latin inscription to the memory of Mr William Smith, a celebrated actor, who died while he was young. As an actor, his excellency lay wholly in tragedy, not being able to endure such parts as had not strong passion to inspire him. And even in this walk, dignity, rather than complacency, rage rather than tenderness, seemed to be his taste. For a particular idea of his abilities, we must refer to the description Mr Cibber has given of him in his Apology; and the admirable character drawn of him by that excellent judge of dramatic perfection, Aaron Hill, Esq. in a political paper published by him called the *Prompter*, which may be seen at length in Theoph. Cibber's Lives of the Poets, and Chetwood's History of the Stage. His character as a man was adorned with many amiable qualities, among which, a goodness of heart, the basis of every virtue, was remarkably conspicuous; and so particularly was he distinguished and caressed, and his company sought by the great; that, as Chetwood relates of him, not one nobleman in the kingdom had so many sets of horses at command as he had. Booth & Boran.

BOOTY, whatever is taken from an enemy in time of war. Among the Greeks, the booty was divided in common among the army, the general only claiming a larger share. By the military discipline of the Romans, spoils taken from the enemy belonged to the republic, particular persons having no right to them. The generals who piqued themselves on their probity carried it wholly to the public treasury. Sometimes indeed they divided it among the soldiery, to animate them, and serve in lieu of a reward. But this distribution depended on the generals, who were to conduct themselves herein with great equity and moderation; otherwise it became a crime of peculate to lay hands on the pillage, as regularly belonging only to the state. The consuls Romulus and Vaturius were condemned for having sold the booty taken from the Equi. Among the Jews, the booty was divided equally between the army and the people, though under the kings a different kind of distribution obtained. Among the Mahometans, two thirds of the spoils are allowed to the army: the other third to God, to Mahomet and his relations, and to the orphans, the poor, and the pilgrims.—Among us, formerly, the booty was divided among the soldiery. If the general be in the field, every body takes what he can lay hold on: if the general be absent, the booty is distributed among the soldiery, two parts being allowed to the cavalry and one to the infantry. A captain is allowed ten shares, a lieutenant six, and a cornet four.

BOPPART, a town of Germany, in the duchy of the Rhine, and subject to Prussia; it is seated at the foot of a mountain near the Rhine, in E. Long. 7. 35. N. Lat. 50. 19.

BOPSINGEN, a town of Suabia in Germany, seated on the river Egar, in E. Long. 9. 55. N. Lat. 48. 51.

BOQUINIANS, in church history, a sect of heretics, so called from Boquinus their founder, who taught that Christ did not die for all mankind, but only for the faithful, and consequently was only a particular Saviour.

BORAGO, BORAGE. See BOTANY *Index*.

BORACK, among Mahometans, a fabulous animal, supposed to be of the middle kind between an ass and a mule, whereon their prophet was carried in his nocturnal flight from Jerusalem into the heavens. This animal the Arabians call *Al Borak*, q. d. *shining*. The night when the journey was performed is called *Lailat al Meeraga*, i. e. *the night of ascension*; and the flight itself *Al Mesra*; concerning which there is a multitude of traditions.

BORAX, in *Chemistry*, a salt in appearance somewhat similar to crystals of alum, brought originally from

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Borax
|
Bord-Lode.

from the East Indies in an impure state, and afterwards freed from its impurities by certain processes in the European countries. It was long a matter of uncertainty whether this salt be a natural or factitious substance in those countries from whence it is brought; but it is now beyond a doubt, that it is naturally produced in the mountains of Thibet, from whence other parts of the eastern continent are supplied.

According to an account in the Philosophical Transactions, vol. lxxvii. by Mr Blane, it is produced in the kingdom of Jumlate, about 30 days journey north from Betowle, a small principality about 200 miles north-east of Lucknow. The place where it is found is said to be a small valley surrounded with snowy mountains, in which is a lake about six miles in circumference; the water of which is constantly so hot that the hand cannot bear it for any time. Around this lake the ground is perfectly barren, not producing even a blade of grass; and the earth is so full of a saline matter, that after falls of rain or snow it concretes in white flakes on the surface like the natron of Hindostan. On the banks of this lake, in the winter season, when the falls of snow begin, the earth is formed into small reservoirs six inches high: when these are filled with snow, the hot water from the lake is thrown upon it; which, together with the water from the melted snow, remains in the reservoir, to be partly absorbed by the earth and partly evaporated by the sun; after which there remains at the bottom a cake of sometimes half an inch thick of crude borax, which is taken up and reserved for use. It can only be made in the winter season, because the falls of snow are indispensably requisite, and also because the saline appearances upon the earth are strongest at that time. When once it has been made on any spot, it cannot be made again on the same spot till the snow has fallen and dissolved three or four times, when the saline efflorescence appears as before. See CHEMISTRY and MINERALOGY *Index*.

BORBETOMAGUS, in *Ancient Geography*, a city of the Vangiones on the Rhine; now *Worms*, in Germany.

BORBONIA. See BOTANY *Index*.

BORBORITES, in church history, a sect of Gnostics, in the second century, who, besides embracing the errors of these heretics, denied the last judgment. Their name comes from the Greek *Borbores*, "filth;" on account of a custom they had of daubing their faces and bodies with dirt and filth.

BORCH, a town of the duchy of Magdeburg in Lower Saxony, seated on the river Elbe, in E. Long. 12. 14. N. Lat. 52. 25.

BORCHLOEN, a town of the Prussian states in Germany, situated in E. Long. 5. 28. N. Lat. 50. 50.

BORCOVIUM, in *Ancient Geography*, a town of the Ottadini in Britain; now *Berwick on Tweed*.

BORD-HALFPENNY, a small toll by custom paid to the lord of the town for setting up boards, tables, booths, &c. in fairs and markets.

Bord-Lands, the demesnes which lords keep in their hands for the maintenance of their board or table.

Bord-Lode, a service required of tenants to carry timber out of the woods of the lord to his house. It is also used to signify the quantity of provision which the bordmen paid for their bord-lands.

Bord-Service
|
Borde.

Bord-Service, the tenure of bord-lands, by which some lands are held of the bishop of London, and the tenants pay sixpence per acre, in lieu of sending provision anciently for their lord's table.

BORDA, JOHN CHARLES, an eminent French mathematician. See SUPPLEMENT.

BORDAT, in commerce, a small narrow stuff, which is manufactured in some parts of Egypt, particularly at Cairo, at Alexandria, and Damietta.

BORDE, ANDREW, a physician, was born at Pevensey in Sussex, early in the 16th century, and supposed to have been educated at Westminster school. In his *Introduction to Knowledge*, he says, that he was a student of Oxford; but of what college he does not mention. He left the university without a degree, and entered himself a brother of a Carthusian convent in or near London; but not liking the severe discipline of that order, he returned to Oxford, and applied himself to the study of physic. Some time after, he embarked for the continent; and, as himself expresses it, "travelled through and round about Christendom, and out of Christendom into some parts of Africa." In the years 1541 and 1542, he resided at Montpelier in France, where he was made doctor of physic, and after his return to England was incorporated into the same degree at Oxford. From the preface to his *introduction* above mentioned, it appears that he had been in Scotland, which probably was soon after his return from France. Having now satisfied his inclination for travelling, he settled first at Pevensey where he was born, afterwards at Winchester, and finally in London, where he is said to have become a fellow of the college of physicians, and first physician to King Henry VIII. But notwithstanding his eminence in his profession, he had the misfortune to spend the latter part of his life in the Fleet prison, where he died in the year 1549. As to his character, Wood says that "he was esteemed a noted poet, a witty and ingenious person, and an excellent physician." Pits calls him a man of sufficient learning, but too volatile and inconstant. Bale and some others, on the contrary, abuse him grossly. His writings are, 1. A book of the introduction of knowledge, the whych doth teach man to speak part of all manner of languages, &c. Lond. 1542, 4to; dedicated, from Montpelier, to the Lady Mary daughter to Henry VIII. It is written partly in verse, and partly in prose, containing 39 chapters, before each of which is a wooden print of a man. 2. The breviary of health, wherein are remedies for all manner of sicknesses and diseases, &c. Lond. 1547, &c. 4to. 3. Dietary of health, Lond. 1576, 8vo. 4. The merry tales of the madmen of Gotham. Printed, says Wood, in the time of Henry VIII. in whose reign, and after, it was accounted a book full of wit and mirth by scholars and gentlemen. Afterwards being often printed, it is now only sold on the stalls of ballad-singers. 5. A right pleasant and merry history of the mylner of Abington, with his wife and his fair daughter, and of two poor scholars of Cambridge. Lond. printed by Richard Jones, 4to. 6. A book of every region, country, and province; which shows the miles and leagues distant from city to city, and from town to town, with the noted things in the said cities and towns. Wood says that the author lent the manuscript of this book

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Borda || Borel.

book to his friend Thomas Cromwell, who lost it, to the great grief of the author, who would otherwise have published it. In this instance, however, the antiquary was misinformed; for it has since been published by Hearne at the end of *Benedictus abbas Peterb. de vita Henrici* II. Oxf. 1735, 8vo. 7. The principles of astronomy, the whych diligently persecuted is in a manner a prognostication to the world. Lond. printed by Robert Copland, 12mo. The author says that he wrote this little book in four days, with one old pen without mending.

BORDER, in *Gardening*, is made to enclose parterres, that they may not be injured by walking in them. Borders are made either circular, straight, or in cants; and are turned into knots, scrolls, volutes, and other compartments. They are rendered very ornamental by the flowers, shrubs, yews, &c. that are raised in them. They are always laid with a sharp rising in the middle; because, if they are flat, they are noways agreeable to the eye: and as for their breadth, the largest are allowed five or six feet, and the smallest commonly four.

BORDUNI, or BORDONE, *Paris*, an excellent Italian painter, was born at Venice about the year 1512; and, being of a noble family, had a polite education. He was the disciple of Titian; but has been admired more for the delicacy of his pencil than for the truth of his outlines. He was at the court of France in the reign of Francis I. who had a great esteem for him, and for whom he drew not only abundance of history-pieces, but the portraits of several court-ladies, in so fine a manner, that original nature was hardly more charming. He at length returned to Venice, laden with riches and honour; and having gained great reputation in all parts of Italy, died in 1587, aged 75.

BORDURE, in *Heraldry*. See there, N° 10.

BORE, among engineers, denotes the diameter of the barrel of a gun or cannon, or rather its whole cavity.

BOREAS, a Greek name, now in common use for the north wind. Pezron observes, that anciently Boreas signified the *north-east wind* blowing at the time of the summer solstice. The Greeks erected an altar to Boreas. He is represented on the temple at Athens with his robe before his mouth, as if he felt the cold of the climate over which he presides, agreeably to the description of Ovid, who calls him *gelidus tyrannus*, "the shivering tyrant," Met. vi. ver. 711. But he is usually described by the Roman poets as violent and impetuous; ibid. ver. 686—ver. 707. In painting, he is generally represented like an old man with a horrible look, his hair and beard covered with snow or hoar frost, with the feet and tail of a dragon. M. Spierlingius has a treatise in praise of Boreas, wherein he shows the honours paid to him by antiquity. Boreas, according to this author, purifies the air, renders it calm and salubrious, preserves buildings from decay, drives away the plague and other noxious diseases, and expels locusts and other vermin hurtful to the grounds.

BOREL, PETER, a learned physician, was the son of James Borel who published several poems, and was born at Castres in 1620. He applied himself to the study of physic, of which he was created doctor, and practised with great success in the city of Castres. Towards the end of the year 1653, he went to Paris, and was soon after made physician in ordinary to the king. In 1674, he was received into the academy of sciences, and distinguished himself by writing a great number of works. The most esteemed are, 1. *Historiarum et observationum medico-physicarum centuriæ quinque.* 2. *Bibliotheca chymica, duodecimo.* 3. *De vero telescopii inventore, cum brevi omnium conspiscillorum historia.* He died in 1678.

Borel || Borgio.

BORELLI, JOHN ALPHONSO, a famous philosopher and mathematician, born at Naples on the 28th of January 1608. He was professor of philosophy and mathematics in some of the most celebrated universities of Italy, particularly at Florence and Pisa, where he became highly in favour with the princes of the house of Medicis; but having been engaged in the revolt of Messina, he was obliged to retire to Rome, where he spent the remainder of his life under the protection of Christina queen of Sweden, who honoured him with her friendship, and by her liberality towards him softened the rigour of his hard fortune. He continued two years in the convent of the regular clergy of St Pantaleon, called the *pious schools*, where he instructed the youth in mathematical studies. He died there of a pleurisy, the 31st of December 1679, in the 72d year of his age. He wrote in Latin, 1. Euclid restored. 2. The theory of the influence of the planets in medicine, deduced from physical causes. 3. Of percussive force. 4. Of natural motions depending upon gravity. 5. An historical and meteorological account of the burning of Mount Ætna, in the year 1669. 6. Of the motion of animals; and several other works, some of which are in Italian.

BORGIA, CÆSAR, natural son of Pope Alexander VI. was a brave general, but a most abandoned villain. See *(History of)* ITALY.—It is incredible what numbers he caused to be taken off by poison, or by the sword; and it is notorious that swarms of assassins were constantly kept in pay by him at Rome, for the sake of removing all who were either obnoxious or inconvenient to him. He experienced various turns of fortune; and was sometimes very prosperous, sometimes the reverse. He very narrowly escaped dying by poison in 1503; for having concerted with the pope a design of poisoning nine newly created cardinals at once, for the sake of possessing their effects, the poisoned wine, destined for the purpose, was by mistake brought to and drank by themselves. The pope died of it; but Cæsar, by the vigour of his youth, and the force of antidotes, after many struggles, recovered. He only recovered to outlive his fortune and grandeur, to see himself depressed, and his enemies exalted; for he was soon after divested of all his acquisitions, and sent a prisoner to Spain, in order to free Italy from an incendiary, and the Italian princes from those dangers which the turbulent and restless spirit of Cæsar made them fear, even though he was unarmed. He escaped from thence; and got safe to Navarre to King John his brother-in-law, who was then at war with his subjects. Cæsar served as a volunteer in that war, and was killed in 1507.

BORGO,

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Borgo ‖ Boring.

BORGO, a town of Russia, seated on the gulf of Finland, in the province of Kymenegard. E. Long. 26. N. Lat. 60. 34.

Borgo de St Sepulchro, a town of Tuscany, in Italy, situated in E. Long. 13. 0. N. Lat. 43. 30.

Borgo de Val de Faro, a town of Italy, in the duchy of Parma, in E. Long. 10. 36. N. Lat. 44. 35.

Borgo Forte, a town of the Mantuan in Italy, situated at the confluence of the rivers Po and Menzo. E. Long. 11. 0. N. Lat. 44. 50.

Borgo San Domino, a town of Italy, in the duchy of Parma, with a bishop's see. E. Long. 10. 31. N. Lat. 41. 53.

BORGOGNONE, a celebrated painter, whose true name was *Giacomo Cortessi;* but he is commonly called *Borgognone*, from the country where he was born, about the year 1605. He was much admired and highly applauded for his admirable gusto and grand manner of painting battles. He had for several years been conversant in military affairs, was an officer of considerable rank in the army, made the camp his school, and formed all his ideas from what he had seen performed in the field. His style is roughly noble, full of fire and spirit, and there are a few prints etched by his own hand. Towards the close of his life he retired to the Jesuits convent at Rome, where he is said to have taken sanctuary to rid his hands of an ill bargain he had got of a wife; but happily surviving her, he lived in great esteem and honour till after the year 1675.

BORIA, a small town of Spain, in the kingdom of Arragon. W. Long. 2. 2. N. Lat. 41. 50.

BORING, in a general sense, the art of perforating, or making a hole through any solid body.

Boring of Water-pipes. The method of boring water-pipes is as follows. The poles of alder, which is a very useful wood in making pumps, water-pipes, &c. being laid on horses or trassels of a foot height, to rest the augre upon while they are boring, they set up a lathe to turn the least end of the poles, to fit them to the cavities of the great end of the others. They turn the small ends of the poles about five or six inches in length, to the size they intend to bore the bigger ends about the same depth, viz. five or six inches. This is designed to make a joint to shut each pair of poles together, the concave part being the female part, and the other the male of the joint. In turning the male part, they turn the channel in it, or a small groove at a certain distance from the end; and in the female part they bore a small hole to fit over this channel. This being done, they bore the poles through; and to prevent them from boring out at the side, they stick great nails at each end to be a guide in boring. It is usual, however, to bore them at both ends; so that a crooked pole can be bored through and not spoil it. See BORING, SUPPLEMENT.

BORING, in *Farriery*, a cruel and absurd method of treating a wrenched shoulder. See FARRIERY *Index*.

BORING, in *Mineralogy*, a method of piercing the earth with scooping irons, which being drawn back at proper times, bring up with them samples of the different strata through which they have passed; by the examination of which the skilful mineralogist will be able to guess whereabouts a vein of ore or a stratum of coal may lie, or whether it will be worth while to open a mine for the purpose of working it. Boring ‖ Borlase.

BORIQUEN, one of the Caribbee islands in North America, near that of Porto Rico. The English formerly had a settlement there, but were driven away by the Spaniards. It is at present without inhabitants, though agreeable and fertile; the air being wholesome, and the water good. There are a great number of land-crabs, whence some have called it *Crab Island*. W. Long. 64. 35. N. Lat. 18. 0.

BORISTHENES, in *Ancient Geography*, the largest river of Sarmatia Europea, thus described by Mela, who copies *verbatim* from Herodotus: "It runs through a cognominal people, is the most pleasant of all the rivers in Scythia, and calmer than all of them in its course, and very agreeable to drink: it feeds very rich pastures, and produces large fish of the best flavour, and without bones; it comes a great way, rising from springs unknown; its course is a distance of 40 days, and so far is it navigable." It is now called the *Dnieper* or *Nieper*.

BORKELO, a strong town in the United Provinces, in the county of Zutphen, seated on the river Borkel, in E. Long. 6. 30. N. Lat. 52. 15.

BORLASE, DR EDMUND, an eminent physician and English writer in the 17th century, was the son of Sir John Borlase, master of the ordnance, and one of the lords justices of Ireland in 1643. He studied in Dublin college, and afterwards at the university of Leyden, at which last place he took the degree of doctor of physic. He afterwards practised physic with great success in the city of Chester, and was incorporated doctor of the faculty in the university at Oxford. Among the books which he wrote and published are the following. 1. Latham Spaw in Lancashire, with some remarkable cases and cures performed by it. 2. The reduction of Ireland to the crown of England. 3. The History of the Irish rebellion. 4. Brief reflections on the earl of Castlehaven's memoirs, &c. He died after the year 1682.

BORLASE, *William*, a very ingenious and learned writer, was of an ancient family in Cornwall, and born at Pendeen, in the parish of St Just, Feb. 2. 1695-6. He was put early to school at Penzance, and in 1709 removed to Plymouth. March 1712-13, he was entered of Exeter College, Oxford; and, June 1719, took a master of arts degree. In 1720, he was ordained a priest; and, in 1722, instituted to the rectory of Ludgvan in Cornwall. In 1732, Lord-chancellor King presented him to the vicarage of St Just, his native parish; and this, with the rectory aforesaid, were all the preferments he ever had. In the parish of Ludgvan were rich copper works, which abound with mineral and metallic fossils: and these, being a man of an active and inquisitive turn, he collected from time to time, and thence was led to study at large the natural history of his native county. He was struck at the same time with the numerous monuments of remote antiquity that are to be met with in Cornwall; and enlarging therefore his plan, he determined to gain as accurate an acquaintance as possible with the Druid learning, and with the religion and customs of the ancient Britons, before their conversion to Christianity. In 1750 he was admitted a fellow of the Royal Society; and, in 1753, published

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Borlase || Borneo.

in folio at Oxford his "Antiquities of Cornwall:" a second edition of which was published, in the same form, at London, 1769, with this title, "Antiquities, historical and monumental, of the county of Cornwall; consisting of several essays on the ancient inhabitants, Druid superstition, customs and remains of the most remote antiquity in Britain and the British isles, exemplified and proved by monuments now extant in Cornwall and the Scilly islands; with a vocabulary of the Cornu-British language. Revised, with several additions, by the author. To which is added a map of Cornwall, and two new plates." His next publication was, "Observations on the ancient and present state of the islands of Scilly, and their importance to the trade of Great Britain; Oxf. 1756," 4to. This was the extension of a paper which had been read before the Royal Society in 1753. In 1758 came out his "Natural history of Cornwall; Oxf." fol. After these publications, he sent a variety of fossils and remains of antiquity which he had described in his works, to be reposited in the Ashmolean museum: for which, and other benefactions of the same kind, he received the thanks of the university, in a letter from the vice-chancellor, Nov. 18. 1758; and March 1766, the degree of doctor of laws. He died in 1772, aged 77 years, leaving two sons out of six, whom he had by a lady he married in 1724. Besides his literary connections with many ingenious and learned men, he had a particular correspondence with Mr Pope; and there is still existing a large collection of letters written by that poet to Dr Borlase. He furnished Pope with many of the materials which formed his grotto at Twickenham, consisting of curious fossils; and there may at present be seen Dr Borlase's name in capitals, composed of crystals, in the grotto. On which occasion Pope says to Borlase in a letter, "I am much obliged to you for your valuable collection of Cornish diamonds: I have placed them where they may best represent yourself, *in a shade, but shining*;" alluding to the obscurity of the doctor's situation, and the brilliancy of his talents. Besides the above works, he sent many curious papers to the Philosophical Transactions, and had in contemplation several other works.

BORMIO, a county depending on Switzerland, formerly on the republic of the Grisons, but now subject to Austria, and included in the district called the Valteline. It is 15 miles over both ways; and is divided into five communities, viz. the town of Bormio, the valley of Forbia, the Interior Valley, the Lower Valley, and the Valley of Luvino. Bormio, which is the only town in this district, contains about 1000 inhabitants, and is meanly built, but stands in a delightful country. It is seated at the confluence of the rivers Adda and Isalacus, in E. Long. 10. 10. N. Lat. 46. 25.

BORN, IGNATIUS, BARON VON, a late German mineralogist. See SUPPLEMENT.

BORNE, a market town of Lincolnshire in England. W. Long. 0. 20. N. Lat. 52. 40.

BORNEO, an island of Asia, in the East Indies, and one of the three great Sunda islands. It is thought to be the largest island in the world, next to New Holland; being 800 miles long, and 700 broad. It is seated under the equator, that line cutting it almost through the middle. It is almost of a circular figure: abounds with gold; and the finest diamonds in the Indies are found in its rivers, being probably washed down from the hills by torrents. Here are also mines of iron and tin, and loadstones. Birds nests* are to be had in this island, which are eatable, and reckoned a great delicacy. The beasts are, oxen, buffaloes, deer, goats, elephants, tigers, and monkeys. This island has fine rivers, especially towards the west and south. In their monsoon, from April to September, the wind is westerly; and they have continual heavy rains, attended with violent storms of thunder and lightning. The rainy season continues for eight months of the year; and as during that time all the flat country near the coast is overflowed, the air is rendered very unhealthful, and the inhabitants are forced to build their houses on floats, which they make fast to trees. The houses have but one floor, with partitions made with cane; and the roofs are covered with palmetto leaves, the eaves of which reach within four or five feet of the bottom. The west and north-east sides of the island are almost desert, and the east is but little known. The inland parts are very mountainous; and the south-east, for many leagues together, is a stinking morass, which, being overflowed in the wet season, is very unhealthy.

Borneo.

* See *Birds Nests.*

The Portuguese, who first discovered Borneo, had arrived in the Indies above 30 years before they knew any thing of it more than the name, and its situation, by reason of their frequently passing by its coast. At last one Captain Edward Corril had orders to examine it more narrowly; and being once acquainted with the worth of the country, they made frequent voyages thither. They found the coasts inhabited by Malayan Moors, who had certainly established themselves there by conquest; but the original inhabitants still remain in the mountains, and are styled *Beajus*, which in the Malayan language signifies a *wild man*. The most authentic account of these people is the following, which was extracted from the papers of Father Antonio Ventimiglia, an Italian missionary. He was sent to Borneo from Macao, on board a Portuguese ship, converted great numbers to Christianity, and died on the island about the year 1691. The Beajus have no kings, but many little chiefs. Some are subject to the Moorish kings, and pay them tribute; but such as live far up the country are altogether independent, and live according to their own customs. They are generally very superstitious, and much addicted to augury. They do not adore idols; but their sacrifices of sweet wood and perfumes are offered to one God, who, they believe, rewards the just in heaven, and punishes the wicked in hell. They marry but one wife; and look upon any breach of conjugal faith, either in the man or woman, as a capital offence. The Beajus are naturally honest and industrious, and have a brotherly affection for one another. They have a notion of property, which yet does not render them covetous. They sow and cultivate their lands; but in the time of harvest, each reaps as much as will serve his family, and the rest belongs to the tribe in common; by which means they prevent necessity or disputes. With the Moors on the coasts the Portuguese for some time carried on a considerable trade, and at their request settled a factory there; which, however, was afterwards surprised and plundered by the Moors, who put most of the

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Borneo || Borneo.

the people to the sword. The chief town, also called *Borneo*, is on the north-west side of the island. See BORNEO, SUPPLEMENT.

BORNHOLM, an island in the Baltic sea, to the south-east of the province of Schonen in Sweden. It is twenty-one miles in length, and above thirteen in breadth. It has three considerable towns, Rattum, Sandwick, and Nexia; with a great number of villages; and is fertile and populous. It was conquered by the Swedes in 1658: but the inhabitants, under the conduct of Jens Roefods, voluntarily surrendered it to the king of Denmark, on account of the bad usage they received from the former. In 1678, a body of 5000 Swedish troops, in their passage from Pomerania to Sweden, being shipwrecked on this island, such of them as remained were made prisoners of war. The inhabitants defend the island by their own militia, without any expence to the crown. It was a short time in the hands of the British, who took it from the Danes in 1809. E. Long. 14. 56. N. Lat. 55. 15.

BORNOU, a kingdom or province of Zaara in Africa, extending from 12 to 22 degrees of east longitude, and from 17 to 21 degrees of north latitude. The northern part is poor, and like the rest of the provinces of Zaara: but all the rest is well watered by springs and rivers that tumble down with a dreadful noise from the mountains; rendering the country prolific in corn, grass, and fruits, and giving it a pleasing aspect. The eastern and western frontiers are divided into mountains and valleys, the latter being all covered with flocks of cattle, fields of rice and millet, and many of the mountains with wood, fruit-trees, and cotton. On the north-west stands the mountain of Tarton, having plenty of good iron mines; and on the south flows the river Niger, which, it is said, after running a great many leagues under a long chain of mountains, rears up its head again, and mingles its streams with the waters of the lake Bornou in its course, from whence it washes the walls of the capital of this kingdom. The compilers of the Universal History, however, are of opinion, that in these mountains the river Niger hath its source, because no river hath been traced to the eastward, except the Nile, which runs in a different course from north to south, and the White river, on the western frontiers of Abyssinia, which is a branch of the Nile. The eastern and western parts of Bornou are inhabited by a people of a roving disposition, who live in tents, and have their women, children, and every thing else, in common; the word *property*, or any idea equivalent to it, being utterly unknown among them. They have neither religion, laws, government, nor any degree of subordination; and hence they have been supposed by Cluverius to be the lineal descendants of the ancient Garamantes, and this to have been the residence of that people. In these parts, the natives are almost to a man shepherds and husbandmen. In summer they go naked, except a short apron before; but in winter they are warmly clothed with the softest sheep-skins, of which they also form their bedclothes; and indeed this is scarce a sufficient defence against the inclemency of the weather at certain seasons of the year, when a cold piercing wind blows from the northern mountains, that chills the blood in proportion as the pores of the body have been opened by the scorching heats of summer. Baudrand and Draper affirm, that the natives are scarce superior in their understanding to brutes; not even having any names whereby to distinguish each other, except what they take from some personal defect or singularity; such as lean, fat, squinting, humpbacked, &c. In the towns, however, it is acknowledged that they are something more civilized and polite, being many of them merchants; but of these towns, or indeed of the kingdom in general, very little is known.

Bornou || Borough.

BORODINO, a village in Russia, near the river Moskwa, about 90 miles west of Moscow; remarkable for the great battle fought there on the 7th September 1812, between the French and Russians. The Russian army, of 120,000 men, occupied a position of no great strength. The firing began at six o'clock in the morning, and soon became general in the centre and Russian left. The Russians had extended their line too much; and the French, after making an impression with their artillery and musketry, pushed forward, regardless of loss, and carried several batteries, about eight o'clock. The Russians resisted obstinately till noon, and even till two o'clock; and during the following night retired from the field. The loss on each side was believed to be about 30,000 men.

BOROMÆUS. See BORROMEUS.

BORONDON, St, an island in the Atlantic ocean, mentioned by some writers, particularly Linschotten, in their description of the Canary islands, as something supernatural. It is said to be about 100 leagues distant from Ferro, probably west, though no writer has pretended to lay down its exact situation. Here it is affirmed several ships have touched by accident, and all agree in their relations of the state of the inhabitants and island. They affirm, that it is perpetually clothed with a great variety of wood, chiefly fruit-trees: that the valleys are in a perpetual state of verdure. It is said to be peopled by Christians, who have a language of their own, apparently combined of a variety of modern languages. It is remarkable that no ships, expressly sent upon this discovery, were ever fortunate enough to fall in with the island of St Borondon, though the Spaniards have several times attempted it from the Canaries. Hence it has been called the *marvellous island;* and hence indeed we may conclude, either that it exists wholly in imagination, or at least that it is surrounded with such currents as insensibly carry ships out of their course, and prevent their meeting with it.

BOROUGH, BURROUGH, *Borow*, or *Burgh*, is frequently used for a town or corporation which is not a city.

BOROUGH, in its original Saxon *borge*, or *borgh*, is by some supposed to have been primarily meant of a tithing or company consisting of ten families, who were bound and combined together as each others pledge. Afterwards, as Verstegan informs us, borough came to signify a town that had something of a wall or inclosure about it: so that all places which among our ancestors, had the denomination borough, were one way or other fenced or fortified. But, in latter times, the same appellation was also bestowed on several of the *villæ insigniores*, or country towns of more than ordinary note, though not walled.

The ancient Saxons, according to Spelman, gave the name burgh to those called, in other countries, cities. But divers canons being made for removing the

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Borough ‖ Borough-English.

episcopal sees from villages and small towns to the chief cities, the name *city* became attributed to episcopal towns, and that of borough retained to all the rest; though these too had the appearance of cities, as being governed by their mayors, and having laws of their own making, and sending representatives to parliament, and being fortified with a wall and castle, and the like.

BOROUGH, or *Burgh*, is now particularly appropriated to such towns and villages as send burgesses or representatives to parliament. Boroughs are equally such, whether they be incorporate or not; there being great numbers of our English boroughs not incorporated; and, on the contrary, several corporations that are not boroughs; *e. gr.* Kingston, Deal, Kendal, &c.

BOROUGHS, in Scotland. See LAW.

Royal BOROUGHS, in Scotland, are corporations made for the advantage of trade, by charters granted by several of their kings; having the privilege of sending commissioners to represent them in parliament, besides other peculiar privileges. The royal boroughs are not only so many distinct corporations, but do also constitute one entire body, governed by, and accountable to, one general court, anciently called *the court of four boroughs*, held yearly to treat and determine concerning matters relating to the common advantage of all boroughs. The four boroughs which composed this court were, Edinburgh, Stirling, Roxburgh, and Berwick; which two last falling into the hands of the English, Linlithgow and Lanark were put in their places; with a saving to the former whenever they should return to their allegiance. But this court not being sufficient to answer the necessities of the royal boroughs, they were all empowered under James III. in 1487, to send commissioners to a yearly convention of their own, which was then appointed to be held at Inverkeithing, but is now held at Edinburgh, under the denomination of the *convention of boroughs*, vested with great power, and having for their object the benefit of trade, and the general interest of the boroughs.

BOROUGH-Courts, are certain courts held in boroughs, by prescription, charter, or act of parliament: such are the sheriff's court, and court of hustings, in London.

BOROUGH-English, a customary descent of lands or tenements, in some ancient boroughs and copyhold manors, by which the younger son, and not the eldest succeeds to the burgage tenement on the death of his father. For which Littleton gives this reason; because the younger son, by reason of his tender age, is not so capable as the rest of his brethren to help himself. Other authors have indeed given a much stranger reason for this custom; as if the lord of the fee had anciently a right to break the seventh commandment with his tenant's wife on her wedding night; and that therefore the tenement descended, not to the eldest, but to the youngest son, who was more certainly the offspring of the tenant. But it cannot be proved that this custom ever prevailed in England, though it certainly did in Scotland, (under the name of *mercheta*, or *marcheta*), till abolished by Malcolm III. But perhaps a more rational account than either may be brought from the practice of the Tartars; among whom, according to Father Duhalde, this custom of descent to the youngest son also prevails. That nation is composed totally of shepherds and herdsmen; and the elder sons, as soon as they are capable of leading a pastoral life, migrate from their father with a certain allotment of cattle, and go to seek a new habitation. The youngest son, therefore, who continues latest with his father, is naturally the heir of his house, the rest being already provided for. And thus we find, that among many other northern nations it was the custom for all the sons but one to migrate from the father, which one became his heir. So that possibly this custom, wherever it prevails, may be the remnant of that pastoral state of the ancient Britons and Germans which Cæsar and Tacitus describe.

Borough-English ‖ Borromeus.

BOROUGH-Head, or *Head-Borough*, called also *borough-holder*, or *bursholder*, the chief man of the decenna, or hundred, chosen to speak and act in behalf of the rest.

Head-borough also signifies a kind of head constable, where there are several chosen as his assistants, to serve warrants, &c. See CONSTABLE.

BOROUGHBRIDGE, a town in the north riding of Yorkshire in England, seated on the river Your, over which there is a handsome stone bridge. The town is not large, but commodious, and sends two members to parliament. W. Long. 1. 15. N. Lat. 54. 10.

BOROZAIL, or the zeal of the Ethiopians, a disease epidemic in the countries about the river Senegal. It principally affects the pudenda, but it is different from the lues venerea. It owes its rise to excessive venery: in the men this distemper is called *asab*, in women *assabatus*.

BORRACHIO. See CAOUTCHOUK.

BORRAGE. See BORAGO, BOTANY *Index*.

BORRELISTS, in church-history, a Christian sect in Holland, so denominated from their founder Borrel, a person of great learning in the Hebrew, Greek, and Latin tongues. They reject the use of the sacraments, public prayer, and all other external acts of worship. They assert, that all the Christian churches of the world have degenerated from the pure apostolical doctrines, because they have suffered the word of God, which is infallible, to be expounded, or rather corrupted, by doctors who are not infallible.

BORRICHIUS, one of the most learned men of his age, the son of a Lutheran minister in Denmark, was born in 1626. He applied himself to physic in the university of Copenhagen, and began to practise during a most terrible plague that made great havoc in that city. He travelled: but before his departure, in 1660, he was appointed professor in poetry, botany, and chemistry; and at his return discharged his duties with great assiduity, of which the works he published afford full proof. He was raised to the office of counsellor in the supreme council of justice, in 1686; to that of counsellor of the royal chancery, in 1689; and died of the operation for the stone, in 1690. He published, 1. *Lingua pharmacopœorum*. 2. *Dissertationes de poeticis Græcis et Latinis*. 3. *De ortu et progressu chemiæ*; and several other works.

BORROMEAN ISLANDS, certain islands in the lake Maggiore in Italy, celebrated for their picturesque beauty. See SUPPLEMENT.

BORROMEUS, ST CHARLES, cardinal, and archbishop

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Borromeus. bishop of Milan; a personage of great note in the Romish kalendar, and whose sincere piety, simplicity of manners, and zeal for reformation, render him indeed a character equally interesting and instructive to the members of any church. He was the son of Gilbert Borromeus count of Arona and of Mary of Medicis, and was born at the castle of Arona upon Lake Major in the Milanese, in October 1538. When he was about 12 years old, Julius Cæsar Borromeus resigned an abbacy to him of a considerable revenue, which was considered as an hereditary inheritance of the family; which Charles accepted, but applied the revenue wholly in charity to the poor. Having acquired a sufficient knowledge of the languages at Milan, he studied the civil and canon law at Pavia, where he lived like another Lot in Sodom, preserving his innocence among a thousand snares by which it was endangered. He received great advantage from the company and conversation of Francis Alciat, one of the most learned men of the age, for whom he afterwards procured the purple. He would accept no new benefice, but upon condition that he should be at liberty to apply the revenue to public uses. In the year 1554, Charles being then 16 years old, his father died, an event which brought him back to the castle of Arona; where, though he had an elder brother, Count Frederick, he was requested by the family to take upon him the management of the domestic affairs, to which at length he consented.

After some time he returned again to his studies, which, in the year 1559, being then just 21, he finished by a solemn act, and took his doctor's degree. The promotion of his uncle to the pontificate, by the name of *Pius IV.* which happened the year following, seemed to have very little effect upon him; but he was very soon made prothonotary, and entrusted both with the public and privy seal of the ecclesiastical state: he was also, at the same time, created cardinal deacon, and soon after archbishop of Milan. In obedience to the will of his uncle the pope, he lived in great splendour, having a brilliant retinue and a great number of domestics; yet his own temperance and humility were never brought into question. In order to render even his amusements useful, he established an academy of select and learned persons, as well ecclesiastics as laics, from among his household and dependants, who were employed in some exercise which tended to inspire a love of virtue, and to form a just taste. Each of them was to write on some chosen subject, either in verse or in prose, and to communicate to each other in frequent conferences the fruits of their studies. The works produced by this society have been published in many volumes, under the title of *Noctes Vaticanæ*, because these useful assemblies were held at the Vatican, and at night, after the business of the day was over. About this time Charles also formed a design of founding a college at Pavia, which should at the same time be a school of science and an asylum from the vices and vanities of the world. In prosecution of this design, he raised a large edifice upon the foundations of several houses which belonged to the family of Borromeus in that city; he obtained from the pope several benefices, which he attached to his building; he provided it with all things necessary for the young scholars out of his own revenue; and he dedicated his college to Justina virgin and martyr. Borromeus.

Upon the death of his only brother Frederick, his relations, his friends, and even the pope himself, advised him to change his state, to quit the church, and marry, that his family might not become extinct. Charles, however, contrary to this advice and the expectations of the world, received the priesthood, and addressed the pope in these terms: "Do not complain of me, Holy Father, for I have taken a spouse whom I love, and on whom my wishes have been long fixed." From this time he became more fervent in exercises of piety and ecclesiastical knowledge: He perceived that some literati who had departed from the faith had also corrupted the writings of some holy doctors of the church, and he thought he should render religion good service if he could restore the genuine reading: He therefore employed Achilles Statius, a Portuguese of great learning, in this work, whom for that purpose he retained at Rome. To his zeal and attention also is owing the congregation of eight cardinals, still subsisting, to resolve doubts and obviate difficulties which should arise in explanations of the council of Trent.

There was a very intimate friendship between Borromeus, and Don Barthelemy des Martyrs archbishop of Prague, and author of a work entitled *Stimulus Pastorum*. This work falling into Borromeus's hands gave him an earnest desire to become a preacher, as he was now convinced that preaching was one of the principal duties of a prelate. An almost inconceivable multiplicity of business, ill health, a feeble voice, and a difficult pronunciation, were no inconsiderable obstacles to his design, yet he surmounted them all; and although his beginnings were weak, yet perseverance crowned them with success.

Having obtained permission to visit his church, which the pope had hitherto refused, as he found his presence necessary at Rome, he prepared to set out for Milan. He had before sent thither his grand vicar Ormanetus, whose labours at first had not been unsuccessful, but who soon found opposition so pertinacious and obstinate as to put an end to his hopes: Borromeus therefore saw the necessity of going in person, and he was received with the most distinguished honours. He was, however, soon recalled to Rome, where many things made his presence necessary: the pope was gradually dying; and Charles arrived just time enough to administer to him the last sacraments.

Pius IV. died on the 7th of January 1566, and 28 days afterwards Cardinal Alexandrine mounted the papal chair, and assumed the name of *Pius V.* the skill and diligence of Borromeus having contributed not a little to prevent the cabals of the conclave.

As soon as this event had taken place, and all was quiet at Rome, Borromeus gave himself wholly up to the reformation of his diocese, where the most flagitious irregularities were openly practised, having first made another reform in his own family. He began by making pastoral visits in his metropolis, where the canons were not distinguished for the purity of their manners. He soon restored proper decency and dignity to divine service, by a variety of wise and necessary regulations: In conformity to the decrees of the council of Trent, he cleared the cathedral of many

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Borromeus pompous tombs, rich ornaments, banners, arms, and in general of all the trophies with which the vanity of man had disfigured the house of God; and in order to give a sanction to his zeal by his example, he spared not the monuments of his nearest relations. Nor did his zeal stop here: he divided the nave of the church through its whole length into two parts, by strong thick planks, that the two sexes, being separated, might perform their devotions without any attention to each other, and with a modesty and recollection more suitable to the place.

This pastoral care extended from the cathedral to the collegiate churches, and even to the fraternities or societies of penitents, particularly that of St John the Baptist. The duty of this society was to attend criminals to the place of punishment, to assist, comfort, and prepare them for death; but the spirit of the institution was now forgotten, and the wretches who were condemned to death were commonly dragged to execution like beasts, without any spiritual assistance or consolation. But the archbishop revived the original fervour of this order, in the exercise of their peculiar duty, and persuaded many of the nobility and principal persons of the city to become members of a society appropriated to so eminent a branch of Christian charity. The reformation of the monasteries followed that of the churches, and the vigilance of the pastor soon extended itself from the city to the country round it, which abounded with irregularities that required his correction. The great abuses and irregularities which had overrun the church at this time arose principally from the gross ignorance of the clergy; in order therefore to attack these evils at the root, Charles established seminaries, colleges, and communities, for the education of young persons intended for holy orders. He met with many difficulties, and much opposition in his endeavours to bring about a reformation of manners; but he prevailed against every obstacle by an inflexible constancy, tempered with great sweetness of manners.

The governor of the province, and many of the senators, were apprehensive that the cardinal's ordinances and proceedings would encroach upon the civil jurisdiction, and become inconsistent with the rights of his Catholic majesty, to whom the duchy of Milan was then in subjection. And this was a fruitful source of remonstrances, representations, and complaints, which long troubled the courts of Rome and Madrid, and which the king of Spain, Philip II. referred entirely to the decision of the pope. But Borromeus had a more formidable opposition to struggle with, that of several religious orders, particularly the Brothers of Humility. Three provosts of the society entered into a conspiracy to cut him off; and one of their confederates, called *Jerom Donat*, whose surname was *Farina*, took upon him to carry the design into execution. For this purpose he mixed with the crowd that went into the archiepiscopal chapel, where the cardinal spent an hour every evening in prayer with his domestics and other pious persons; and having watched his opportunity, he fired a harquebuss at him, which was loaded with a ball suited to the bore of the piece, and with a considerable charge of leaden shot. It is said that the ball struck him on the spinal bone, but fell down at his feet without doing any other damage than soiling his rochet, and that one of the shot penetrated his clothes to the skin, and there stopped, without imprinting any wound, which was considered as a miracle, especially as another shot tore away part of a wall, and went quite through a table. Borromeus.

In the year 1576, the city and diocese of Milan were visited by the plague, which swept away incredible numbers; and the behaviour of Borromeus, on this occasion, was truly Christian and heroic: He not only continued on the spot, but he went about giving directions for accommodating the sick, and burying the dead, with a zeal and attention that were at once ardent and deliberate, minute and comprehensive: and his example stimulated others to join in the good work. He avoided no danger, and he spared no expence; nor did he content himself with establishing proper regulations in the city, but went out into all the neighbouring parishes where the contagion raged, distributing money to the poor, ordering proper accommodations for the sick, and punishing those, especially the clergy, who were remiss in the duties of their calling. Charles, notwithstanding the fatigue and perplexity which he suffered by thus executing his pastoral charge, abated nothing of the usual austerity of his life, nor omitted any of his stated devotions; for, whatever approached to luxury or magnificence, he considered as incompatible with the propriety of his character. It happened, that being once on a visit to the archbishop of Sienna at his palace, a very sumptuous entertainment was provided for him. Borromeus, though he had been used to content himself with bread and water, yet sat down at the table, where however he ate but little, and gave sufficient intimation that he was much displeased with such ostentatious prodigality; but what was his surprise when he saw the table again covered with a dessert, consisting of whatever was most rare, exquisite, and costly! He immediately rose hastily from his seat, as if he had suddenly recollected some pressing business, and gave orders for his departure, notwithstanding the rain, and the most earnest entreaties of the archbishop. "My lord," said the cardinal, "if I should tarry here to-night, you would give me another such treat as that I have just seen, and the poor will then suffer another loss, great numbers of whom might have been fed with the superfluities that have been now set before us."

The continual labours and austerities of Borromeus naturally shortened his life; he went to Vercal to put an end, if possible, to the divisions which threatened the most fatal consequences; and, when he was there, he received a message from the duke of Savoy, requesting his presence at Turin. From Turin he retired to a place called the *Sepulchre*, on the mountain Varais, where he was seized with an intermittent fever, which scarce permitted him to return alive to Milan, where he arrived on the 3d of November 1584, and died the next day. He was lamented by the city and the whole province with such marks of sincere sorrow as are rarely seen; and he was immediately worshipped as a saint, without waiting for the pope's approbation. The pope, however, when he was told of it by Cardinal Baronius, gave directions that the devotion of the people should not be restrained, though Borromeus was not canonized till the 1st of November 1610, in the pontificate of Leo XI. Since that time many churches

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churches and chapels have been erected in honour of this saint, and many religious societies instituted and put under his protection.

The foregoing particulars are extracted from an account of the life of Borromeus, written some years ago by Father Anthony Touron. Upon a comparison of this life with that written by Ribadeneira a Spanish Jesuit above a century ago, it appears that the improvement of knowledge has made a very striking difference in this kind of biography. Ribadeneira, who lived in the midst of ignorance and superstition, did not suspect that the time was at hand when the incredible and ridiculous fables he recites could not be believed: his life of this saint, therefore, abounds with particulars which Touron has justly omitted. We are told that a miraculous light was seen over the chamber of Borromeus's mother when she was in labour: That Borromeus, seeing two persons carried violently down a rapid river on their horses, and just ready to perish, caused their horses suddenly to leap with them out of the water, by giving them his benediction: That Octavian Varese, a gentleman of Milan, who was confined to his bed by sickness, when Borromeus died, became instantly well, by recommending himself to the saint's intercession. That a daughter of Julius Bonacina was instantly cured of a disorder in her eye, which had taken away the sight of it, by performing an act of devotion in honour of this saint: That a count of Ferrara was instantly seized with a violent disease upon speaking irreverently of Borromeus's picture, but was cured upon confessing his fault. It would certainly be a work of infinite service to the Romish church, to new-write the lives of her saints in such a manner as can now be believed, since the lives already written might by that means be gradually superseded, which are a better antidote against Popery than the arguments of the best reasoner in the world.

BORROWING AND HIRING, in *Law*, are contracts, by which a qualified property may be transferred to the hirer or borrower; in which there is only this difference, that hiring is always for a price or stipend, or additional recompense; borrowing is merely gratuitous. But the law in both cases is the same. They are both contracts, whereby the possession and transient property is transferred for a particular time or use, on condition and agreement to restore the goods so hired or borrowed, as soon as the time is expired or the use performed, together with the price or stipend (in case of hiring) either expressly agreed upon by the parties, or left to be implied by law, according to the value of the service. By this mutual contract, the hirer or borrower gains a temporary property in the thing hired, accompanied with an implied condition to use it with moderation, and not to abuse it; and the owner or lender retains a reversionary interest in the same, and acquires a new property in the price or reward. Thus if a man hires or borrows a horse for a month, he has the possession and a qualified property therein during that period; on the expiration of which his qualified property determines, and the owner becomes (in case of hiring) entitled also to the premium or price for which the horse was hired.

There is one species of this price or reward the most usual of any, but concerning which many good and learned men have in former times very much perplexed themselves and other people, by raising doubts about its legality *in foro conscientiæ*. That is, when money is lent on a contract to receive not only the principal sum again, but also an increase by way of compensation for the use, which is generally called *interest* by those who think it lawful, and *usury* by those who do not so. But as to this, see the article INTEREST.

BORROWSTOWNESS. See BURROWSTOWNESS.

BORSEHOLDER, among the Anglo-Saxons, one of the lowest magistrates, whose authority extended only over one free burgh, tithing, or decennary, consisting of ten families. Every freeman who wished to enjoy the protection of the laws, and not to be treated as a vagabond, was under the necessity of being admitted a member of the tithing where he and his family resided; and in order to obtain this admission, it was as necessary for him to maintain a good reputation; because all the members of each tithing being mutual pledges and sureties for each other, and the whole tithing sureties to the king for the good behaviour of all its members, they were very cautious of admitting any into their society who were of bad or doubtful characters. Each tithing formed a little state or commonwealth within itself, and chose one of its most respectable members for its head, who was sometimes called the *alderman* of such a tithing or freeburgh, on account of his age and experience, but most commonly *borseholder*, from the Saxon words *borh*, "a surety," and *alder*, "a head or chief." This magistrate had authority to call together the members of his tithing, to preside in their meetings, and to put their sentences in execution. The members of each tithing, with their tithing-man or borseholder at their head, constituted a court of justice, in which all the little controversies arising within the tithing were determined. If any dispute of great difficulty or importance happened, or if either of the parties was not willing to submit to a sentence given in the tithing-court, the cause was referred or appealed to the next superior court, or court of the hundred.

BORSET, or BORSETT, celebrated for its baths, a place about half a league from Aix-la-Chapelle in Germany. The abbey here is a very magnificent pile of building. It was formerly a monastery; but serves for a nunnery, whose abbess is a princess of the empire, and lady of Borset. The waters are warm, and of the nature of those of Aix-la-Chapelle; but they are only used as baths for the diseases in which the waters last mentioned are recommended, and also in dropsical and œdematous cases. The waters are distinguished into the upper and lower springs. The former were found by Dr Simmons to raise the thermometer to 158°, the latter to only 127°. All the baths are supplied by the first. Dr Simmons observed, that these waters were much less sulphureous than those of Aix-la-Chapelle, probably on account of their greater heat. He likewise found that they abounded much with selenites, which incrust the pipe through which the water passes, and likewise the sides of the bath.

BORYSTHENES. See BORISTHENES.

BOS, JOHN BAPTIST DU, a celebrated author and member of the French academy, was born at Beauvais in 1670, and finished his studies at the Sorbonne. In 1695, he was made one of the committee for foreign affairs.

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Boscawen.

affairs under Mr Torez; and was afterwards charged with some important transactions in England, Germany, Holland, and Italy. At his return to Paris, he was handsomely preferred, made an abbé, and chosen perpetual secretary of the French academy. He was the author of several excellent works; the principal of which are, 1. Critical reflections upon poetry and painting, 3 vols 12mo. 2. The History of the four Gordians, confirmed and illustrated by medals. 3. A critical History of the establishment of the French Monarchy among the Gauls, 2 vols 4to, 4 vols 12mo. He died at Paris on the 23d of March 1742.

Bos, *Lewis Janssen*, an esteemed painter, was born at Bois-le-Duc. Having been carefully instructed in the art of painting by the artists of his native city, he applied himself entirely to study after nature, and rendered himself very eminent for the truth of his colouring and the neatness of his handling. His favourite subjects were flowers, and curious plants, which he usually represented as grouped, in glasses, or vases of crystal, half filled with water; and gave them so lively a look of nature, that it seemed scarce possible to express them with greater truth or delicacy. It was frequent with this master to represent the drops of dew on the leaves of his objects, which he executed with an uncommon transparence; and embellished his subjects with butterflies, bees, wasps, and other insects, which Sandrart says, were superior to any thing of that kind performed by his cotemporary artists. He likewise painted portraits with very great success; and showed as much merit in that style as he did in his compositions of still life. He died in 1507.

Bos. See MAMMALIA *Index*.

Bos, in antiquity, was peculiarly used for an ancient Greek silver coin which was *didrachmus*, or equivalent to two drachms. It was so called as having on it the impression of an ox, and chiefly obtained among the Athenians and Delians; being sometimes also struck of gold. From this arose the phrase *Bos in lingua*, applied to those who had taken bribes to hold their tongue.

BOSA, a maritime town in the western part of the island of Sardinia, with a castle, a good port, and a bishop's see. It is seated on the river Bosa, to the north-east of an island of the same name; and has good salt pits. E. Long. 8. 30. N. Lat. 40. 19.

BOSCAGE, the same with a grove or thicket.

BOSCAGE, in a law sense, is that food which trees yield to cattle; as mast, &c. But Manhood says, to be quit of boscage is to be discharged of paying any duty for windfall wood in the forest.

BOSCAGE, among painters, denotes a landscape representing much wood and trees.

BOSCAN, JOHN, a Spanish poet of the 16th century, born at Barcelona. He was the friend of Garcilasso de Vega, another Spanish poet. These two were the first who made any great improvement in the poetry of their nation, and their pieces were printed together. Boscan, who died about the year 1542, principally succeeded in sonnets.

BOSCAWEN, EDWARD, a brave British admiral, was the second son of Hugh late lord viscount Falmouth. Having early entered into the navy, he was, in 1740, captain of the Shoreham; and behaved with great intrepidity as a volunteer under Admiral Vernon, at the taking of Porto Bello. At the siege of Carthagena, in March 1740-1, he had the command of a party of seamen who resolutely attacked and took a batter of 15 twenty-four pounders, though exposed to the fire of another fort of five guns. Lord Aubrey Beauclerk being killed at the attack of Boca-Chica, Captain Boscawen succeeded him in the command of the Prince Frederic of 70 guns. In May 1742, he returned to England, and married Frances daughter of William Glanville, Esq. and the same year was elected representative for Truro in Cornwall. In 1744, he was made captain of the Dreadnought of 60 guns; and soon after he took the Medea, a French man of war commanded by M. Hoquart, the first king's ship taken in that war. May 3. 1747, he signalized himself under the admirals Anson and Warren, in an engagement with the French fleet off Cape Finisterre, and was wounded in the shoulder with a musket ball. Here M. Hoquart, who then commanded the Diamond of 56 guns, again became his prisoner; and all the French ships of war, which were ten in number, were taken. On the 15th of July he was made rear-admiral of the blue, and commander in chief of the land and sea forces employed on an expedition to the East Indies; and, on the 4th of November, sailed from St Helen's, with six ships of the line, five frigates, and 2000 soldiers. On the 29th of July 1748, he arrived at St David's, and soon after laid siege to Pondicherry; but the men growing sickly, and the monsoons being expected, the siege was raised, and Mr Boscawen showed himself as much the general as the admiral in his retreat. Soon after he had news of the peace, and Madras was delivered up to him by the French. In April 1750, he arrived at St Helen's in the Exeter, and found that in his absence he had been appointed rear-admiral of the white. He was the next year made one of the lords commissioners of the admiralty, and chosen an elder brother of the Trinity-house. In February 1755, he was appointed vice-admiral of the blue. On the 19th of April, sailing in order to intercept a French squadron bound to North America, he fell in with the Alcide and Leys of 64 guns each, which were both taken: on this occasion M. Hoquart became his prisoner a third time, and he returned to Spithead with his prizes and 1500 prisoners. In 1756, he was appointed vice-admiral of the white; and in 1758, admiral of the blue, and commander in chief of the expedition to Cape Breton; when, in conjunction with General Amherst, and a body of troops from New England, the important fortress of Louisbourg and the whole island of Cape Breton were taken, for which he afterwards received the thanks of the house of commons. In 1759, being appointed to command in the Mediterranean, he arrived at Gibraltar, where hearing that the Toulon fleet, under M. de la Clue, had passed the Straits, in order to join that at Brest, he got under sail, and on the 18th of August saw, pursued, and engaged the enemy. His ship, the Namur of 90 guns, losing her main-mast, he shifted his flag to the Newark; and, after, a sharp engagement, took three large ships, and burnt two in Lagos bay, and the same year arrived at Spithead with his prizes and 2000 prisoners. On December 8. 1760, he was appointed

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Boscawen ⁊ Boscovich.

general of the marines with a salary of 3000l. per annum, and was also sworn one of the privy council. He died in 1761.

BOSCH, Jacob Vanden, a painter of still life, was born at Amsterdam, in 1636, and painted summer fruits, of various kinds, peaches, pears, apples, plums, nectarines, and cherries, with extraordinary neatness of pencil. He painted all his objects after nature, and imitated every sort of fruit with so great truth and delicacy, with such natural and transparent colour, that they appeared delicious and almost real. He died in 1676.

BOSCHAERTS, Thomas Willeborts, a celebrated painter, was born at Bergen-op-zoom; and, like the great painters who flourished at that time, began to draw when very young, in the books that were intended for other studies. Preferring his pencil to every thing else, he drew his own picture, by his resemblance in a looking-glass, so like, that those who saw it were astonished. This he did before he had the least instruction from any one, and when he was only 12 years of age. Upon this his parents sent him to a master, that he might follow the bent of his genius; but his first master being only an indifferent painter, and incapable of satisfying his earnest desire of learning, he left him, and engaged himself with Gerard Segers; under whom, after four years practice, he proved a most accomplished artist. Antwerp being at that time the seat of arts, where there was a conflux of the most eminent painters, he thought it the fittest place for his improvement; and there executed such a number of noble pieces as added greatly to the splendour of that wealthy city. In 1642, Henry Frederic prince of Orange, and his son Prince William, employed him in their service; in which he continued several years, and made those excellent pieces that are to be seen in that prince's palace at the Hague and other parts of Holland, and painted portraits for most of the persons of quality that were then living. He died in the flower of his age, in 1670.

BOSCO, or Boschi, a town of Italy, in the Milanese, seated on the river Orbe. E. Long. 9. 44. N. Lat. 44. 53.

BOSCOI, or Bosci, in ecclesiastical history, denotes a species or tribe of monks in Palestine, who fed on grass like the beasts of the fields. The word is Greek, *βοσκοι*, q. d. "graziers;" formed from *βοσκω*, *pasco*, "I feed." The Boscoi are ranked among the number of Adamites, not so much on account of their habit, as food. They took no care about provision; but when eating time came, or any of them was hungry, went into the fields, with each his knife in his hand, and gathered and ate what he could find.

BOSCOVICH, Roger Joseph, the founder of an original and sublime theory of natural philosophy, deserves to be particularly noticed in a work of this nature; but we have to regret that the materials from which our biographical memoir must be compiled, are insufficient to satisfy the curiosity concerning the literary habits, and the characteristic features, of this very illustrious man.

His rank, indeed, as a philosopher, we are enabled to appreciate by perusing some of the immortal works which he hath bequeathed us; but, for a knowledge of his moral character, disposition, and temporal concerns, we can only have recourse to the eulogies of his friends. These are certainly entitled to much of our confidence; and when the names of M. de la Lande, M. Fabroni, Stay, and Zamagna are mentioned, we may be thought fastidious, in implying the least distrust of their testimony. It is our respect for the public and for truth, and it is our knowledge of the nature of eulogies, which have made us so.

Boscovich.

We have, therefore, endeavoured, rather to relate the incidents in the life of Boscovich, than to give a transcript of friendly effusion; and yet perhaps it may be discovered, that our report is luminous with eulogium, whilst its outlines are poorly defined.

Boscovich was born on the 11th of May 1711, at Ragusa, a sea-port on the coast of the Adriatic, and capital of a small republic of the same name, under the protection of the Turks and the Venetians. We know so little of his parents, that we can only conjecture at their circumstances and capacity, from the education which they gave to their son being liberal and judicious.

It does not appear that our author gave any tokens of superior genius, till he was sent to learn grammar and philosophy in the schools of the Jesuits, who were at that time the principal teachers in Ragusa, and throughout Italy. Amongst them his docility and obedience could not pass unnoticed, but were sufficient to mark him as a likely subject for future eminence, and consequently to procure to him particular attention. In his 15th year, after he had gone through the ordinary course of education, and when it was necessary to determine his farther pursuits, application was made to admit him into the order; and for the reasons we have mentioned, it was readily complied with. This was agreeable to his own inclination, and proved the source of that distinction in learning to which he afterwards attained.

The Jesuits, it is well known, had much interest and authority to promote in the city of Rome; whither it was customary in them to send those members whom they knew to be qualified for that purpose, and those youths of whom they had great expectations, for more instruction. As Boscovich was sent there in the year 1725, we may reasonably imagine he had profited much by his teachers, and was signalized for his abilities. This zeal in the cultivation of youth, which the Jesuits ever preserved, and which perhaps tended more to the preservation of their power than all their religious artifices, was attended with consequences the most beneficial to humanity; and when we recollect how many and how great the geniuses were which it discovered, and fostered and brought to maturity, we are almost induced to believe that it counterbalanced all the ill effects of their order. Had this education been confined to some limited sphere; had it embraced the prattling doctrines of casuistry and the unwieldy mass of cloistered theology alone; unfortunate and melancholy for the world would have been this zeal: no refuge for the venial penitent, no security against boisterous sectarism would have remained; an unmanly lethargy would have debased the mind, and the moral and the intellectual world would have sunk to a dread chaos of confusion. But the Jesuits knew well the benignant influence of literature, and the salutary elevation of science; they saw that wealth, and power, and ho-

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Boscovich. nour, followed philosophy; and that philosophy had driven famine, wretchedness, and vice, from their habitations. We dare not say that the interest and aggrandizement of their order were secondary considerations; but we will avow it as our opinion, that the short reign of the Jesuits, and the objects at which they aimed, and above all the means which they employed, were more instructive, promised better, and effected more to humanity, than all the accumulated humility and sanctity of all the religious societies of the Romish church. We have been led into this digression by the coincidence of certain considerations operating at the time on our minds. Boscovich was of the order of Jesuits; that order is no more; its destruction took place in his life-time; gratitude for the delight and the instruction we have received from him and many others of the order; the present disposition among mankind to detract from its merits, to magnify its imperfections, and to confound it with the fanatical and enthusiastic groups of every persuasion which have disgraced the name and the dignity of religion. But to return; our author, on his arrival in Rome, entered the noviceship of the order, where his studies wore a new aspect, but were still pursued with diligence. Christian morality, the rules and constitutions of the order, claimed his attention for two years; after which he was instructed in rhetoric, and became well versed in general literature, in a particular manner in Latin poetry, which at that time was very much cultivated.

From the noviciate he was sent to the Roman college to study mathematics and physics. It was in these sciences that his elevated genius and uncommon abilities shone forth so conspicuously, and procured to him the admiration of his superiors. In three years time he was able to give private lessons on mathematics; and was then exempted from a law, by which the noviciates were bound to teach Latin and the belles lettres for five years before they commenced the study of theology. This exemption was in consequence of his great predilection to the mathematics, of which he was soon afterwards made public professor. It would appear to us, that the science of theology, as it was then inculcated, had little attraction for the mind of Boscovich; for it is not likely that a mind intimately acquainted with truth, and accustomed to find her ever plain and undisguised, could relish the retiring obscurities of sophistry, or the flimsy decorations of a mystical religion; nor can we wonder, that during the four years in which he was constrained to the study, he should become more familiar with Leibnitz, Maclaurin, and Newton, than with Loyola, and Laynez, and Aquaviva.

For the professorship of mathematics he was eminently qualified, as besides a thorough knowledge of all the modern productions in the science, he had acquired a pristine severity of demonstration by studying the works of the ancient geometricians; and he conjoined withal an obliging accommodation of his own powers to the deficiencies of his pupils. It was for their benefit he at this time composed elementary treatises on arithmetic, algebra, geometry and trigonometry. But notwithstanding the arduous duties of his situation which he invariably fulfilled, he found time to instruct and enlighten more than boys; for about this period, he entertained some of those original notions which were destined to grow up into system, and one day to astonish the whole world of science. These, as they grew, were strengthened by solid arguments in the public disputations, by anticipating obstacles, overcoming and removing them, and by mighty efforts in extending and applying them to the most remote and discretive actions of the universe. The animating spirit of discovery and invention led him to consider every portion of physical science; and indeed so versatile and so vigorous was his mind, we would be at a loss to specify one portion, which, within a few years, it did not comprehend, elucidate, and advance. In confirmation of this we beg to present our readers with an enumeration of the principal subjects to which he turned his attention, and concerning which he published dissertations whilst he continued in the professorship. The transit of Mercury over the sun; the spots in the sun; the aurora borealis; the construction of spheric trigonometry; the figure of the earth; a new telescope to determine celestial objects; the ancient arguments for the rotundity of the earth; oscillating circles; on infinites and infinitely little quantities; the motion of bodies in unresisting spaces; the aberration of the fixed stars; the inequalities in terrestrial gravity; on astronomy; on the limits of certainty in astronomical observations; on the solid of greatest attraction; the cycloid; the logistic curve lines; the *vires vivæ;* the comets; light; tides; the rainbow; the calculation of fractions; the centre of gravity; the moon's atmosphere; the law of continuity; lenses and dioptrical telescopes; the objective micrometer; the divisibility of matter. Some of these are short, but all of them contain curious and valuable matter. It is only by perusing them we are able to discover the gradual progress of his mind; and to understand the manner in which he arrived at the theory of natural philosophy, which alone will render his name immortal. Boscovich.

About this time a taste for philosophical poetry was much prevalent amongst the learned, and some of our author's acquaintances had laboured in it with success. Of these we may mention Father Noceti, who wrote on the rainbow and the aurora borealis, and the justly celebrated Benedict Stay, whose poems on the philosophy of Descartes, and on the more modern philosophy, are excellent examples of fine Latin composition and scientific investigation. Boscovich published their works with annotations and supplements, in which a splendid fund of information and learning is displayed.

By such undertakings, the fame of our author was widely diffused, and he became an object of general admiration. The learned societies of many countries in Europe conferred on him unsolicited honours, and several foreign princes invited him to their courts. His opinions on various subjects of civil architecture, topography, and hydrodynamics, were asked and entertained by Pope Benedict XIV. John V. of Portugal, and others. These necessarily required his presence in different states, where he never failed to increase his reputation, and often terminated disputes which might otherwise have gone on to open warfare.

He was employed to correct the maps of the papal dominions, and to measure a degree of the meridian passing

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Boscovich. passing through them. In this he was assisted by an English Jesuit, Christopher Maire. An account of their expedition was printed at Rome and Paris, and is interspersed with some curious anecdotes, concerning the opinions which the peasants of the Apennines formed of them, and the operations which they had to perform; but it is valuable on account of the accurate detail which is given of their observations.

In the year 1757, he was sent to Vienna by the republic of Lucca, to reconcile some differences concerning the draining of a lake, in which the grand duke of Tuscany, the emperor Francis I. and that republic, were concerned. It was after he had succeeded in the object of his visit to that city, that he published there his *Theoria Philosophiæ Naturalis* in 1758; and that he gained the esteem of the empress-queen.

Another occasion for his mediating powers soon presented itself, and which more nearly interested him, as his native city of Ragusa required them. It had been suspected by the British government, that some ships of war were fitted out at that port for the service of the French, thereby infringing the neutrality. Such a suspicion having no just foundation, alarmed the senate of Ragusa, and required speedy removal, as the consequences of it might be extremely prejudicial to their commerce. Boscovich, who had often been successful in similar circumstances for other powers, appeared to them the most proper person for this purpose, and was accordingly entrusted with it. He repaired to London, and here also effected the object of his mission with honour to himself. He visited the Royal Society, which received him with distinguishing marks of respect, and which he soon afterwards complimented with an excellent Latin poem on the solar and lunar eclipses. This was in the year 1760, when Dr Johnson was in London. Mr Murphy speaks of an interview which took place between our author and Johnson; but in order to magnify the unruly powers of the *tremendous companion*, he rather unhandsomely tells us of the *easy cant* with which a *priest* might travel through Italy and France. We are unwilling to mention what effects on some minds may have been produced by the formidable society of a Johnson; but if they are a contempt of elegant simplicity and ingenuous ease, and an affected devotion to repulsive pomp and authoritative ostentation, be our lot far from his influence, amid the peace and liberty of social life.

Boscovich was invited by the Royal Society to be of the party of their members sent to America, to observe the transit of Venus over the sun's disk, which happened in the year 1762. The nature of his embassy, and the necessity of returning home, however, prevented his acceptance of the invitation. Soon after his return, and when his embassy was fulfilled, he was appointed by the senate of Milan to the mathematical chair in the university of Pavia, and to superintend the observatory of the royal college of Brera. He continued in this situation for six years, when he was made professor of astronomy and optics in the Palatine schools of Milan by the empress-queen; who also requested him to continue his attention to the observatory. This he expected to be the most agreeable part of his life. Admired by the learned; beloved by his friends; having an adequate income, and a constitution sound and vigorous; he promised to himself, happy, because useful days, in the tranquil cultivation of the sciences: but a cloud long impending now burst over his head, and these bright days never came. Boscovich.

The mysterious regulation in the political constitution of the Jesuits, though it had attracted the keen curiosity of the world, had, for very substantial reasons, never been explored; nay, such was the influence of the order over the minds of the most enlightened statesmen, that this impenetrable mystery was held sacred by the civil power in many countries, as if no danger could exist in what was not understood. But the rapid progress of science, and the gradual decay of superstition, required some evidence of security, and some proof that it was ever necessary to conceal good intentions, and to cover virtuous principles with any other garb than what truth could bestow. These, it is well known, the Jesuits either could not, or were unwilling to give; and they, therefore, justly incurred the suspicion of men. The most trivial circumstances would augment this suspicion, and the least deviation from rectitude in any of the order would serve to justify it: these were not wanting, and soon became invincible; the interest of the Jesuits rapidly declined for many years, and at last, in 1773, their order was totally abolished.

No exemption from the edict for its downfall could be procured; all who held offices were dismissed; and Boscovich sought refuge in the city of Paris. Thither indeed he was invited by the minister (we believe Turgot), by whose means he was made one of the directors of optics for the sea service, and received a pension: but it does not seem that his situation was agreeable to him; for it is well known that the peculiar nature of his circumstances was the sole cause of his long residence in Paris.

Whether his dislike arose from the envy of some of the French, his own irritability of temper, or the incongruity of the prevailing manners with his own, we cannot determine: but it is reasonable to imagine, that the ruin of his order, and the subsidence of his own importance, would leave some indelible mark in his mind; and perhaps when he contemplated the apparent levity and the real scepticism of the age, he might be brought to fear that the degradation or the downfall of the world was concomitant. Sentiments very opposite to those of the French would thence naturally arise; morosity and discontent would invade him, and he wished to revisit the scenes of his youth. Be all this, however, as it may, certain it is, he applied for leave of absence for two years, after he had resided in Paris for ten years: this he easily procured, and accordingly set out for Bassano in the republic of Venice. At this place he published, in five vols. quarto, a collection of the works which he had finished in Paris. This forms a body of optical and astronomical knowledge, well worthy the attention of the philosophical and mechanical cultivators of the sciences. It may be worth mentioning, that by proceeding on the principles contained in one of the dissertations in this collection, an amiable philosopher of our own country (Dr Robison) believed it possible to ascertain the motions of the earth, though the observer should be confined in a cellar; in prosecuting the subject, however, he

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Boscovich found that an error into which Boscovich had fallen, concerning the aberration of light, undermined the principles on which he had erected such a wonderful but legitimate problem. The candid and very interesting acknowledgment of the error, and his extreme disappointment in the discovery of it, which the doctor made in the 3d vol. of the Edinburgh Transactions, is at once an evidence of his own liberality, and an undefeasible testimony to Boscovich's genius.

We beg to recommend to our readers the perusal of the works which we have now mentioned; they would tend to form the mind to the true mode of investigating the phenomena of nature, and will satisfactorily shew that this mode is always rewarded by discovery. The following is a pretty just account of their contents: A new instrument for determining the refracting and diverging forces of diaphanous bodies; a demonstration of the falsehood of the Newtonian analogy between light and sound; the algebraic formulæ regarding the focuses of lenses, and their applications for calculating the sphericity of those which are to be used in achromatical telescopes; the corrections to be made in ocular lenses, and the error of the sphericity of certain glasses; the causes which hinder the exact union of the solar rays by means of the great burning glasses, and the determination of the loss arising from it; the method of determining the different velocities of light passing through different mediums by means of two dioptrical telescopes, one common, the other of a new kind, containing water between the objective glass and the place of the image: a new kind of objective micrometers; the defects and inutility of a dioptrical telescope proposed and made at Paris, which gives two images of the same object, the one direct, the other inverse, with two contrary motions of moveable objects; masses floating in the atmosphere, as hail of an extraordinary size, seen on the sun with the telescope, and resembling spots; the astronomical refractions, and various methods for determining them; various methods for determining the orbits of comets and of the new planet, with copious applications of these doctrines to other astronomical subjects, and still more generally to geometry and to the science of calculation; the errors, the rectifications, and the use of quadrants, of sextants, of astronomical sectors, of the meridian line, of telescopes called the instruments of transits, of the meridian, and of the parallactic machine; the trigonometrical differential formulæ, which are of so much use in astronomy; the use of the micrometrical rhombus, extended to whatever oblique position; the error arising from refractions in using the astronomical ring for a sundial, and the correction to be made; the appearing and the disappearing of Saturn's ring; the methods of determining the rotation of the sun by means of the spots, proposed formerly by the author, and now perfected; the greatest exactness possible in determining the length of a pendulum oscillating every second of middle time by the comparison of terrestrial and celestial gravity; a compend of astronomy for the use of the marine, containing the elements of the heavenly motions, and of the astronomical instruments, to be explained to a prince in the course of one month; a method for determining the altitudes of the poles with the greatest exactness, by means of a gnomon alone, where other instruments are not to be had; the determination of the illuminated edge of the moon to be observed on the meridian; a method of using the retrograde return of Venus to the same longitude, for determining the less certain elements of her orbit; a method for correcting the elements of a comet, of which the longitude of the node is given, and the inclination of the orbit has been found nearly; another method for the same purpose, and for finding the elliptical orbit, when the parabolic one does not agree with the observations; a method for correcting the elements of a planet by three observations; the projection of an orbit inclined in the plane of the ecliptic; the projection of an orbit inclined in any other plane; the calculation of the aberration of the stars, arising from the successive propagation of light; some beautiful theorems belonging to triangles, which are of great use in astronomy, reduced to the most simple demonstrations. Boscovch.

After the publication of these works, our author left Bassano, and went to Rome to visit the companions of his youth. From Rome, he proceeded to Milan, where he revised some of his own works, and prepared for publication the two last volumes of Stay's poems.

In such occupations, and amidst friends whom equal misfortune and temporary separation had still more endeared, he had remained happy, and might perhaps have been still further useful to the world; but his leave of absence was now nearly expired, and his dislike to a residence in Paris was augmented by the contrast which his present abode afforded. He was too delicate to apply for more leave of absence; and though he was sensible of the gratitude which he owed to France, he could not reconcile it with the destruction of his own repose. About this time also he had several attacks of gout, but he would admit no medical aid. Under these distresses, and others which we have before mentioned, our illustrious author at last sunk: a melancholy despondency seized on and subjugated his mind, so that for five months he remained perfectly fatuous; and an imposthume having burst in his breast, terminated his existence on the 13th of February 1787, in the 76th year of his age.

The following inscription was composed by Benedict Stay, and engraved on marble by order of the senate of Ragusa, in memory of their useful citizen the illustrious Roscovich.

ROGERIO. NICOLAI. F. BOSCOVICHIO,
Summi. Ingenii. Viro. Philosopho. Et Mathematico. Præstantissimo
Scriptori. Operum. Egregiorum
Res. Physicas. Geometricas. Astronomicas
Plurimis. Inventis. Suis. Auctas. Continentium
Celebriorum. Europæ. Academiarum. Socio
Qui. In. Soc. Jesu. Cum. Esset. Ac. Romæ. Mathesim. Profiteretur
Benedicto XIV. Mandante.

Multo.

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Boscovich. Boscovich.

Multo. Labore. Singulari. Industria
Dimensus. Est. Gradum. Terrestris. Circuli
Boream. Versus. Per. Pontificiam. Ditionem. Transeuntis
Ejusdemque. Ditionis. In. Nova. Tabula. Situs. Omnes. Descripsit.
Stabilitati. Vaticano. Tholo. Reddundæ
Portubus. Superi. Et. Inferi. Maris. Ad Justam. Altitudinem. Redigendis
Restagnantibus. Per. Campos. Aquis. Emittendis. Commonstravit. Viam
Legatus. A. Luccensibus. Ad. Franciscum. I. Cæsarem. M. Etruriæ. Ducem.
Ut. Amnes. Ab. Eorum. Agro. Averterentur. Obtinuit
Merito. Ab. Iis. Inter. Patricios. Cooptatus
Mediolanum. Ad. Docendum. Mathematicas. Disciplinas. Evocatus
Braidensem. Extruxit. Instruxitque. Servandis. Astris. Speculam.
Deletæ. Tum. Societati. Suæ. Superstes
Lutetiæ. Parisiorum. Inter. Galliæ. Indigenas. Relatus
Commissum. Sibi. Perficiundæ. In. Usus. Maritimos.
Opticæ. Munus. Adcuravit
Ampla. A. Ludovico. XV. Rege. Xmo. Attributa. Pensione
Inter. Hæc. Et. Poesim. Mira. Ubertate. Et. Facilitate. Excoluit
Doctas. Non. Semel. Suscepit. Per. Europam. Peregrinationes
Multorum. Amicitias. Gratia. Virorum. Principum. Ubique. Floruit.
Ubique. Animum. Christianarum. Virtutum
Veræque. Religionis. Studiosum. Præ-se-tulit
Ex. Gallia. Italiam. Revisens. Jam. Senex
Cum. Ibi. In. Elaborandis. Edendisque. Postremis. Operibus
Plurimum. Contendisset. Et Novis. Inchoandis. Ac. Veteribus. Absolvendis
Sese. Adcingeret
In. Diuturnum. Incidit. Morbum. Eoque. Obiit. Mediolani
Id. Feb. An. MDCCLXXXVII. Natus. Annos LXXV. Menses IX. Dies II.
Huic. Optime. Merito. De. Republica. Civi.
Quod. Fidem. Atque. Operam. Suam. Eidem. Sæpe. Probaverit
In. Arduis. Apud. Exteras. Nationes
Bene. Utiliterque. Expediundis. Negotiis
Quodque. Sui. Nominis. Celebritate. Novum. Patriæ. Decus. Adtulerit
Post. Funebrem. Honorem. In Hoc. Templo. Cum. Sacro. Et. Laudatione
Publice. Delatum
Ejusdem. Templi. Curatores
Ex. Senatus. Consulto.
M. P. P.

Besides the works which we have mentioned, he wrote several others on various subjects, as, on the project of turning the navigation to Rome from Fiumicino to Maccarese; a third on two torrents in the territory of Perugia; a fourth on the bulwarks on the river Ponaro; a fifth on the river Sidone in the territory of Placentia; a sixth on the entrance into the sea of the Adige. He wrote other such works on the bulwarks of the Po; on the harbours of Ancona, of Rimini, of Magna Vacca, and Savona, besides others, almost all which were printed. He had likewise received a commission from Clement XIII. to visit the Pomptin lakes, on the draining of which he drew up his opinion in writing, to which he added further elucidations at the desire of Pius VI.

I

Boscovich's Theoria Philosophiæ Naturalis.

We have spoken of Boscovich as the founder of a new system of natural philosophy, which has occupied much of the attention of the learned, and which alone will render the name of its author immortal. It becomes us therefore to give such a synopsis of it, as may satisfy the general reader, or induce the student to search for more information in the work from which we ourselves have derived it.

In a subject so abstruse and remote from observation, as many of the principles which we have to consider in this theory, much difficulty in investigation is to be expected, and perhaps the metaphorical language which we are constrained to employ, will tend not a little to embarrass and mislead us. We are also aware of the many obstacles which a theory of such magnitude has to encounter in the improved mode of philosophising of the present day; we are aware that at the bare mention of a new theory in natural philosophy, some of our readers will revolt from our page, affect a contempt of our labours, and call to their aid the authority of Bacon. But we would ask such, from whence does their spirit arise? we have found it in those who never studied a page of Bacon; and we have known it accompanied by indolence, and by a supine indifference to aught that dignifies and elevates humanity. It is surely no hard matter to condemn a theory, merely because it is a theory: nor is it at all demonstrable that such condemnation requires any great effort of genius or understanding. Now the spirit of Bacon is a spirit of zeal, and labour, and perseverance, and above all, of investigation. Not then from his writings has this contempt arisen, but from a total ignorance of them; not from his doctrine, but from an imaginary inspiration of his principles.

We

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Boscovich's System of Natural Philosophy.

We have reason to believe that the theory of Boscovich would have received the sanction of the illustrious Bacon: because the foundation on which it is erected is consecrated by irradiation from his works. Be this, however, as it may, we are convinced that such an example of true genius will be acceptable to every friend of humanity, and to every cultivator of science.

That we may do justsce to our author in giving a synopsis of his theory, we shall follow the order which he himself has adopted; and shall subjoin some general observations and remarks which have occurred to us in the course of the work.

2 divided into three parts;

Boscovich's Theoria Philosophiæ Naturalis is divided into three parts; of which the *first* contains the explication of the theory, its analytic deduction, and its vindication.

The *second* contains the application of the theory to mechanics, and

The *third* the application of the theory to physics. Of these in order, and first of the explication of the theory.

3 has some resemblance to other theories.

This theory has something in common with the Leibnitzian and the Newtonian.

With the former it admits that the elements of matter are simple and inextended; but it differs from it, in denying the *continued extension* of the elements, and in asserting that the elements are perfectly homogeneous.

4 Leibnitzian.

5 Newtonian.

Like the Newtonian, it allows the existence of mutual powers or forces, which vary according to the distance by certain laws; but it goes further, in that it asserts these powers are both repulsive and attractive, and that when either of these terminates the other begins: but it differs from the Newtonian in explaining by one principle phenomena to which the latter applies three.

This one principle may be expressed by an algebraic formula, or by one continued geometrical curve; and it is the law by which the powers of repulsion and attraction act. As continued extension of bodies is rejected from this theory, it is obvious, that as on the one hand a repulsive power must render it impossible, so on the other an attractive power must give rise to the apparent examples of it, to the phenomena of cohesion: this accordingly is one essential characteristic of the theory.

From these few remarks we may deduce the principles of the theory.

6 Principles of it.

The first elements or atoms of matter are indivisible, inextended, but simple, homogeneous, and finite in number. They are dispersed in an immense space, in such a manner as that any two or more may be distant from each other any assignable interval. This interval may be *indefinitely* augmented or diminished, but cannot entirely vanish. Actual contact of the atoms is therefore impossible, seeing that the repulsive power which prevents the entire vanishing of the interval, must be sufficient to destroy the greatest velocities by which the atoms tend to unite. The repulsive power must *encircle* every atom, must be equal at equal distances from the atoms, and moreover, must increase as the distance from the atoms diminishes. On the contrary, if the distance from the atoms increases, the repulsive power will diminish, and at last become equal to nothing, or vanish; then, and not till then, an attractive power commences, increases, diminishes, vanishes. But the theory does not stop here; for it supposes, that a repulsive power succeeds to the second or attractive, increases, diminishes, vanishes; and that there are several alternations of this kind, till at the last an attractive power prevails, and though diminishing sensibly, as the squares of the distances increase, extends to the most distant regions of our system.

Boscovich's System of Natural Philosophy.

7 A geometrical curve will express the whole of the theory.

Such a process as we have now mentioned may seem complicated and confused; but the curve line which expresses it is so simple, that we are persuaded, our readers, though unacquainted with geometry, will comprehend, and hence will be able to understand the theory itself.

We shall now proceed therefore to exhibit this curve, and to shew in what manner it elucidates the principles of the theory.

Plate XCIV. Fig. 1.

The axis C′AC has an asymptote of a curve in the point A, viz. the indefinite right line AB; on each side of which are placed two equal and similar branches of a curve, viz. D′E′F′G′, &c. and DEFGHIKL MNOPQRSTV: the latter of these having the asymptotical arch ED, though indefinitely produced towards the right line AB, will never touch it; but it accedes to the axis C′AC, and touches it in some point E. From this point it recedes on the opposite side of the axis to some point F, bends again to the axis C′AC, and cuts it in the point G; from this it recedes in a similar manner, on the side of the axis from whence it originated, and arrives at the point H. From the point H it bends to the axis C′AC, and cuts it in the point I; and so on in alternate fits of accession and recession till it has completed the remaining arches IKL, LMN, NOP, PQR, RST; after which it becomes asymptotical, forming the arch T *p s* V, which approaches the axis C′AC on the side opposite that from which it originated, in such a manner as that the distances from the axis shall be in the reciprocal duplicate ratios of the distances from the asymptote BA.

Now, if we raise and let fall perpendiculars on the axis C′AC in the points *a*, *b*, *d*, &c. the segments of the axis so formed, viz. A *a*, A *b*, A *d*, &c. are abscisses, and will represent the distances between any two atoms or points of matter; and the perpendiculars so constructed, viz. *a g*, *b r*, *d h*, are ordinates, and will represent the intensity of the repulsive or attractive powers, according to their situation with respect to the axis C′AC; for; if on the same side with the asymptote AB, as *a g*, *b r*, they represent the former; and if on the side opposite to the asymptote, as *d h*, the latter power.

From what we have said, it is manifest, that the ordinate *a g* may be increased beyond any assignable limit, provided the corresponding abscissa A *a* be diminished beyond any assignable limit; seeing that the limb of the curve ED is asymptotical which terminates the ordinate *a g*, and consequently never touches the right line AB; but that, if the abscissa be increased as to A *b*, then the ordinate will be diminished to *b r*; and that by perpetually increasing the abscissa to the point E, the ordinate will be perpetually diminished till at the point E it will totally vanish.

Moreover, if we shall increase the abscissa to A *d*, we shall find that on the opposite side of the axis C′AC, there will appear the ordinate *d h*, which, by continuing the

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Boscovich's System of Natural Philosophy.

the same increase of the abscissa will increase to the point F, and then will diminish perpetually, as it approaches to the point G, where it will totally vanish. If the abscissa be still increased, an ordinate arises on the opposite side, increases to H, diminishes to I, and vanishes, appears again, increasing to K, diminishing to L, vanishing; and so on through all the remaining points and situations of the curve, till at length coming to *p o* and *s v*, it continues to diminish perpetually, but never again totally vanishes.

8 In what manner.

Such then is the nature of the curve, and such, it must be admitted, will comply with the description of the repulsive and attractive powers, and the manner in which they alternate, so essential to the theory. The first power or that next the atoms is repulsive, and is greatest at the least distances from them; by increasing the distances it diminishes, vanishes; is succeeded by attraction, which increases, diminishes, vanishes; is in like manner succeeded by repulsion; and those two powers alternate repeatedly, when the attraction succeeding, constitutes the general gravity of Sir Isaac Newton, and reaches to the planets, and the far distant comets of the system of the sun.

It is obvious, that the transitions which we have described must occur in the insensible distances, being all comprehended betwixt the atoms and the exterior attractive power; but it is also obvious that this law of the forces differs much from the Newtonian gravity, as the curve which expresses the latter is a hyperbola of the third order, lying all on one side of its axis which it never cuts; consequently it does not admit of any transitions, as we have before hinted at. It is of consequence to remember this distinction, for we shall find that on it depends much of our reasoning in the application of the theory to physics.

Some further explanation of the curve remains to be given in the second part: in the mean time we proceed to take notice of certain geometrical properties essential to it, as answering the conditions of the principles of the theory.

Boscovich, in an after part of the work, demonstrates strictly that the curve is possessed of these properties; but we do not think it necessary to detail his demonstration, as it is only accessible to whose who are versed in the high geometry, and as we imagine that a bare statement of the conditions required will satisfy the generality of our readers.

9 This curve has six conditions.

The conditions necessary in the curve are six in number. First, That it be regular, simple, and not an aggregate of arches of different curves. Secondly, That it shall cut the axis C'AC in certain given points only, and at the two distances AE', AE; AG', AG, &c. which are equal on both sides of the asymptote, the right line AB. Thirdly, That there shall be ordinates to correspond to every abscissa. Fourthly, That there shall be equal ordinates at equal abscisses on each side of AB. Fifthly, That the right line AB be an asymptote to the curves on each side of it; the area BAED asymptotical and therefore indefinite. Sixthly, That the arches which are terminated by any two intersections may be varied in any manner, recede from the axis C'AC to any distance, and accede to whatever arches of whatever curves, cutting, touching, or oscillating them wheresoever, and howsoever we please.

If these conditions be answered, it must be evident that by this curve we can express any intensity of any force, in any direction we please; and of consequence, that by one law of the forces, every thing in the universe, connected in any manner with motion, may be explained.

Boscovich's System of Natural Philosophy.

We come now to consider the analytic deduction of the theory, in which we shall follow closely the steps of Boscovich.

10 The analytic deduction of the theory.

Boscovich sets out, by examining the nature of the law of continuity, and the principles on which it is founded. In the year 1745 he published a dissertation *De Viribus vivis*, in which he was led to consider the phenomenon of the collision of bodies, and in consequence, the dilemma into which former philosophers had fallen by their mode of investigating it, and the breach of the law of continuity which some had allowed to extricate themselves from the dilemma.

Maclaurin, of whom Boscovich speaks in terms of the highest respect, "Summus nostri sevi geometra et philosophus," was the principal advocate for the breach of the law of continuity in the collision of bodies, and spoke with some indignation of those who asserted, that this law was universal. He of course believed in the production of motion by impulse, and in the immediate contact of bodies. Now Boscovich, as we have before mentioned, rejects both of these suppositions, and consequently explains the phenomenon in a very different manner from Maclaurin, and endeavours to prove that the law of continuity is universal, and that no instance of a breach of it is ever observable or possible.

Before proceeding to his reasoning on this subject, we shall explain what is meant by the law of continuity, and give one example of it, to which all others are referable.

11 From the law of continuity.

The law of continuity (says Boscovich) consists in this, that any quantity whilst passing from one magnitude to another, must pass through all the intermediate magnitudes of the same kind: or, according to the law of continuity, all changes in nature are produced by insensible and infinitely small degrees; so that no body can in any case pass from motion to rest, or from rest to motion, without passing through all possible intermediate degrees of motion. Maclaurin's Newton, b. 1. c. 4.

Let there be a right line AB (fig. 2.), to which another line CDE is related; let AB represent the time, and from any points of it, F, H, let there be erected the perpendiculars FG, HI, which (ordinates) may represent any quantities continually variable, and will correspond to the moments of time F, H; but to the intermediate moments K, M, other magnitudes KL, MN, will correspond; and if from the point G to the point I there goes a continued and finite part of the line CDE, it is evident that there is no intermediate point of the line AB, as K, to which some ordinate KL does not correspond; and conversely that there is no ordinate of magnitude intermediate betwixt FG, HI which does not correspond to some point intermediate betwixt F, H. Now the variable quantity expressed by this variable ordinate, changes according to the law of continuity; because from the magnitude FG, which it has in the moment of time F, to the magnitude HI, which it has in the moment of time H, it

passes

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passes through all the intermediate magnitudes KL, MN corresponding to the intermediate moments, K, M, and to every moment a determinate magnitude corresponds.

This then may be sufficient to explain the nature of the law of continuity, about which, we may remark, there can be no ambiguity; for the terms which express it are precise, it is a matter of fact, and one example of it is enough to give us an adequate idea of it. We proceed, therefore, to consider on what its universality is founded; and here two questions naturally occur: Have we discovered the universality of this law by a laborious induction? or does it necessarily result from the nature of continuity? Boscovich answers both of these questions in the affirmative.

12 which is discovered to be universal.

1. It is discovered by induction. Here we beg to transcribe the words of our author, as much more satisfactory than any thing we can give: "Quin immo in motibus ipsis continuitas servatur etiam in eo, quid motus omnes in lineis continuis fiunt nusquam abruptis. Plurimos ejusmodi motus videmus. Planetæ et cometæ in lineis continuis cursum peragunt suum, et omnes retrogradationes fiunt paullatim, ac in stationibus semper exiguus quidem motus, sed tamen habetur semper, atque hinc etiam dies paullatim per auroram venit, per vespertinum crepusculum abit, solis diameter non per saltum, sed continuo motu supra horizontem ascendit, vel descendit. Gravia itidem obliquè projecta in lineis itidem pariter continuis motus exercent suos, nimirum in parabolis seclusa aeris resistentia, vel ea considerata, in orbibus ad hyperbolas potius accedentibus, et quidem semper cum aliqua exigua obliquitate projiciuntur, cum infinities infinitam improbabilitatem habeat motus accuratè verticalis inter infinities infinitas inclinationes, licet exiguas, et sub sensum non cadentes, fortuito obveniens, qui quidem motus in hypothesi telluris motæ a parabolicis plurimum distant, et curvam continuam exhibent etiam pro casu projectionis accuratè verticalis, quo quiescente penitus tellure, et nulla ventorum vi deflectente motum, haberetur, ascensus rectilineus, vel descensus. Immo omnes alii motus a gravitate pendentes, omnes ab elasticitate, a vi magnetica, continuitatem itidem servant, cum eam servent vires illæ ipsæ, quibus gignuntur. Nam gravitas, cum decrescat in ratione reciproca duplicata distantiarum, et distantiæ per saltum mutari non possint, mutatur per omnes intermedias magnitudines. Videmus pariter vim magneticam a distantiis pendere lege continua; vim elasticam ab inflexione, uti in laminis, vel a distantia, ut in particulis aeris compressi. In iis, et omnibus ejusmodi viribus, et motibus, quos gignunt, continuitas habetur semper, tam in lineis, quæ describuntur, quam in velocitatibus, quæ pariter per omnes intermedias magnitudines mutantur, ut videre est in pendulis, in ascensu corporum gravium, et in aliis mille ejusmodi, in quibus mutationes velocitatis fiunt gradatim, nec retro cursus reflectitur, nisi imminuta velocitate per omnes gradus. Ea diligentissimè continuitatem servant omnia. Hinc nec ulli in naturalibus motibus habentur anguli, sed semper mutatio directionis fit paullatim, nec vero anguli exacti habentur in corporibus ipsis, in quibus utcunque videatur tenuis acies, vel cuspis, microscopii saltem ope videri solet curvatura, quam etiam habent alvei fluviorum semper, habent arborum folia, et frondes, ac rami, habent lapides quicunque, nisi forte alicubi cuspides continuæ occurrant, vel primi generis, quas natura videtur affectare in spinis, vel secundi generis, quas videtur affectare in avium unguibus, et rostro, in quibus tamen manente in ipsa cuspide unica tangente continuitatem servari videbimus infra. Infinitum esset singula persequi, in quibus continuitas in natura observatur. Satis est generaliter provocare ad exhibendum casum in natura, in quo continuitas non servetur, qui omnino exhiberi non poterit." (*Theoria*, p. 18.)

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From these and other examples, in which the law of continuity is manifestly held, Boscovich infers, that it is universal; and that in so far as induction supports us, we are at liberty to apply it in the explanation of phenomena. Nay, we are by the same principle compelled to admit it in cases where observation fails us; because to imagine that in such cases this law is broken and some other is adopted, is to transgress one of the fundamental principles of true philosophy: it is to multiply causes unnecessarily; it is to limit the power of the Creator by the imperfection of our own senses; and it will plunge us into difficulties which no effort of human reason will remove. Besides this, it is very easy to conceive that the law is permanent; and as no absurdity, therefore, accompanies the supposition, and no fact can be brought to overthrow it, whereas the contrary is unsupported by any fact, but is plainly repugnant to all, it is surely rational to make use of it, and to hold it as the general principle, till some higher one be discovered on which it depends.

13 Its universality evinced by a positive argument;

From induction alone, therefore, we may infer the universality of the law; but Boscovich has other arguments, which he calls positive, to support and evince it. This leads us to the second question, Does this universality necessarily arise from the nature of continuity? The limit which joins the precedent and consequent of any thing, is common to both, and is therefore indivisible. Thus a superficies separating two solids, wants thickness, and is that in which a transition from the one to the other occurs; a line dividing two parts of a continued superficies wants breadth; a point discriminating two segments of a continued line wants every dimension. So it is with regard to time, for the limit of two conjunct portions is common to both, and indivisible; and, as every change of a variable quantity from one magnitude to another must be made in time, so every change must be *influenced* by the continuity of time. But to every moment of time, a certain magnitude of the variable quantity corresponds, and the limit of two moments of time is common and indivisible; therefore, the limit of two magnitudes corresponding to these two moments must be common and indivisible. Moreover, it is impossible for any quantity to have two magnitudes at the same time, and when continually varying, that it shall have the same magnitude at different times; much more impossible, therefore, that in the limit of two moments of time it shall have two magnitudes, the one corresponding to the precedent, and the other to the consequent moment, or shall not have gone through the intermediate magnitudes in the intermediate moments of time. For the same reason, a body cannot have two velocities at the same time, and therefore cannot have two velocities in the limit common to two moments of time; and when continually changing its velocity, cannot have the same

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same velocity in different moments of time, but must go through all the intermediate velocities in the intermediate moments of time. Hence then, in passing from the magnitude 8 to the magnitude 12, the variable quantity passes through the magnitudes 9, 10, 11. In going from the velocity 7 to the velocity 11, a body must go through the velocities 8, 9, 10. The increase of temperature goes on gradually: the mercury in the thermometer rises gradually, going through every intermediate degree from one to another. Now as this reasoning is uninfluenced by any considerations of the hardness, softness, elasticity or other property of bodies; these, it is evident, do not influence the universality of the law as resulting from the nature of continuity.

From these arguments, therefore, and from induction, Boscovich concludes, that the law of continuity is essentially universal, and that a breach of it is metaphysically impossible. The use made of this deduction in explaining the collision of bodies, must at once be understood by our philosophical readers. If in this and all other phenomena, the law of continuity is preserved, there can no actual contact take place amongst bodies; and it is from the universality of the law so established that Boscovich derives this original principle of his theory.

14 Therefore actual contact impossible.

To apply this then in the collision of bodies, we argue in the following manner. Since the bodies cannot come into immediate contact with the preceding velocities, it is necessary that their respective velocities be changed before contact, that either the velocity of the antecedent body shall be augmented, or that the velocity of the consequent body shall be diminished, or that both of these changes shall occur. Now the cause operating betwixt the bodies, so as to retard the one, and to accelerate the other, must be a power, and must act *from* the bodies, and must also be sufficient to overcome the greatest velocities with which the bodies tend to unite, and be mutual, because action and re-action are equal. In fine, this is the interior repulsive power according to the definition. This mode of explaining the phenomena, we may observe, is general, seeing that no hardness, softness, or elasticity of the bodies, has any influence on the general principle from which it is deduced; but these properties will influence the particular cases of the phenomenon, and cause certain modifications, which, however, do not concern us at present.

15 Repulsive power.

In this manner we derive evidence for the existence of the interior repulsive power; but for this we have also the light of induction to assist us, as we shall prove in the conclusion of our article.

As the repulsive power may be increased to infinity, by diminishing to infinity the distance betwixt the atoms of matter, it is obvious, that no part of matter can be contiguous to another part; from which it follows, that the primary elements of matter are simple and uncompounded. From similar arguments, and from others deduced from the absurdities involved in the contrary supposition, Boscovich maintains, that they are also inextended and indivisible.

16 Inextension of the atoms.

17 Attractive power.

The existence of an attractive power is allowed on all hands; we need not therefore enumerate Boscovich's arguments on the subject. For proofs of the transitions from one power to another, we are referred to the phenomena of effervescence, fermentation, cohesion, &c.; the consideration of which belongs to the third part of our subject.

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To prove the homogeneity of the atoms, Boscovich makes use of the same reasons which have been employed by other philosophers; and he removes the objections made to it by Leibnitz, on the principle of the sufficient reason, and the visible diversity of bodies: the former he contends to be safe, being founded on that doctrine of necessity which Leibnitz maintained; and with respect to the latter, he describes a beautiful and striking analogy, which we cannot refrain from transcribing.

18 Homogeneity of the atoms.

"Fieri possent nigricantes literæ, non ductu atramenti continuo, sed punctulis rotundis nigricantibus, et ita parum a se invicem remotis, ut intervalla non nisi ope miscroscopii discerni possent, et quidem ipsæ literarum formæ pro typis fieri possent ex ejusmodi rotundis sibi proximis cuspidibus constantes. Concipiatur ingens quædam bibliotheca, cujus omnes libri constarent literis impressis, ac sit incredibilis in ea multitudo librorum conscriptorum linguis variis, in quibus omnibus forma characterum sit eadem. Si quis scripturæ hujusmodi et linguarum ignarus circa ejusmodi libros, quos omnes à se invicem discrepantes intueretur, observationem instituerat cum diligenti contemplatione, primo quidem inveniret vocum farraginem quandam, quæ in quibusdam libris occurrerent sæpe, cum in aliis nusquam apparerent, et inde lexica posset quædam componere totidem numero, quot idiomata sunt, in quibus singulis omnes ejusdem idiomatis voces reperirentur, quæ quidem numero admodum pauca essent, discrimine illo ingenti tot, tam variorum librorum redacto ad illud usque adeo minus discrimen, quod continerentur lexicis illis, et haberetur in vocibus ipsa lexica constituentibus. At inquisitione promota, facile adverteret, omnes illas tam varias voces constare ex 24 tantummodo diversis literis, discrimen aliquod inter se habentibus in ductu linearum, quibus formantur, quarum combinatio diversa pareret omnes illas voces tam varias, ut earum combinatio libros efformaret usque adeo magis à se invicem discrepantes. Et ille quidem si aliud quodcunque sine microscopio examen institueret, nullum aliud inveniret magis adhuc simile elementorum genus, ex quibus diversa ratione combinatis orirentur ipsæ literæ; at microscopio arrepto, intueretur utique illam ipsam literarum compositionem è punctis illis rotundis prorsus homogeneis, quorum sola diversa positio ac distributio literas exhiberet. Hæc mihi quædam imago videtur esse eorum quæ cernimus in natura. Tam multi, tam varii, illi libri corpora sunt, et quæ ad diversa pertinent regna, sunt tanquam diversis conscripta linguis. Horum omnium chemica analysis principia quædam invenit minus inter se difformia, quam sint libri, nimirum voces. Hæc tamen ipsæ inter se habent discrimen aliquod, ut tam multas oleorum, terrarum, salium species eruit chemica analysis è diversis corporibus. Ulterior analysis horum veluti vocum literas minus adhuc inter se difformes inveniret, et ultima juxta theoriam meam deveniret ad homogenea punctula, quæ ut illi circuli nigri literas, ita ipsa diversas diversorum corporum particulas per solam dispositionem diversam efformarent: usque adeo analogia

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ex ipsa naturæ consideratione derivata non ad difformitatem, sed ad conformitatem elementorum nos ducit." (*Theoria*, p. 49.).

It is from these simple principles which we have enumerated that Boscovich deduces analytically the whole of his system; and he now proceeds to remove or explain away the objections to it.

19 Objections to the theory obviated.

It has been objected in the first place to the mutual powers, that they are occult qualities, and that they induce action at a distance. But in reply, so far from being occult they are very manifest, an idea of them can easily be formed, their existence is evinced by a positive argument, and their effects are continually before our eyes; we may add also, that the same objection was made to the Newtonian attraction, and that the same arguments serve to remove it from both. As to the mutual powers inducing action at a distance, much indeed may be said, but it is very questionable if all that can be said will ever clear up the obscurity that perpetually involves this inextricable phenomenon. We reserve some remarks on the commonly received notions on the subject, for our conclusion; in the mean time, we may affirm, that it is as easy to conceive motion produced by the powers we have spoken of, i. e. at a distance, as produced by immediate impulse. We know, indeed, that till of late, philosophers were accustomed to consider the connexion between impulse and motion so essential, and their notions on the subject so clear and fundamental, that whenever they could reduce any phenomenon to that predicament, they flattered themselves every difficulty vanished, and consequently farther investigation was superfluous. But we also know, that till of late, water was held to be a simple body, and that when it could be shewn to arise in any chemical experiment, it was customary in chemists to believe it had previously existed in the subjects of their experiment. Do we coincide in this belief in the present day?

It has been objected, that the theory itself admits a sudden transition from one power to another; but a due inspection of the curve, and the explanation of it which we have given, will convince that this is impossible, for that every change is made by passing through every intermediate degree.

The principal objections, as might have been expected, have been made to the rejection of contact, to the inextension of the atoms, and to their indivisibility. But it is allowed, that bodies approach so near to each other, as to leave no sensible distance between them; and that the resistance which we experience is made by the repulsive power which gives us the same sensation as actual contact. We can *form no idea*, it is true, of an inextended indivisible atom of matter, because all our ideas of matter are associated with extension and parts; and so difficult is it to break the association, we imagine these are essential to it. Boscovich directs us to consider the nature of a mathematical point, in which there is involved no notion of extension or parts, and that from this we can form no idea of an inextended atom. The notion of an inextended and simple atom is not peculiar to the theory of Boscovich. Zeno and his followers among the ancients, and the modern Leibnitzians, adopted it. But Boscovich, by denying actual contact and continued extension, gets rid of the absurdities which resulted from their opinions.

Some have asserted that the atoms of this theory do not differ from spirits, because they have not extension, which is the characteristic of matter. Does then extension constitute matter, and the want of it spirit? We apprehend not. The discrimination of matter and spirit consists in these two circumstances: the former is perceptible by our senses, and is incapable of thought and volition; whereas, the latter does not affect our senses, but can both think and will. But the perceptibility of matter arises from its impenetrability, not from continued extension. Besides this, the atoms have repulsive and attractive powers, though they do not therefore resemble spirit. For were we to admit the existence of a kind of being possessed of these active powers, conjoined with inertia, and having at the same time cogitation and volition; it would neither be matter nor spirit, but a *tertium quid*, distinguished from the former by cogitation and volition, and from the latter by inertia, and by powers which induce impenetrability.

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Boscovich treats the other metaphysical objections to his theory in a similar manner; but we think it very unnecessary to dwell longer on them, and shall therefore proceed to the second part of our subject.

20 Application to mechanics.

II. We are obliged to be concise in our account of the application of the theory to mechanics, because, though very valuable in itself, it can hardly be abridged, and would prove interesting to those only who are versed in mechanical science. There remains, however, some farther circumstances of the curve to be considered, which are essential to the fully understanding the theory itself, and the manner in which it is to be applied either to mechanics or to physics. We propose to deliver them in this place in conformity with our author's plan, though they are equally suitable to any of the three parts.

21 Further remarks on the curve.

The circumstances we mean are of three kinds. 1st, The arches of the curve. 2dly, The areas comprehended betwixt the axis, and the arches which the ordinates generate by continually flowing. 3dly, The points in which the curve cuts the axis.

22 Arches.

1. The arches are either repulsive or attractive, according as they are situated on the same side of the axis with the asymptotic limb ED, or on the side opposite, and terminate the ordinates exhibiting the repulsive or the attractive powers. The arches may bend towards the axis, and turn again from it without touching or cutting it, as in the arch P*ef*; this bending may be repeated, and may occur on either side of the axis, and it may admit of many varieties in figure and size, so as to express every possible action and mode of action.

23 Areas.

2. The areas may be of any magnitude, however great or small, or they may be infinite, according as the arches depart more or less from the axis, or become asymptotical with respect to it. The abscisses represent the distances betwixt the atoms, and the ordinates the present force by which they are acting: the areas which the ordinates run through, express the increment or the decrement of the squares of the velocities which are generated. From these principles it is easy to see in what manner the doctrine of dynamics may be applied in the theory. And from this very circumstance it is clear that this theory does not interfere with principles in mechanics which are deduced from reasoning abstractedly

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stractedly on space, velocity, and time, and in which the nature and properties of matter have no place. This remark is momentous, because it serves us in forming an adequate opinion of the merits of the theory, and it completely overthrows the scepticism concerning mechanical knowledge into which some have been led by imperfectly understanding the object and the principles of Boscovich. We beg to impress this on the minds of our readers, and to assure them, that though the theory of Boscovich be most satisfactorily established, there will not one fundamental principle in the science of mechanics be overturned. This will no doubt mortify the ignorant sceptic, but it will animate the true student to greater exertions, and it may open to him a field in which glory and fame remain yet to be reaped. To return, the asymptotic area included betwixt any asymptote and ordinate may be either infinite, or finite of any magnitude however great or small: or, more generally, the area is infinite if the ordinate increases in the simple reciprocal ratio; but if the ratio be less in any degree, the area is finite.

24 Points.

3. The points in which the curve cuts the axis are of two kinds, one where the transition is from repulsion to attraction, the other where it is from attraction to repulsion. Now these are called limits, and though they have something common with each other, yet do they essentially differ. They have this in common, that if two atoms be placed at the distance of any limits from each other, no mutual power is exerted by them; consequently if they are respectively at rest, they continue so. But if they be moved from their respective rest, then an essential difference is observable betwixt these two kinds of limits. In the limit of the first kind, viz. where the transition is from repulsion to attraction, the atoms resist further separation, and endeavour to regain their former distance by the attractive power then operating; and they resist nearer approach than the limit, and endeavour to regain their former distance, by the repulsive power then operating. This therefore is called a *limit of cohesion*, seeing that if an atom be any way removed from it, it endeavours to regain it.

25 Limits of cohesion.

26 Of non-cohesion.

But in the limit of the second kind, if the distance betwixt the atoms be in the least increased, then will these atoms tend from each other more and more, by the repulsive power then operating; and if the distance betwixt them be in the least diminished, then they will tend to each other more and more, by the attractive power then operating. This therefore is called a *limit of non-cohesion*, seeing that if an atom be any way removed from, it departs more and more from it. Now the limits of cohesion may be very strong or very weak; for if the curve cuts the axis perpendicularly, it is evident that the ordinates on each side of the limit are the greatest, and therefore the forces which they express the greatest. On the other hand, if the curve cuts the axis in a very small angle, it is also evident that the ordinates on each side of the limit are very small, and therefore the forces which they express very small; and these in any proportion. Of the limits of non-cohesion we may observe that, in a similar manner, according to the angle formed by the curve in cutting the axis at the points representing them, the atoms will recede from, or accede to each other with greater or smaller velocity, when their respective distance is changed.

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The remarks which we have now made, together with the former explanation of the curve, are sufficient to acquaint our readers with the general principles of the theory, and will serve to exhibit the manner in which it may be applied to mechanics and to physics. Of the former, we have already mentioned, it is difficult to give even an abridgment; we propose then to employ the remainder of this part in enumerating the particular subjects in mechanics to which our author has applied his theory, and in giving our opinion of the degree of success with which his application is attended.

27 Combinations of the atoms

He commences by showing in what manner masses of matter may be formed by the atoms, supposing them endowed with the powers of repulsion and attraction; and first of the combination of two atoms, then of three, and so to the most complicated bodies. He proves that the masses so formed will be possessed of different properties, in consequence of the disposition of the powers which in certain cases will always attract, in others always repel, and in others again will do neither, i. e. will be neutral. From these differences will necessarily result peculiarities in the mode of the action of different masses, and these so endless and diversified, as to include every possible phenomenon in nature. It is easy to conceive that the varieties in figure will readily result from the position of the atoms, and the influence of the powers in respect to each other. Thus a pyramid may be formed of four atoms, and a cube of eight; these smaller or primary masses may be combined to form secondary, and so on to any order. Regular and irregular bodies will thence be formed; and yet it may be shown that the most irregular and complicated may be reduced to the primary or original forms, from whence they were constructed. The crystallization of salts, for example, may in this manner be accounted for, and the reduction of them into the primitive forms be explained on the principles of the theory. These phenomena imply composition and equilibrium of forces, which strictly belong to mechanics; our author therefore proceeds to consider these and other subjects connected with them: as the centre of gravity; the equality of action and reaction; the collision of bodies; the centre of equilibrium; the centre of oscillation; the centre of percussion. In all of these we may observe his law of the forces is strictly applicable; that by it some very difficult problems are solved, and some intricate phenomena explained, with an accuracy and precision highly creditable to Boscovich, and strongly presumptive of the value of his theory. The formulæ which his investigations afford are certainly curious and interesting to the speculative, and may be useful to the practical mechanic. He adds a few remarks on the pressure and velocity of fluids, which are equally clear, and in our opinion satisfactory.

28 forming different bodies,

29 causing the mechanical phenomena.

30 Application to physics.

III. We have already anticipated some of the principles which more properly belong to this part, in which we consider his application of the theory to physics. This necessarily comprehends all the general properties of matter, some of which have already engaged our attention when treating of the analytic deduction and vindication of the theory, but still require some particular observations.

31 Impenetrability.

The impenetrability of the atoms is a necessary consequence of the interior repulsive power increasing as

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the distance diminishes; but it also arises from the extension of the atoms, and their indivisibility: because as space is infinitely divisible, it is infinitely improbable that any two atoms should ever meet in the same part of it, though no repulsive power existed, seeing that they may move in an infinite number of the parts of space which are unoccupied. So that, independent of any repulsive power, it is infinitely improbable that any compenetration should occur.

32 Extension. Physical extension necessarily arises from the impenetrability of the atoms; because by it no two atoms can occupy the same part of space, and are therefore kept *without* each other; but it is not mathematical or continued extension, seeing that some space must intervene betwixt all the atoms. Our senses, it is true, cannot perceive this space on account of its smallness; no more can they perceive the distances betwixt the particles of water or other fluid, and yet from certain phenomena it is demonstrable that such distances exist.

33 Figurability. From extension arises *figurability*, seeing that by the combination of the atoms certain forms must be produced: it can be easily shewn that, on account of the various limits of cohesion, there may be very different quantities of matter under the same figure; and this involves the consideration of *density*. The mass of a body is the whole quantity of matter pertaining to it, or the number of atoms which compose it. But it may be remarked that our idea of the mass is very vague, arbitrary, and confused, owing to the apparent heterogeneity of bodies.

34 Inertia. The inertia of bodies is the consequence of the inertia of the atoms and of the mutual powers; and by it we understand the determination to persevere in the same state of rest or uniform motion in a right line, unless forced by something external to change from it.

35 Mobility. Mobility, one of the general properties of bodies, being essential to the atoms, is so to the masses formed of them. It is a consequence of the mutual powers of the theory. Now all the motion we observe is merely relative, either in respect of the earth, the planetary system, or the system of the fixed stars. From this perhaps we may derive an argument for the universality of the law of continuity in the case of motion, seeing that the instances where the law appears to be broken, must be explained by the combined influence of moving powers which act continually and gradually; and that there is not one example of absolute rest in the universe.

36 Componibility. Though continued extension and divisibility be denied to the atoms, it is allowed that they may be infinitely compounded; and hence componibility is contrasted with divisibility in the theory.

37 Gravity. General gravity, according to the Newtonian principles, is allowed in this theory, as we have before mentioned; and we may now remark, that the objection urged against it, as tending to produce an aggregate of all the matter in the universe, by drawing the planets, comets, and fixed stars, into one portion of space, may be obviated by supposing that a repulsive power succeeds the attractive after it has reached to the comets of our system; or that as by the curve, the limb T *p s* V ceases to be asymptotical, and cuts the axis so as to exhibit an arch of repulsion on the opposite side.

Of all the general properties of matter, that of *cohesion* is most simply and beautifully explained by this theory; but as we have already spoken of its limits and their varieties, we need not now enlarge on it. We have to consider certain other properties of bodies, which from not being general have been called *secondary*. Of these the principal are solidity and fluidity.

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38 Cohesion.

39 Fluidity. *Fluidity.*—Boscovich imagines that the particles of fluid bodies are spherical, and that their forces are more directed to their centres than to their surfaces; by which motion is allowed freely when any force is applied to them from without; and that when at rest all the particles are in equilibrium in respect of each other, but that the pressure of incumbent bodies, and containing vessels, always causes some deviation from it. He says, there are three kinds of fluids: one in which the particles or massules have no mutual power; one in which they have repulsive power, and the other in which they have an attractive power. Of the first we have examples in sand and fine powders; of the second are the elastic fluids, as air; and of the third, all liquors, as water, mercury, &c. Now these three kinds are produced by the original differences in the primary particles which compose them; and we are able on the principles of the theory to specify the causes of the diversity in the phenomena which they exhibit.

40 Solidity. *Solidity* is the consequence of the irregular figure of the particles and their great deviation from sphericity, by which free motion among them is prevented, and their cohesion better secured. Now the diversity in solids arises from the various degrees of strength in the limits of cohesion; and the same principles will give rise to a class of bodies intermediate betwixt solids and fluids, viz. the viscous, whose particles attract each other more strongly than the fluids, and not so strongly as the solids.

41 Organization. If we imagine the particles to be so formed as to attract on some sides, and to repel on others, and to attract certain particles similarly constructed, and to repel others, we may conceive in what manner the regular bodies denominated *organized* are compounded; and for these the varieties admitted in the limits of cohesion, situation, and combination of atoms, will abundantly suffice. Humidity is only relative, seeing that water, e. g. adheres to our fingers, and may be easily spread out on glass, wood, &c. whereas it does not affect oleaginous and resinous bodies: now this is in consequence of the partial arrangement of the powers in different bodies, and the varieties in the combination, &c. of the particles.

42 Chemical phenomena. Of the chemical operations Boscovich remarks in general, that they may be all traced to the same principle, the law of the forces, and the differences in the particles which thence arise; and that were they subjected to the observation of our senses, a general reason for them would be discovered; but for this there are required an intimate knowledge of the texture of all the particles, and a power of geometry and analysis which far exceeds the human mind. He explains some of them in the following manner: And first of solution. The particles of some solids have a less attraction for each other than for the particles of some fluids, and consequently when these are applied to each other, the particles of the former will separate and combine with those of the latter, so as to form a mixture in which the two bodies are suspended in combination.

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But the separation of the particles of the solid can only take place so long as the particles of the fluid are in the sphere of their attraction; and when either of them get beyond it, or when the attraction of the mixture so formed, becomes equivalent to the attraction of the particles of the solid for each other, then no more solution will take place, and the menstruum is said to be saturated. But if into this mixture another solid, whose particles have a greater attraction for the menstruum than those of the former, be thrown, then the menstruum will leave the former solid, or its particles, and adhere or combine with the latter; in which case the former solid in the form of powder will fall to the bottom, or what is called precipitation will occur. In short, he gives pretty nearly the common explanation of the phenomena; and on similar principles he accounts for the mixture of fluids. Now if the particles of two fluids which are mixed together, come into the limits of cohesion, a solid will be thereby generated, of which we have some examples. On the other hand, two solids triturated together may compose a fluid, in consequence of the particles of each departing from the limits of cohesion.

If we consider that the first limb of the curve exhibits impenetrability, the last gravity, and the intersections the various kinds of cohesion, we may form some notion of the manner in which fermentation, evaporation, deflagration, &c. are caused; for whilst atoms accede to each other with any velocity, they increase the velocity in every attractive arch, but they diminish it in every repulsive arch; whereas, on the contrary, whilst they recede from each other, they increase it in every repulsive arch, and diminish it in every attractive arch, until in the former case they arrive at a repulsive arch, or in the latter an attractive one, which is sufficiently strong to extinguish the whole velocity. When they do so, they are reflected in the same course, and oscillate backwards and forwards. Besides this, if bodies composed of particles which have different properties, in consequence of the different situation and combination of the powers, be mixed together, an agitation among them must necessarily arise in order to obtain an equilibrium; hence oscillations, perturbations of various kinds, will follow, and cause the great diversity of phenomena which are observed. Now all of these take place within the sphere of general gravity, which does not *immediately* influence the operations. Substances which are dissolved may not only be obtained again by precipitation, but also by evaporation of the menstruum in which they are dissolved. In this latter case the bodies generally assume some regular forms, denominated crystals. Now this arises from the particles coming gradually into the sphere of the attractive power of each other, and consequently attaining to some limit of cohesion, by the menstruum, which formerly kept them asunder, being gradually removed; whereas in the former case, where we obtain them by precipitation, the menstruum is suddenly removed from betwixt the particles, which are consequently left beyond the sphere of attraction of each other, and do not therefore assume any regular form. It will follow from this, that the more slowly evaporation is performed, the more regular will be the crystals which are deposited; and this is verified by observation.

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We profess not to understand Boscovich's notions of the nature of fire; but lest our readers may require it, we beg to transcribe his own words: "Ignem ego arbitror esse quoddam fermentationis genus, quod acquirat vel potissimum, vel etiam sola, *sulphurea substantia*, cum qua fermentat materia *lucis* vehementissimè, si in satis magna copia collecta sit. Ignem autem voco eum, qui non tantum rarefacit motu suo, sed et calefacit, et lucet; quæ omnia habentur, quando materia illa sulphurea satis fermentescit." And he observes in another place, that if fire be excited only by a fermentation of sulphureous substance, where there is none of this substance there is no danger of fire!

43 Fire.

Boscovich retains the Newtonian opinion concerning light, viz. that it is an effluvium or emission from the sun, propagated with immense celerity, and retained in certain bodies, from which it may be extricated by certain means. He holds the atoms of light to be immense, but still finite in number, and endeavours on the principles of his theory to account for the wonderful properties with which light is endowed. In doing so, he makes extensive use of the repulsive power, the varieties in the limits of cohesion, and, we may add, with much plausibility and success. Sir Isaac Newton, in explaining the reflection of light, found it necessary to admit the existence of a repulsive power, for which, however, he had made no provision in his system. The late experiments in optics by Mr Brougham serve to confirm the supposition of the existence of a repulsive power in regard of light at least. Boscovich refers his reader to his dissertation *De Lumine* for more information concerning the reflection, refraction, &c. of light and colours, and for the application of the principles of his theory to them.

44 Light.

He proceeds to explain many of our sensations; but we must confess there is very little praiseworthy in his remarks concerning them: indeed we can see no reason why they should be introduced at all into a system of natural philosophy, erected on such or any other foundation which concerns the external world only. In the small example of the ardour of systematic arrangement and application of physical principles to the intellectual world, which Boscovich has given us, we observe a striking coincidence with the doctrine of Hartley; but our opinion of that doctrince is not in the least meliorated by such coincidence. It is a doctrine which affects to teach more than it is given to man to know; a doctrine by which we are induced to depart from the humble but secure path of observation, and to wander in the boundless incomprehensible field of transcendentals, and which, howsoever harmless its consequences may be, as it augments the vanity of man, prevents the employment of his faculties in the inquiry into familiar truths.

45 Sensations.

Boscovich adopts Franklin's hypothesis of electricity, which he defends on the principles of his theory; but we must refer our readers to the work itself, for his reasoning on electricity and magnetism. We would only remark, that as our knowledge of these curious phenomena is much augmented even since the time of Boscovich, his theory was applied to them with disadvantage; but perhaps these very phenomena afford the best proofs of the truth of some of its principles.

46 Electricity and magnetism.

We have now followed Boscovich through the consideration of his theory, and we flatter ourselves that

47 Concluding remarks.

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in so doing, we have given such an exhibition of its peculiar principles as will at least excite the curiosity of our readers, though it may not gratify it; and indeed, little more could be expected from us in detailing a system of such magnitude, and affecting to comprehend so much. We have, however, engaged ourselves to give such observations and remarks as may have been suggested to us in the course of the work. In conformity with this, we beg the retrospection of our readers to those circumstances in the theory which are most peculiar to it, and which serve to fix on it the characteristic feature of originality. Of these the rejection of contact, as it is the most conspicuous, so it requires the most particular attention, as on it rests the greatest part of the reasoning and fabric of the system.

We have seen that Boscovich supports this principle on the universality of the law of continuity, and on the existence of the interior repulsive power. Of the former we have to observe, that the mode of proving it by induction is strictly philosophical, just, and convincing; but that the metaphysical or *positive* arguments used for the same purpose are by no means so. We do not mean to assert, that these arguments have no weight, but only that they are not so far removed from a considerable source of error and misconception as to prevent all suspicion of their accuracy, and to entitle them to an unqualified application to the subject we consider. It is true, indeed, that no appeal to observation can directly determine the question, and therefore, it may be said, we must have recourse to some other authority. But, to us at least, it seems as true, that the proof by induction is the only satisfactory one we can have; and that if we are careful to keep in view that precept of philosophy which teaches us not to multiply causes unnecessarily, and to reason from analogy on the simplicity and steady uniformity of nature, there will be no occasion to have recourse to other authority.

We are disposed to believe, that the metaphysical arguments which Boscovich employs may be retorted on the theory itself. Does not the theory seem to admit a breach in the law of continuity, when it denies the continued extension of bodies? Or, as it rejects the divisibility and extension of atoms, must we not imagine and believe, on the faith of the law of continuity, that these atoms are mere *nuclei* of repulsive powers? Or shall we admit that the law of continuity depends on some higher principle not yet discovered, a principle in which extension or duration are concerned; that where there is neither extension nor duration, the law does not hold; that consequently, in the case of the atoms and their mode of union, this law suffers a breach; i. e. that the metaphysical arguments do not prove its universality, or that a breach of it is impossible? Such are the mysteries in which we are enveloped, when we wander from that path which is assigned to human reason.

As to the existence of the interior repulsive power, it may be observed, that if it be proved or evinced to us, the impossibility of contact must be admitted. Now we are of opinion, that a power of repulsion does exist in the nearest vicinity of many bodies; but we pretend not to know the law by which it operates, or even that it increases to infinity on the diminution of the distance. We are satisfied that it occasions many very curious phenomena, some of which have been explained by it; and we sincerely believe that the investigation of its laws and the extent of its influence will fabricate a crown as unfading as that of Newton. But we are convinced that were the theory of Boscovich concerning it tacitly confided in, such a crown could never be obtained. Nay we insist further, that though by *reasoning* it could be determined that such a power does exist, it would be useless to us, till the most laborious induction be practised, to discover how far it influences observable phenomena, and how far it may be subjected to human artifice and ingenuity.

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The phenomena which give evidence of the existence of a power of repulsion are chiefly optical; but it belongs not to this article to explain them. We may however just mention that we allude to the experiments of the object-glasses of long telescopes, the brilliancy of dew drops while supported on leaves or rolling on the surface of water, in which it is demonstrable that a certain space intervenes betwixt bodies which are apparently in contact, and that this space can be caused by repulsive power alone. Sir Isaac Newton himself virtually admitted the existence of such a power, as appears from the last question of his Optics; indeed it is very certain that the attractive power alone will not produce many of the phenomena of which he speaks.

Concerning the other principles of the theory we have little to remark, seeing that most of them result from those we have now considered. The transition of the powers are in our opinion to be ascertained only by observation, and this it must be confessed is no easy matter: the phenomena of fermentation, effervescence, &c. to which we are referred for proofs of the existence of these transitions, seem to be easily explained on such a supposition; but it is nevertheless probable that the suppositon was prior to the observation of the laws by which these phenomena are regulated. It may be worth while remarking, that if we are able to conceive these transitions as existing, we can also conceive how motion may be produced at a distance, which was held up as an absurdity in the schools. It must be very evident to our readers that the theory of Boscovich supposes this production of motion, and that any other mode is impossible, seeing that contact is so. But we are not therefore to believe that the repulsive or attractive powers are efficient causes; though they certainly are physical ones, i. e. they are higher principles than the phenomena which succeed them, and may for aught we know depend on some one more general principle which this theory does not comprehend. We do not therefore foresee any dangerous consequences of the supposition of matter acting on matter at a distance; nor can we believe that these two expressions are equivalent or consecutive, viz. if matter act where it is not, it may act when it is not. The one is a reference to space, the other to time, and betwixt these we know no mean of comparison.

We see then that the theory of Boscovich is intimately connected with the most abstruse metaphysical inquiries and disquisitions that can employ the mind of man; in particular, that which attempts to discover the mode in which our perception of the material world is carried on. For such, we confess, we have not talents of investigation, and indeed we are convinced that no investigation has yet been, or ever will be, successful;

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ful; but we are also convinced, that if the theory of Boscovich be established, many preposterous dogmas will be overturned: as such we prefer it to any that has hitherto been offered to the world. But it is to be considered as valid, in so far only as induction satisfies us of its principles; that it can be satisfactorily applied to the solution of any phenomena where other theories fail us; that it does not in anywise inform us of the nature, or supersede inquiry into the laws, of matter. We are of opinion that it was his very intimate knowledge of these laws, and his diligent inquiry into matters of fact, that led Boscovich to the discovery of the law of continuity and of the forces, and made him see the propriety of erecting some new system in which these might bear a part. The merit of Boscovich consists not in having discovered the *cause* of motion, or on what it depends. He attempted a more humble strain: he investigated familiar operations, and acquainted himself with vulgar things. No mysterious analogy indeed conducted him either to the harmony or to the beauty of the spheres; but then, no stupendous vacuum intercepted his path, and no unruly vortices whirled him from rectitude. That he stopped not where prudence might have directed, and beyond which his guide could go no farther, was the failing of genius elevated by success, the lot of the resplendent few who are dazzled by their own lustre. But it would ill become his followers to attempt continuing to the end on that path which he pointed out; moderate minds should accompany him as their friend, only so long as they perceive he is directed by a friend which is greater than him: let them remember that it is his observations alone which are valuable, the simple arrangement of them which they should esteem; it is the plain narrative of the honest traveller which will assist them, not the pompous fabric of the self-deluded novelist.

The only theory with which we can properly compare this of Boscovich, is the Newtonian, and in so doing its superiority will appear; but for very obvious reasons we enter not minutely into the comparison, and will only add that in the Newtonian, we must have recourse to the three principles of gravity, cohesion, and fermentation, for the explanation of phenomena; and even these are insufficient in the modern chemistry; but we learn from the former that these are only portions of a more general principle, that they result from one fundamental law, and that to this law may be referred as well the formation of a dew drop, as the rolling of the spheres (A).

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Some of the admirers of Boscovich may be surprised that we affirm, his theory gives no information of any one efficient cause in nature, and that all the discovery he has made is, that of some events which precede the Newtonian gravity. We have already borne ample testimony to the merits of Boscovich, and we think we are secure from any suspicion that we endeavour to depreciate the value of his theory; such indeed is far from our thoughts, but we must say it is farther from our thoughts to consider it as the ultimatum in natural philosophy, or that it discloses to us the most supreme process in nature. We will venture farther; for we will maintain, that though all the principles of the theory were established on a firm and invariable foundation, as they are not, it would be impossible for any one to determine what shall be the consequences resulting from them, prior to experience of the regularity and the constancy of the conjunction of events; and that of consequence the same, nay greater, labour of induction and observation is required in the phenomena of the material world; greater, because the objects are increased in number by the discovery which Boscovich has made. But this assertion concerns the laws of nature alone, not the laws of human thought, of which, in our opinion, Boscovich has made too free use. He tells us that one consequence of the interior repulsive power is, the impossibility of contact, and that another is the impenetrability of the atoms. Now it requires no great exertion of understanding to perceive that he is displaying a law of human thought, for these consequences of which he speaks are parts of the same conception, and that no reasoning *à priori* is employed to determine their connexion; for we cannot possibly imagine, that contact or penetrability of the atoms should

(A) It may be a satisfaction to our readers to know that Sir Isaac Newton entertained notions very similar to those of Boscovich concerning the causes of motion at insensible distances, though it is to be regretted that he had made no provision for them in his system. The last question in his Optics plainly indicates that he himself was convinced that no law by which an attractive force might be supposed to act would be sufficient for the explanation of certain phenomena which take place in the immediate vicinity of the atoms of matter. "And if all these things are so, then all nature will be very simple, and consistent with itself, effecting all the great motions of the heavenly bodies by the attraction of gravity, which is mutual between all those bodies, and almost all the less motions of its particles by another certain attractive and repulsive force, which is mutual between those particles. Now it seems that these elementary particles not only have in themselves the *vis inertiæ*, and those passive laws of motion which necessarily arise from that force, but that they likewise perpetually receive a motion from certain active principles; such as gravity, and the cause of fermentation, and of the cohesion of bodies. And I consider these principles, not as occult qualities, which are feigned to flow from the specific forms of things, but as universal laws of nature, by which the things themselves were formed. For that truly such principles exist, the phenomena of nature shew, although what may be their causes has not as yet been explained. To affirm that every species of things is endued with specific occult qualities, by which they have a certain power, is indeed to say nothing; but to deduce two or three general principles of motion from the phenomena of nature, and then to explain how the properties and action of all corporeal things follow from those principles, this truly would be to have made a great advancement in philosophy, although the causes of those principles were not as yet known. Wherefore I do not hesitate to maintain the above said principles of motion, seeing they extend widely through all nature." *Newton's Optics.*

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should occur, if such a repulsive power exists, or that the impossibility of the former, and impenetrability, should be caused by any thing else than such a power. The most ignorant of the sons of men are as well qualified to understand this as the greatest philosophers who have adorned humanity; and if it be entitled to the name of discovery, it is one in which all mankind have shared: but for having expressed it in words, and incorporated it with others which some kindred genius alone could have made, all are indebted to Boscovich, and must acknowledge that in his hands it has served to fabricate a lasting monument of genius, industry, and sagacity. We are not therefore to consider that these are instances wherein any consequences have been determined *à priori;* and they do not affect our assertion, that prior to the experience of the regularity and constancy of the conjunction of events, it would be impossible for any one to determine *à priori* what shall be the consequences resulting from the principles of the theory. To illustrate our meaning in the assertion, we shall suppose that the transitions of the powers have been *discovered* to exist in the constitution of matter; and we then ask, if, prior to the knowledge of the phenomena of fermentation, &c. it could have been determined that these phenomena should necessarily result from them: we apprehend it could not, and our reason is, that we cannot find any mode of connexion betwixt any transitions of any forces and these phenomena; for we can conceive the former to exist without the latter, and this might have been the case, for aught we know to the contrary; and we think we are authorized in saying, that these transitions are only rules or methods observed in the production of such phenomena, that they are events prior to fermentation, &c. and remain themselves to be accounted for. We may say the same of the repulsive and attractive powers, and of all the other principles in the theory which are not laws of human thought. Causation is inscrutable, the labours of every age serve only to add to its mystery, seeing that they conduct us nearer to the boundaries of human observation, and discover to us the delusive glare of every weak meteor which promised permanent and enlightening lustre.

We have seen that the general properties of matter may be well explained by the theory; and so far therefore we must admit that the theory is applicable to the objects of investigation, and may be useful to connect together some general principles. There remains to us to make one remark concerning one of these, viz. Newtonian gravity. The supposition that it terminates beyond the comets of our system, and is succeeded by repulsion, appears to us very unnecessary, not to say unlikely, though highly worthy the accommodating genius of Boscovich. We are of opinion, that the objections urged against Sir Isaac Newton on this subject, may be much better and more simply obviated by a supposition which the modern improvements in astronomy have nearly confirmed, viz. that there are systems of suns and revolving planets, similar to, and reaching to the limits of our own; and that those are sufficient to counteract the necessary effects of universal gravity or attraction. If such be the case, inequalities in our systematic motions, relative to others, may arise from the varying situations of the other system; and, if we consider the fixed stars as forming these, we may observe differences in their positions and magnitudes, in consequence of such variations. Our astronomical readers will perceive that we allude to the apparent approach of our sun to the constellation Hercules in the northern hemisphere, the gradual widening of the stars in that quarter of the heavens, and the consequence of it. But without any such confirmation it must be acknowledged, that our supposition is much more probable, and gives a more elevated notion of the great Artificer's skill than that of Boscovich, and we are the more anxious to retain it, that one of the principles in the theory may not be broken, that the transitions of the powers occur in the insensible distances. We request the attention of our readers to Boscovich's *provident* supposition on another account. Does it not indicate one of the modes by which the theory was formed? Does it not plainly shew us how far genius will be exerted when observation fails? Does it not satisfactorily demonstrate that part of this splendid theory is the offspring of an imagination heated by systematic love, and animated by a reconciling enthusiasm? Indeed when the imagination is the provider, the reason can be well satisfied; for what is wanting can be readily supplied, what is displeasing can be easily rejected, what is unshapely can be fashioned to conformity, and all can be decorated and adorned, till at last there arises some fine fabric to please and to delight. But we require more than delusive ornament, and yet we expect not perfection; we know that every theory of natural philosophy has failed hitherto, not from a deficiency but rather from a luxuriancy in grandeur, which, surpassing, has eclipsed the minute gems that glitter below; no one has failed in *explaining* the stupendous structure and the mighty rollings of worlds, which no eye ever comprehended and no hand ever approached; but take it from its godlike work to the mean purposes and the trivial uses of man, and behold the airy phantom shrink from our view! It is in explaining familiar circumstances, or, so to speak, the events of our neighbourhood, that every one has failed; but it is consoling to mankind to know, that in every succeeding one, there is a greater approximation to perfection, a greater extent and more facility of application; and we will acknowledge that this of Boscovich, though not totally invulnerable, certainly leaves the least uncovered.

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The observations which we have now made seem to us very proper to introduce those we have to offer on the application of the theory to physics. We are of of opinion that Boscovich, in his account of solidity and fluidity, has rather given a description, and related some properties, than proposed an explanation or deduction on the principles of his theory: but in a system of such extent, and promising so much, we require more than this, and it is our opinion that more may be given. Without pretending that we have complete success in our attempt, or wishing to preclude others, we offer the following as at least a probable one.

We can imagine, that any number of atoms shall come into the limits of cohesion of each other in such a manner as that a mass of some determined form shall be produced; and that the powers on each side of these limits are so strong, as to withstand considerable divellent force from without. Now in a mass so constructed

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structed every atom is retained in its situation by powers of the same kind, acting by the same laws, and which cannot be increased or diminished by any other means than varying the distance betwixt these atoms. The powers so influenced are those only which belong to the particular atoms whose respective distances are changed; for the powers of the atoms whose distances are not changed remain the same; therefore a portion of the mass may be separated, or the whole mass may be moved, without causing any relative motion among the atoms: for, in the former case, a few only, in the latter, none, of the limits of cohesion are disturbed. This then is the structure which the atoms of matter would form, did such laws as we have considered exist; and it appears to us that it is the *natural* structure; for we ourselves cannot conceive how a fluid body should be composed by such laws independent of composition of them. But admitting composition, we would explain fluidity in the following manner: As in a mass, such as we have described, there are spaces betwixt all the atoms; it is possible that other atoms may be introduced *within* it, or that in the vacant intervening space the powers of other atoms may operate. Now, it is easy to conceive, that in the former case very various effects will result in consequence of the differences in the proximity of the atoms; for some will quit the limits of cohesion in which they were prior to the introduction of the adventitious atoms, and will enter into new ones, and will vibrate from one to another, if there be a constant addition of atoms made, or if any of those which have been introduced be removed; and that in the latter case, in consequence of the composition of forces, very different effects will result, according as the composition is of similar or different powers acting in the same or different directions, and of different intensities: in either case relative motion among the particles will occur, and the mass will yield to the least extrinsic force; an equilibrium will sometimes be produced, but it will be destroyed very readily in different ways, as by the addition or subtraction of the adventitious atoms, and by the application of forces to the mass. We might specify some of the particular circumstances which would tend to the production of different fluids, did our limits permit; but as this would be prolix, we shall only mention some of the consequences which may be deduced from the principles we have stated, and granting that they are well founded, we shall consider how far they coincide with the phenomena we observe. *Every fluid must be a compound body.* This will be pretty generally admitted by modern chemists; for though they well know that the composition of several fluids is not yet discovered, they will allow that the rational presumption from analogy is, that when our analytical powers are augmented, we shall be able to discover the composition of all of them; nor is it any objection to the rationality of the presumption that many of the *gaseous* fluids are simple or elementary, for it must be remembered, that all of them are combined with caloric or the matter of heat. Nay caloric itself, which we hold to be a substance, may, for ought we know to the contrary, be a solid body: it is indeed almost universally believed to be a fluid, and essentially so; but, for this belief we can find no other reason than that it causes fluidity, and surely that is a very unphilosophical one; for in a similar manner, and, we venture to say, with as much truth, if matter or its atoms be constructed in the way Boscovich describes, and if they possess the power of repulsion and attraction, then all matter is fluid, for all the atoms of it will cause fluidity in certain circumstances. We do not deny that when it combines in sufficient quantity with bodies it causes fluidity; but we beg to remind our readers that there are cases of fluids being generated by the trituration of solids together, and surely they will acknowledge, that what is true in the one case, is at least possible in the other; but we will even admit, that caloric is the principal cause of fluidity (though we are aware that in admitting it, we depart from true philosophy), and yet we do not perceive, that the least objection to our supposition will thence arise. May not caloric be composed of the very smallest, or the primary atoms of matter, and consequently be more easily insinuated betwixt the atoms of other bodies which are composed of the aggregates of these primary atoms? Do we not find that it corresponds pretty accurately with the description of these atoms which Boscovich has given? Does it not seem in the least distances to repel its own particles, and at greater distances to be attracted by the particles or atoms of other bodies?

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The constant addition of adventitious atoms to the interstices in a solid body, as we have before mentioned, will cause vibrations, and will at last, by totally separating the atoms from the limits of cohesion and the sphere of the attractive power, render them susceptible of the influence of surrounding bodies, so that they leave each other, and combine with those which surround them. When caloric is the body added, the most general effect which results from its repeated and constant addition is evaporation. Now the particles of an evaporated fluid will recombine if the superabundant caloric which holds them asunder be withdrawn, provided the bodies with which they unite do not attract them more powerfully than they do each other. But it is possible that such an addition will in certain cases strengthen the combination of a solid, i. e. that fluidity will not always be the consequence of insinuating atoms into the vacant spaces, for it is possible to specify circumstances, in which a body, already fluid, may be rendered solid by interposing amongst its particles, the particles of another fluid.

When the adventitious atoms are removed, one of two consequences will occur, either the atoms of a solid which has been rendered fluid by such insinuation, will be left within their spheres of attraction, and consequently will enter into limits of cohesion, and form a solid again, or they may be left beyond these spheres, so as not to enter into limits of cohesion, but to form a loose uncombined pulverulent substance. It may happen that, in the latter case, the particles being separated from each other beyond their spheres of attraction, will enter into combinations with other bodies, of whose influence they are now susceptible. We have instances of both of these in the fusion of metals: sometimes on cooling these form again into solids; others, having their atoms too far separated from each other, cannot so unite, but combine with other bodies (generally oxygen), and form powders which retain no characteristics of metals; and some combine with other metals, constituting alloys.

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Boscovich's System of Natural Philosophy.

We recommend the prosecution of this subject to the philosophical chemist; and though we encounter the charge of vanity, we cannot help flattering ourselves with having pointed out a mode by which, though nothing should be discovered, yet to resolve some apparently unconnected phenomena into one general principle, and hence to abridge the labour of acquiring the science of chemistry, and to facilitate the application of it to the practical purposes of life. We are of opinion that the facts in chemistry are now so numerous, as to acquire a generalizing spirit to reduce them into some kind of order, to shew their connection in the chain of nature, and to derive from them by induction, certain principles which may be employed in the synthetic process. Indeed, without such it will soon be found that no ordinary memory can retain what may be useful, but certainly is elegant in the art, and that a great body of evidence is insufficient to enforce conviction, if it be huddled together in chaotic confusion: pillars and porticoes, and carved stones may be collected, and may astonish us by their grandeur; but unless they be methodized, connected, and combined, our astonishment will resemble that which we feel, when we contemplate the preposterous structure of some natural monster, whose limbs are individually elegant, but serve by their elegance to magnify the error of their position. We do not wish to depreciate the merits of modern chemists, but we must confess, they appear to us more scrupulous about ascertaining the few grains of earth in the *cockle-shell*, than anxious to erect a temple to their science; and are themselves too much elevated by the discovery of a semi-metal, to be concerned about the deities which preside. What we have said may be thought mere declamation, if we do not accompany it with some example of the employment of such a generalizing spirit; we know not how far it may become us to do so, but as the consideration of the theory of Boscovich, in which we have been engaged, has naturally led us to those phenomena which seem best qualified to admit of its application, and as therefore, in some sort resulting from, or connected with our subject, we shall attempt to give a small specimen of it. It is well known to chemists, that although certain individual or single bodies of the saline class be very soluble in water, the compounds formed of them are very insoluble in that fluid, i. e. that though alkalies or acids be singly very soluble in water, the neutral salts formed by them are very insoluble; and that many varieties in the degrees of solubility are to be met with in the compound bodies or neutral salts, which are contrary to what we should expect from reasoning on the varieties of these degrees, in the *simple* or elementary bodies which compose them.

For example, the sulphuric acid is very soluble in water, and so is the vegetable alkali or potass; but the sulphate of potass, which is a compound of these, is so difficult of solution, that 16 times its own weight of water, at the temperature of 60°, is required to effect it. The acetite of potass affords another example, though not so remarkable, requiring only about 10 times its own weight of water at the same temperature. Indeed, there are many instances of a compound or neutral salt being less soluble than either the alkali or the acid which enter into its composition; but in those we have mentioned, the difference is so great as to have merited much attention, though, as far as we know, there has not been assigned a reason for it. Now we apprehend the reason to be, that as both the simple bodies have an attraction for water, or that as there is an attraction betwixt water and these two bodies, the degree of attraction will be equal to the difference only of the separate attractions betwixt water and the bodies individually; or, in other words, the attraction betwixt water and one of the bodies will be lessened by the attraction betwixt water and the other body, so that the difference only of these two will influence. Now, in certain cases, this difference will be equal to nothing, when the attractions are equal; but in every case, it is evident, it will be less than the greater of the attractions, and, of consequence, the solubility of the compound will be less than that of the simple bodies which compose it. Now this consequence is not affected by the *absolute* solubility of the simple bodies, but by their solubility in respect to each other, i. e. relative alone; therefore, the compound of simple bodies, which themselves are highly soluble, may be no more soluble than the compound of simple bodies, which themselves are very little soluble.

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The principle is universal. Other consequences will result, which are not only curious, but in our opinion important; and we do not in the least hesitate to assert, that the principle may be applied to determine *à priori* the degrees of solubility of neutral salts, provided we are sufficiently acquainted with the relative solubility of the simple bodies which compose them. One consequence will be, that a compound formed of a very soluble and a very insoluble simple body will be nearly, or quite, as soluble as the former, seeing that the attraction betwixt it and water will be little or not at all diminished by the attraction betwixt the other very insoluble body and water. As a proof of this, we may take the instance of the sulphat of magnesia, which is soluble in its own weight of water at temperature 60°: Now, in this case, the magnesia is soluble to a very small amount only; but the acid, it is well known, is so to a great degree; even the small solubility of the magnesia, however, does in a certain degree impair the solubility of the compound. The same is true of the nitrat and muriat of magnesia; and, did, our limits permit, we might adduce very many examples of the same: we might shew, that the compounds of very soluble acids with the metallic oxides are soluble, if these oxides are not so; but if they are, the solubility of the compound is impaired: and we might also apply the principle to bodies soluble in alcohol and other menstrua, where it will be found to hold. But we leave the prosecution of the subject to our chemical readers, confessing, however, that we have found exceptions to its universality, which as yet we have not been able to reconcile. Perhaps, a principle still more general, and higher in the order of events, may influence or modify this which we have specified; it may be connected with some of these varieties in the composition of forces, which *must* take place in the insensible distances, changing the limits of cohesion, and modifying the position and the action of the atoms of matter. We have ventured far in the exposition we have given; did we persevere, there might be imputed to us temerity.

We have attempted to apply Boscovich's theory to several

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Boscovich's System of Natural Philosophy || Boshies-Men.

several other chemical phenomena, particularly those of elective attraction and disposing affinity; but though our success has been somewhat flattering, we have not been able hitherto to collect and arrange our principles and results, so as to present them properly to the public. At some future stage of this work, however, such may be in our power, when we hope to convince our readers, that the theory is sufficiently accommodated to that object, and that it will assist us in deducing principles more general, than any yet received in chemical sciences.

It is now time for us to conclude our account of the theory of Boscovich; and in so doing, it becomes us to recommend to our readers, that they endeavour to form a just and an adequate opinion of its merits, of the objects which it has in view, and of the means which it employs to accomplish them. Considered in respect to itself only, as the production of a great and an enlightened mind, no labour to comprehend it can be in vain or worthless, and no one can comprehend it without receiving the most elevated pleasure; but there is another inducement for us to effect this purpose, different from any we have yet mentioned: we mean the tendency it will have to modify, and to subvert, many of the leading doctrines in the metaphysics of the day. Nor ought this to alarm any of our readers; for if these doctrines be true and legitimate, they will be paramount to all objections, and the improvements made in every other science will serve to confirm them; but if they are not so, surely the sooner they are subverted the better it will be for science and for us all; at all events, an inquiry into them is rational, and it may do good. This, however, we dare not now propose to ourselves, and will therefore recommend our readers to peruse the Essays on Perception, by Professors Reid and Stewart, where they will find sentiments which derive most of their validity from some of the Boscovichian principles. They are sentiments in which we have the honour to agree with these true philosophers; though it is somewhat mortifying to us to confess, that they have convinced us that the phenomenon of which they treat is inexplicable.

It is indeed very mortifying to humanity to be convinced, that for many, very many centuries, our forefathers have been unceasingly attempting to explain phenomena intellectual and material by a nullity, on principles which do not exist; but it would be still more mortifying to find, that though there is ground for such convictions, men calling themselves philosophers should persevere stedfastly in the same invariable course of error and absurdity. In our own days, a light, clear and authoritative, has arisen to direct and to animate us in the search after truth; it is our own faults if we shut our eyes against its splendour, and suffer the interior man to be dark and unenlightened. Of this light the theory of Boscovich forms a part: it has succeeded and surpassed that of Newton; it will be the parent of a greater than either; it professes to conduct us to the interior veil of the temple of nature; but it has failed in this very sublime attempt, failed, however, only after it has conducted us beyond Descartes, Leibnitz, and Newton.

BOSEA, GOLDEN-ROD TREE. See BOTANY *Index*.

BOSHIES-MEN, a species of Hottentots, so called, according to Dr Sparrman, from their dwelling in woody or mountainous places. They are sworn enemies to a pastoral life. Some of their maxims are, to live on hunting and plunder, and never to keep any animal alive for the space of one night. By this means they render themselves odious to the rest of the inhabitants of the Cape; and are pursued and exterminated like the wild beasts, whose manners they have assumed. Others of them again are kept alive, and made slaves of. Their weapons are poisoned arrows, which shot out of a small bow will fly to the distance of 200 paces, and will hit a mark with a tolerable degree of certainty at the distance of 50 or even 100 paces. From this distance they can by stealth, as it were, convey death to the game they hunt for food, as well as to their foes, and even to so large and tremendous a beast as the lion; this noble animal thus falling by a weapon which perhaps it despised, or even did not take notice of. The Hottentot, in the mean time, concealed and safe in his ambush, is absolutely certain of the operation of his poison, which he always culls of the most virulent kind; and it is said he has only to wait a few minutes in order to see the wild beast languish and die. The dwellings of these foes to a pastoral life are generally not more agreeable than their maxims and manners. Like the wild beasts, bushes and clifts in rocks by turns serve them instead of houses; and some of them are said to be so far worse than beasts, that their soil has been found close by their habitations. A great many of them are entirely naked; but such as have been able to procure the skin of any sort of animal, great or small, cover their bodies with it from the shoulders downwards as far as it will reach, wearing it till it falls off their back in rags. As ignorant of agriculture as apes and monkeys, like them they are obliged to wander about over hills and dales after certain wild roots, berries, and plants (which they eat raw), in order to sustain a life that this miserable food would soon extinguish and destroy, were they used to better fare. Their table, however, is sometimes composed of several other dishes, among which may be reckoned the larvæ of insects, or that kind of caterpillars from which butterflies are generated; and in like manner a sort of white ants (the *termes*), grashoppers, snakes, and some sorts of spiders. With all these changes of diet, the Boshies-man is nevertheless frequently in want, and famished to such a degree as to waste almost to a shadow. "It was with no small astonishment (says Dr Sparrman), that I for the first time saw in Lange Kloof a lad belonging to this race of men, with his face, arms, legs, and body, so monstrously small and withered, that I could not have been induced to suppose but that he had been brought to that state by the fever that was epidemic in those parts, had I not seen him at the same time run like a lapwing. It required but a few weeks to bring one of these starvelings to a thriving state, and even to make him fat; their stomachs being strong enough to digest the great quantity of food with which they are crammed, as they may rather be said to bolt than eat. It sometimes happens indeed that they cannot long retain what they have taken in; but this circumstance, it is said, does not hinder them from beginning again upon a new score."

Boshies-Men.

The capture of slaves from among this race of men is

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Boshies-Men.

is by no means difficult; and is effected (Dr Sparrman informs us) in the following manner. "Several farmers that are in want of servants join together and take a journey to that part of the country where the Boshies-men live. They themselves, as well as their Lego-Hottentots, or else such Boshies-men as have been caught some time before, and have been trained up to fidelity in their service, endeavour to spy out where the wild Boshies-men have their haunts. This is best discovered by the smoke of their fires. They are found in societies from 10 to 15 and 100, reckoning great and small together. Notwithstanding this, the farmers will venture in a dark night to set upon them with six or eight people, which they contrive to do by previously stationing themselves at some distance round about the craal. They then give the alarm by firing a gun or two. By this means there is such a consternation spread over the whole body of these savages, that it is only the most bold and intelligent among them that have the courage to break through the circle and steal off. These the captors are glad enough to get rid of at so easy a rate; being better pleased with those that are stupid, timorous, and struck with amazement, and who consequently allow themselves to be taken and carried into bondage. They are, however, at first treated by gentle methods; that is, the victors intermix the fairest promises with their threats, and endeavour, if possible, to shoot some of the larger kinds of game for their prisoners, such as buffaloes, sea-cows, and the like. Such agreeable baits, together with a little tobacco, soon induce them, continually cockered and feasted as they are, to go with a tolerable degree of cheerfulness to the colonist's place of abode. There this luxurious junketting upon meat and fat is exchanged for more moderate portions, consisting for the most part of butter-milk, frumenty, and hasty-pudding. This diet, nevertheless, makes the Boshies-man fat in a few weeks. However, he soon finds his good living embittered by the maundering and grumbling of his master and mistress. The words *t'guzeri* and *t'gaunatsi*, which perhaps are best translated by those of 'young sorcerer,' and 'imp,' are expressions which he must frequently put up with, and sometimes a few curses and blows into the bargain; and this for neglect, remissness, or idleness: which last failure, if it cannot be said to be born with him, is however in a manner naturalized in him. So that, both by nature and custom detesting all manner of labour, and now from his greater corpulency becoming still more slothful, and having besides been used to a wandering life subject to no controul, he most sensibly feels the want of his liberty. No wonder, then, that he generally endeavours to regain it by making his escape: but what is really a subject for wonder is, that when one of these poor devils runs away from his service, or more properly bondage, he never takes with him any thing that does not belong to him. This is an instance of moderation in the savages towards their tyrants which is universally attested, and at the same time praised and admired by the colonists themselves; which, however, I cannot easily reconcile with what I have learned of the human heart. Is it in consequence of their fearing to meet with harder usage in case they should be retaken? This far, however, is certain, that none of this species of Hottentots are much given to violence or revenge. Free from many wants and desires that torment the rest of mankind, they are little, if at all, addicted to thieving, if we except brandy, victuals, and tobacco. It is not improbable likewise, that the advantages accruing from a theft may be overlooked by them, when their thoughts are taken up with regaining their liberty, the greatest of all treasures. It is necessary to observe here, that some of the Hottentots or Boshies-men, who are thus forced into the service of the colonists, live in small societies peaceably and quietly in desert tracts, where the colonists cannot easily come at them, and are sometimes in the possession of a few cows. These people probably originate from Boshies-men who have run away from the colonists service.

Boshies-Men.

"I must confess (continues our author), that the Boshies-men in some husbandmen's service are treated in the gentlest manner, and perhaps even without ever having a harsh word given them; live very well with regard to provisions; are well clad, relatively to their condition in life; and are very comfortably lodged, in comparison of what others are, in their own straw cottages. The chief of their business perhaps consists in tending a herd of cattle or flock of sheep during the heat of the day, when they have an opportunity of getting into a gentle state of intoxication by smoking tobacco; a state which excites in them sensations of as agreeable a nature as the frenzy produced by spirituous liquors and opium seems to afford to many others, who are never at ease but when they can procure to themselves this delicious pleasure. And yet, though they may thus agreeably pass away the otherwise tedious hours of their lives in smoking and sleep, they nevertheless generally run away. The colonists wonder at this, as a procedure entirely devoid of reason; without perceiving, that in so doing they suppose the Hottentots not endued with a desire, which has its immediate foundation in nature, and which is common to the human race, and even to most brute animals, viz. an earnest longing after their birthplace and families, and especially after their liberty.

"The slave business, that violent outrage to the natural rights of mankind, always in itself a crime, and which leads to all manner of misdemeanors and wickedness, is exercised by the colonists in general with a cruelty towards the nation of Boshies-men which merits the abhorrence of every one; though I have been told that they pique themselves upon it: and not only is the capture of those Hottentots considered by them merely as a party of pleasure, but in cold blood they destroy the bands which nature has knit between husbands and their wives and children. Not content, for instance, with having torn an unhappy woman from the embraces of her husband, her only protection and comfort, they endeavour all they can, and that chiefly at night, to deprive her likewise of her infants; for it has been observed, that the mothers can seldom persuade themselves to flee from their tender offspring. The amiable tenderness of the mother, which perhaps glows with a more lively flame in the breast of this poor heathen than in those of her Christian tyrants, is the very circumstance laid hold on by their persecutors in order to rivet the chains of this wretched female so much the faster. There are some mothers, however, that set themselves free, when they have lost all

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Bosbiemen Bosquets

all hopes of saving their children. After having made their escape, they sometimes keep secretly about the neighbourhood, in hopes of finding some opportunity of recovering their infants again."

BOSNA SERAGO, a large and strong town of Turkey in Europe, and capital of the province of Bosnia. E. Long. 18. 57. N. Lat. 44. 40.

BOSNIA, a province of Turkey in Europe, seated between Sclavonia and Dalmatia. It belongs entirely to the Turks; but they were on the point of being expelled from it by the Christians, when the Spaniards invaded Sicily, and obliged the emperor to conclude the peace of Passarowitz in 1718, by which he gave up Bosnia to the Turks. It is 200 miles in length, and 75 in breadth. It is a barren country, and but little cultivated: the principal revenue arising chiefly from the silver mines. Among the game there are falcons, which are held in great esteem.

BOSPHORUS, or BOSPORUS, in *Geography*, a long and narrow sea, which it is supposed a bullock may swim over. In a more general sense, it is a long narrow sea running in between two lands, or separating two continents, and by which two seas, or a gulf and a sea, are made to communicate with each other: In which sense, bosphorus amounts to the same with what we otherwise call an arm of the sea, channel, or strait; the Italians, *faro*; the Latins, *fretum*; and the French *pas, manche*. The word is Greek, βοσπορος, formed from βους, "bullock," and πορος, "passage."

The name *bosphorus*, is chiefly confined to two straits in the Mediterranean sea, viz. the *bosphorus of Thrace*, commonly called the *straits of Constantinople*, or *channel of the Black sea*; and the *Cimmerian* or *Scythian bosphorus*, so called, it seems, from its resemblance to the Thracian; now more commonly the *straits of Kapha*, or *Kiderleri*, from two cities standing on it.

The origin of the name is better agreed on than the reason why it was first given to the Thracian bosphorus. Nymphius tells us, on the authority of Accarion, that the Phrygians, desiring to pass the Thracian strait, built a vessel, on whose prow was the figure of a bullock; and which was hence called βους, "bullock;" and served them for a ferry-boat. Dionysius, Valerius Flaccus, Callimachus, Apollodorus, Marcellinus, &c. say, that Io, being transformed into a cow by Juno, passed this strait swimming, which hence was called *bosphorus*. Arrian tells us, that the Phrygians were enjoined by the oracle, to follow the route which a bullock should mark out to them; and that, upon stirring one up, it jumped into the sea to avoid their pursuit, and swam over this strait. Others say, that an ox, tormented by a gad-fly, threw itself in, and swam over: and others, that anciently the inhabitants of these coasts, when they would pass over, joined little boats together, and had them drawn over by bullocks, &c.

BOSQUETS, in *Gardening*, groves so called from *boschetto*, an Italian word which signifies a *little wood*. They are compartments in gardens formed by branches of trees disposed either regularly in rows, or wildly and irregularly, according to the fancy of the owner. A bosquet is either a plot of ground enclosed with palisadoes of hornbeam, the middle of it being filled with tall trees, as elm or the like, the tops of which make a tuft or plume; or it consists of only high trees, as horse-chesnut, elm, &c. The ground should be kept very smooth and rolled, or else covered with grass, after the manner of green plots. In planting bosquets, care should be taken to mix the trees which produce their leaves of different shapes, and various shades of green and hoary or mealy leaves, so as to afford an agreeable prospect. Bosquets are only proper for spacious gardens, and require a great expence to keep them up. Bosquets Bost.

BOSSAGE, in *Architecture*, a term used for any stone that has a projecture, and is laid rough in a building, to be afterwards carved into mouldings, capitals, coats of arms, &c. Bossage is also that which is otherwise called *rustic-work*; and consists of stones which advance beyond the naked or level of the building, by reason of indentures or channels left in the joinings. These are chiefly used in the corners of edifices, and thence called *rustic quoins*. The cavities or indentures are sometimes round, sometimes chain-framed, or bevelled, sometimes in a diamond form, sometimes enclosed with a cavetto, and sometimes with a listel.

BOSSE, ABRAHAM, an able engraver, born at Tours, was well skilled in perspective and architecture. He wrote two treatises, which are esteemed; the one on the manner of designing, and the other upon engraving.

BOSSINEY, or BOSS-CASTLE, a town of Cornwall, in England, which sends two members to parliament. W. Long. 5. 0. N. Lat. 50. 40.

BOSSU, RENE LE, born at Paris in 1631, was admitted a canon regular in the abbey of St Genevive, in 1649; and after a year's probation, took the habit. He taught polite literature with great success in several religious houses for 12 years, when he gave up the task for retirement. He then published a parallel betwixt the principles of Aristotle's natural philosophy and those of Des Cartes, with a view to reconcile them; which was but indifferently received. His next treatise was on epic poetry; which Boileau declared one of the best compositions on that subject in the French language, and which produced a great friendship between them. He died in 1680, and left a great number of MSS. which are kept in the abbey of St John de Chartres.

BOSSUET, JAMES BENIGNE, bishop of Meaux, was born at Dijon, on the 27th of September, 1627. He distinguished himself by his preaching, and the zeal he discovered in his endeavours to bring over the Protestants of France to the Romish church; by his opposition to quietism; and by his numerous writings both in French and Latin, which have been collected together, and printed at Paris in 17 vols 4to. This famous divine died at Paris, in 1704, aged 77.

BOSSUPT, a town in the kingdom of the Netherlands, in the province of Brabant. E. Long. 4. 30. N. Lat. 50. 52.

BOSSUS, MATTHEW, distinguished by his virtue and his learning, was born in 1427. He devoted himself to the ecclesiastical state in 1451, in the congregation of regular canons of Lateran, and afterwards taught divinity at Padua. His orations, his sermons, and his letters, have been often printed. He also wrote a sort of an apology for Phalaris, and other works. He died at Padua in 1502, aged 75.

BOST, a very strong town of Persia, and capital of the

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Bost || Boston.

the province of Zablestan. E. Long. 64. 15. N. Lat. 31. 50.

BOSTANGIS, in the Turkish affairs, persons employed in the garden of the seraglio, out of whose number are collected those that are to row in the Grand Signior's brigantines, when he has a mind to divert himself with fishing, or to take the air upon the canal. They who row upon the left hand are only capable of mean employments in the gardens: but they who row on the right hand may be promoted to the charge of bostangi-bachi, who has the general intendency of all the grand signior's gardens, and commands above 10,000 bostangis.

BOSTON, a corporation town of Lincolnshire in England, which sends two members to parliament. It is commodiously seated on both sides the river Witham, over which it has a handsome high wooden bridge; and, being near the sea, enjoys a good trade. It has a spacious market place, and the largest parish church without cross aisles in Europe, the steeple of which serves for a land-mark to sailors. Boston is a barony in the Irby family. The population in 1811 was 8113. E. Long. 0. 15. N. Lat. 53. 3.

BOSTON, the capital of the state of Massachusets, and of New England, in North America, built in 1630, in a peninsula of about four miles in circumference, at the bottom of Massachusets bay, in a very convenient situation for trade. The town stands in W. Long. 71. 5. N. Lat. 42. 24. about nine miles from the mouth of the bay. At the entrance of this bay are several small rocks which appear above water, and a number of small islands, some of which are inhabited. There is but one safe channel to approach the harbour, and that so narrow, that two ships can hardly sail through abreast; but within the harbour there is room for 500 sail to lie at anchor in a good depth of water. On one of the islands stands a fort. At the bottom of the bay is a noble pier near 2000 feet in length; along which on the north side extends a row of warehouses for the merchants; and to this pier ships of the greatest burden may come and unload without the help of boats. The greatest part of the town lies round the harbour in the form of a half-moon, the country beyond it rising gradually and affording a delightful prospect. The neck of land which joins the peninsula to the continent is but 40 yards over. Boston contained about 40,000 inhabitants in 1817; and the tonnage of the vessels belonging to it in 1815, amounted to 137,008 tons, which is greater than that of any other American port, except New York. The merchants are remarkably active and enterprising, and the inhabitants in general bear the character of being well informed, sober, and industrious, but sharp and overreaching. The austerity of the old Puritans is less relaxed here than in any of the other large towns in America. Boston is the head-quarters of federalism, or rather of aristocracy, in politics, and of unitarianism in religion. Though professing republicanism, they are ridiculously vain of those titles which are still retained. The Independents are the prevailing religious sect, and have twelve churches here. There are besides three Baptist churches, two Episcopalian, one Quaker, one Universalist, one Catholic, and two Methodist. Besides the churches, the principal buildings are the statehouse, courthouse, two theatres, concert-hall, jail, almshouse, workhouse, and bridewell. The town is well paved, and has excellent flagged footpaths. The streets, though generally narrow, are for the most part clean, and in good order. Boston is connected with the minor towns of Cambridge and Charlestown, by two handsome wooden bridges, the one 1503 feet in length, the other 3483 feet. Boston has frequently suffered by fire, but the houses that were thus destroyed have always been rebuilt to advantage. The late American war began here by the attack at Bunkers-hill, when many brave men lost their lives.

Boston || Botallus.

BOSWORTH, a town of Leicestershire in England, containing 791 inhabitants in 1811. It has a lofty situation on a hill, and the country about it is fertile in corn and grass. It is memorable for the decisive battle fought near it between Richard III. and the earl of Richmond, afterwards Henry VII. wherein the former lost his crown and life. W. Long. 1. 24. N. Lat. 52. 25.

BOTALLUS, LEONARD, physician to the duke of Alençon, and to Henry III. was born at Asti in Piedmont. He introduced at Paris the practice of frequent letting of blood; which was condemned by the faculty; but soon after his death it came into practice with all the physicians. He published several books in physic and surgery; and the best edition of his works is that of Leyden, in 1660, octavo.

BOTANY

IS that science which arranges, distinguishes, and names all plants and vegetables, to enable us to study their properties and uses.

Vegetables consist of an innumerable succession of individuals which it is impossible to examine, and would be useless if it were possible. It is therefore necessary to diminish the labour by forming them into groups or classes, that the same name may apply to a great number of individuals. Now certain individual plants have so close a resemblance to others in their flower, fruit, leaves, and general appearance, that almost every man at first sight would give them the same name. Thus every man who has seen the common daisy once, and knows its name, will probably apply the same name without mistake to every other individual of the same species. This forms the first step in botany, or what is called arranging and naming plants according to their species. Nor is it only the first, but the easiest step in botany. It is also the most important; for all the individuals of the same species must in similar circumstances possess the same qualities. For example, we have no reason to doubt that each individual plant of common hemlock, or of foxglove, possesses the same medical qualities, though from their place of growth these qualities may differ in degree. It is therefore the individuals of the species alone that are useful; and the whole value of any arrangement consists in enabling the botanist to distinguish and name the individuals, with the greatest ease and accuracy. If the number of species were small, definitions or descriptions

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Elements. scriptions of them would alone be sufficient; but as they amount perhaps to 40,000 or 50,000 or more, to search for every single species amid such a multitude would be a task for which neither human patience nor human life would be sufficient.

To shorten the labour, it has been found very expedient to arrange plants into various divisions; first into some very general divisions which may reduce them into a small compass, then to subdivide these general divisions into others less comprehensive, and these into others, till we arrive at the particular species which we are in search of. Thus the arrangement descends from a general division of all plants to every particular species.

Many plans of this kind have been attempted by various botanists, but the arrangement of the celebrated Linnæus is incomparably the most ingenious, most accurate, as well as the simplest and easiest. That illustrious botanist divided all plants into classes, the classes into orders, the orders into genera, and the genera into species. The orders, too, and the species, when numerous, he frequently subdivided into sections.

Objections have been made to the arrangement of Linnæus, because it admits divisions which do not appear natural. But such persons, though distinguished botanists, seem to us to have misunderstood the use and intention of that arrangement. It is not, and ought not to be, its object to give what has been called a natural arrangement; for nature does not class her productions. She places before us innumerable individuals, and leaves us to classify them according to the purpose which we have in view. If nature had formed plants into classes, orders, and genera, the botanist would have nothing to do but to study these. But in none of her works has nature done this. Classification is the work of man; and it is necessary for man merely on account of the limited nature of the faculties of his mind. Classification enables us to accomplish by several steps or operations what we cannot accomplish by one. But were our faculties much more exalted, were our penetration much more acute, and our memories perfectly retentive; could we at once survey all the qualities of objects, discern their relations to one another, and retain the remembrance of these accurately, we should have no occasion to generalize at all. As generalization or classification is necessary to aid our limited faculties, the best classification is that which Elements. leads us without error, and by the easiest process, to the particular object which we have occasion to investigate.

The arrangement of Linnæus is therefore the best: It is, however, not so perfect in some of its parts as it may yet be rendered. This is the case in some of the genera which are distinguished by marks that are too minute. But when we consider the indefatigable mind of that illustrious man, the chaos in which he found botany, and the beautiful arrangement which he gave to it, we may justly inroll the name of Linnæus in the same list with Bacon, and Newton, and Locke.

A botanical system is a dictionary by which a person who has studied the rudiments of the science may find out the name of every plant which he meets with. This dictionary has been much enlarged by the labours of the great many eminent botanists of the present time. We shall therefore point out the method of consulting it, after giving a very concise view of the principles upon which it is founded. We will give a concise view, because we think most or perhaps all the elementary books of this science tend to confound and disgust beginners by physiological definitions, and by the multiplicity of terms which they require to be studied at the very first outset. Their plan is just as if a teacher of Latin was to require his pupils first to make themselves masters of a Latin dictionary before he allowed them to translate. Our plan is to require of a beginner no more elementary knowledge than what is sufficient to enable him to consult the system as he would do a dictionary. The meaning of the rest of the botanical terms we think can best be learned by having recourse to an explanation in an alphabetical form, as they occur in the investigation. This we intend to add to the present article. And we wish sincerely that every man who publishes a system of botany would do the same; for we have strong reasons to believe that different writers use the same words in different senses from one another. Linnæus, indeed, has defined his botanical terms; but in his two works, *Delineatio Plantarum* and *Philosophia Botanica*, he sometimes defines the same word differently. Now we ought to know which of his definitions succeeding botanists have adopted. Besides almost every botanist introduces terms of his own, which we shall look for in vain in the definitions of Linnæus.

ELEMENTS OF BOTANY.

The parts of a plant which it is necessary for the young botanist first to know, are the flower and fruit. These include seven; the calyx, corolla, stamen, pistil, pericarp or seed-vessel, seed, and receptacle. We will describe these in the order which will make them most easily distinguished.

1. The corolla, which in common language is called the flower, and in fruit-trees the blossom, is the part which is most beautifully coloured, which is of the finest texture, and is often odorous. It is to be found of every colour, except green, a hue which it very seldom assumes. It is white, as in the blossoms of the cherry; yellow, as in the primrose and ranunculus or butter-cup; red, as in the rose; blue, as in the violet. It is sometimes of one piece, and sometimes divided into distinct pieces, called *petals*. When the corolla consists of one petal, the outer or upper part, which is broad, is named the *limb* or border; and the lower part, which is narrow and hollow, by which it is fixed, is called the *tube*. When the corolla consists of more than one petal, the lower part is called a *claw*, and the upper *lamina*.

In the corolla it is necessary to attend to its form, its divisions, the number of its petals, its colour and the part to which it is attached. See Plate XCV. Fig. 11. a corolla of one petal; *a*, the tube; *b*, the laminas. Fig. 13. a corolla of more than one petal: *d*, the claw; *b b*, the laminas.

2. The

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Elements.

2. The calyx is situated on the outside of the corolla, and enclosing it commonly at the base. It is generally of a greenish colour, and of a coarser texture than the corolla. It consists of one part, or of two, three, &c. and is then said to be one-leaved, two-leaved, three-leaved, many-leaved. The calyx is of various shapes, tubular, globular, inflated, &c.

There are seven species of calyx; perianth, involucre, glume, ament, spathe, calyptre, and volve. For explanation of these, consult the vocabulary and Plate XCV. Fig. 18. *a*, the calyx.

3. The pistil, or pistils, commonly appear in the centre of the corolla, from which they rise like so many columns. There are from one to twelve in the same flower, and sometimes more.

A pistil consists of three parts, the stigma, the style, and the germen. 1. The stigma is the highest part of the pistil; which is sometimes globular, sometimes cleft, sometimes cross-shaped, &c. 2. The style is the pillar or thread which supports the stigma. 3. The germen is the pedestal or base of the pistil, most commonly of a roundish or globular shape; but sometimes long and slender. Sometimes there are several germens together. See Plate XCV. fig. 12. *c*, the stigma; *b*, the style; *a*, the germen.

4. The stamens, which resemble threads or pillars, usually stand between the corolla and the pistil, are placed in regular order round the pistils, or alternate with the petals. They are in number on one flower from one to several hundreds. But it is not necessary to count them when they are more than twenty.

A stamen consists of two parts, the anther and the filament. 1. The anther is the summit of the stamen, containing a mealy or powdery substance called pollen, and is generally of a different colour from the filament. They are of different forms, globular, horned, &c. 2. The filaments are the threads or pillars which support the anthers. The stamens are attached to the corolla, to the calyx, to the receptacle, or to the style. See Plate XCV. fig. 18. Filaments marked by *e*, *e*, *e*, *e*, *e*, *e*. Anthers *f*, *f*, *f*, *f*, *f*, *f*.

5. The pericarp, or seed-vessel, is the case or covering of the seed, and is the external part of the germen come to maturity. It is of various shapes; globular, as in the poppy; long, as in the pod of the common garden or field pea: it is pulpy, with a stone in the middle, as in the plum; pulpy, containing seeds enclosed in a case, as in the pear; juicy, and containing seeds which have only an external case, as the currant and gooseberry.

There are eight species of pericarp; capsule, silique, legume, follicle, drupe, pome, berry, and strobile. A description of these will be given in the vocabulary. Consult also Plate XCV. fig. 23. to 30.

6. The seeds are so well known, that they require no description in the elements of the science.

7. The receptacle is a point, line, or broad base, to which some or all of the six parts now described are attached. When it is the base of all these parts, it is called the receptacle *of the fructification*. When the calyx, corolla, and stamens only are attached to it, it is called the receptacle *of the flower*. When the germen together with the pistil only is fixed to it, it is called the receptacle *of the fruit*. It is called *proper* when only one flower with its fruit is inserted into it. It is called *common* when many flowers are attached to it, as in the common daisies, dandelion. See Plate XCV. Fig. 13. *c*, a proper receptacle. Fig. 9. 10. a common receptacle.

Elements.

Attention to the receptacle is most necessary chiefly in classes 11th, 13th, and 19th.

Besides these seven, which are called the parts of fructification, because when they exist together, they are supposed necessary for producing proper fruit, there is another part which Linnæus calls the *nectary*, that requires attention, as it is the foundation of some genera. It is difficult for beginners to distinguish it, as it varies much in its appearance, and is not very discernible in a great many species. It is sometimes the name of a small gland; sometimes of a scale or a number of scales; sometimes of a cup; sometimes of a horn or spur on the corolla, as in larkspur and violet; sometimes of a groove or excavation. In short, it appears to be a name for any singular or irregular appearance of any of the parts of the flower. In all accurate and perspicuous systems, it is so well described that it can be easily found out. If this be done the name may be admitted, but if not it must lead to ambiguity and want of precision.

OF THE CLASSES.

The descriptions now given are sufficient to enable the young botanist to understand the classes and orders.

All plants are arranged into 24 divisions, called classes. In 23 of these classes, the flowers, or the pistils and stamens, or at least the stigmas and anthers, are evident. The 24th class comprehends all plants in which the flowers are invisible to the naked eye, as mosses, ferns, mushrooms.

The principles upon which the classes are formed are few, simple, and beautiful. All plants which have only one stamen, are of the first class; those that have only two, are of the second; those that have only three, are of the third: and so on, the number of stamens being the same with the number of the class in the first ten classes. See Plate XCIV. fig. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

In the next three classes, the place to which the stamens are fixed must be attended to as well as the number of the stamens. Thus the 11th contains those plants which have from 12 to 19 stamens inclusive, fixed to the receptacle. The 12th those that have 20 stamens fixed to the inside of the calyx. In this class the place of insertion is more to be relied on than the number of the stamens, for they are sometimes less than 20, often more. The 13th class comprehends those that have more than 20 stamens attached to the receptacle. See Plate XCIV. fig. 11, 12, 13. For an example of the 12th class a rose may be examined, and for an example of the 13th a poppy, or a ranunculus.

The 14th and 15th classes depend upon the number and proportion of the stamens. When there are four stamens in a flower, of which two are longer, it belongs to the 14th class. When there are six stamens, of which four are longer, it belongs to the 15th class. For an example of the 14th class the flowers of the dead nettle, mint, thyme, or foxglove, may be examined;

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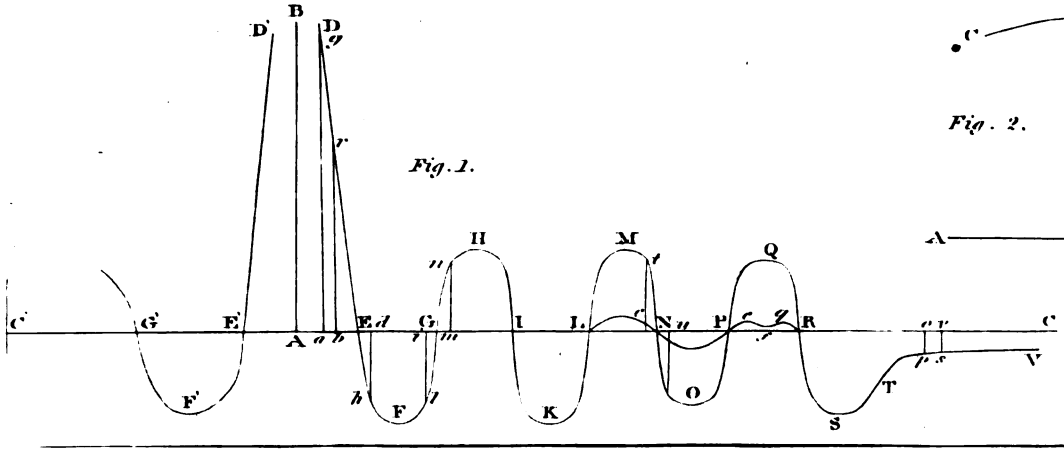
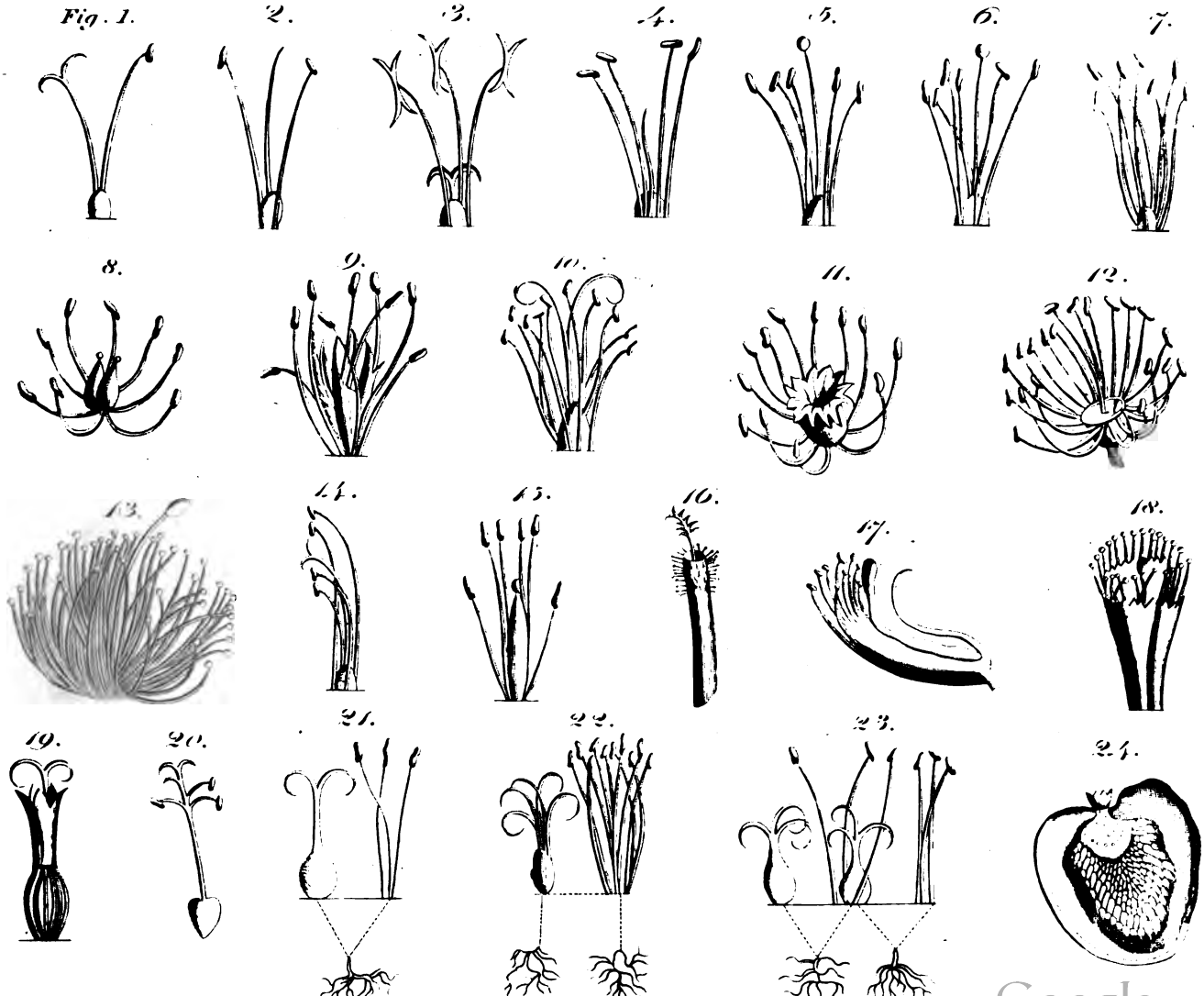
BOSCOVICH'S THEORY.

PLATE XCIV.



BOTANY.

CLASSES.



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Elements. mined, and for a specimen of the 15th class, inspect the flowers of shepherds purse, or mustard. See also Plate XCIV. fig. 14. and 15.

The 16th, 17th, 18th, and 19th classes depend upon the manner in which the stamens are connected, whether they be joined by their filaments into one set, or two sets, or more than two; or be united by the anthers into a cylinder.

In the 16th class the stamens are united by their filaments into one set, forming a case round the lower part of the pistils, but separating at the top. A geranium forms a specimen of this class. In the 17th the corollas are papilionaceous, like the blossom of a bean; the stamens are connected by their filaments, but divided into two sets or parcels, one of which is thicker and forms a case round the pistil; the other is smaller and leans towards the pistil. Specimens of these may be found in the flowers of peas and beans. In the 18th class, the stamens are united by their filaments into more than two sets, or parcels. See Plate XCIV. fig. 18.

The 19th class is difficult to a beginner. It consists of compound flowers, as the common daisy, dandelion. They are called compound, because each single flower consists of a collection of little flowers or florets, attached to the same broad receptacle, and contained within one calyx. Each floret consists of a corollet, or little corolla, five stamens united by their anthers into a hollow or tubular cylinder, and a pistil which passes up through the tube of the cylinder. See Plate XCIV. fig. 19. and examine a dandelion, or thistle, or common groundsel, or a sun-flower. See also the beginning of the 19th class in the system, where a fuller account will be given of this class.

In the 20th class, the stamens are attached to the pistil. An orchis will afford a specimen of this. See also Plate XCIV. fig. 20.

In the three next classes, the pistils and stamens are situated on separate flowers, or distinct plants, or on plants which bear flowers with pistils and stamens, others with stamens or with pistils, or flowers of both kinds.

The 21st class contains those plants which have flowers of different kinds on the same plant, some bearing pistils, and others bearing stamens only. The flowers with pistils we shall call *pistillar* or *stigmate*, and those with stamens *staminal* or *anthered*. The birch affords an example of this class. See also fig. 21.

The 22d class consists of those species which have stamens on one plant and pistils on another. Instances of this may be found in the willow, poplar, and juniper. See fig. 22.

The 23d class comprehends those plants which have at least two and sometimes three kinds of flowers. 1. Some anther-stigmate, or with pistils and stamens on the same flower. 2. Others have pistils only, or stamens only. 3. Or having flowers with pistils only, or flowers with stamens only. This may be expressed more concisely. Some having flowers anther-stigmate, some stigmate, or some anthered, or having both anthered flowers and stigmate flowers. The common ash tree may be examined for a specimen of this class. See also fig. 23.

The names of the classes are formed from Greek words, and express the characteristic of each class. The first ten classes are named from the Greek numerals and the word *andria*, which the botanist must consider as synonymous with stamens. Elements.

1. Mon -andria.
2. Di -andria.
3. Tri -andria.
4. Tetr -andria.
5. Pent -andria.
6. Hex -andria.
7. Hept -andria.
8. Oct -andria.
9. Enne -andria.
10. Dec -andria.
11. Dodec-andria, 12 stamens.
12. Icos -andria, 20 stamens.
13. Poly -andria.
14. Di -dynamia, 2 powers.
15. Tetra -dynamia, 4 powers.
16. Mon -adelphia, one brotherhood.
17. Di -adelphia, two brotherhoods.
18. Poly -adelphia, many brotherhoods.
19. Syn -genesia means origin or production together, so called from the stamens being united by the anthers.
20. Gyn -andria, pistils and stamens together.
21. Mon-œcia, one house.
22. Di -œcia, two houses.
23. Poly-gamia, many kinds of flowers. The etymology here would throw no light upon the class to a beginner; nor does it throw any on the next class.
24. Crypto-gamia, therefore, is to be understood to mean *invisible flowers*.

OF THE ORDERS.

The formation of the orders is as ingenious and simple as that of the classes. In the first thirteen classes, the names and characters are taken from the number of pistils or styles; when these are wanting, from the number of stigmas. Thus:

Mono -gynia, 1 style.
Di -gynia, 2 styles.
Tri -gynia, 3 styles.
Tetra -gynia, 4 styles.
Penta -gynia, 5 styles.
Hexa -gynia, 6 styles.
Hepta -gynia, 7 styles.
Deca -gynia, 10 styles.
Dodeca-gynia, 12 styles.
Poly -gynia, many styles.

In the 14th class Didynamia there are only two orders, which depend on the presence or absence of the pericarp or seed-vessel.

1. Gymnospermia. Four naked seeds in the bottom of the calyx; as in mint, dead-nettle, thyme.
2. Angiospermia. Seeds enclosed in a pericarp, as in fox-glove, eye-bright, toad-flax, fig-wort.

In the 15th class, Tetradynamia, there are also two orders, which are taken from the form of the pericarp.

1. Siliculosa. Seeds enclosed in a silicle, or roundish seed-vessel, consisting of two pieces called valves, and the seeds fixed to both edges or sutures, as in shepherds purse, scurvy-grass.
2. Siliquosa.

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Elements. 2. SILIQUOSA. Seeds enclosed in a silique or long seed-vessel; as in mustard.

In the 16th, 17th, and 18th classes, the names and characters of the orders are taken from the number of stamens.

In the 19th class there are six orders, which it is difficult at first to distinguish accurately.

1. POLYGAMIA ÆQUALIS. Florets anther-stigmate, or having both stamens and pistils in the same floret; as in dandelion, thistle, sow-thistle, artichoke.
2. POLYGAMIA SUPERFLUA. When the flower is composed of two parts, a disk or central part, and rays projecting outwards; as in corn-marygold, tansy, daisy, golden-rod, groundsel, chamomile, milfoil. The florets of the disk are anther-stigmate; those of the ray stigmate.
3. POLYGAMIA FRUSTRANEA. Florets of the disk anther-stigmate; those of the rays with styles but no stigmas; as blue-bottle, knapweed.
4. POLYGAMIA NECESSARIA. Florets of the disk anther-styled, without stigmas; those of the rays stigmate. Garden marygold will afford a specimen.
5. POLYGAMIA SEGREGATA. When each of the florets has a calyx, besides the common or general calyx of the flower. Specimens of this can only be found in botanic gardens.
6. MONOGAMIA. When the flower is not compound but single, and the anthers united. This order ought to be transferred to the class Pentandria, as, indeed, has been done in some very valuable systems. Examples of it may be found in the violet.

In the classes Gynandria, Monœcia, and Dicœcia, the orders are formed from the number of stamens, with three of a different kind, monadelphia, syngenesia, and gynandria, in the classes Monœcia and Dicœcia.

1. MONOECIA. When the flowers are anther-stigmate and anthered; or anther-stigmate and stigmate, on the same individual plant.
2. DIOECIA. When the flowers are anther-stigmate and anthered, or anther-stigmate and stigmate, on two different individual plants.
3. TRIOECIA. When the flowers of one individual plant of the same species are anther-stigmate; upon a second individual plant, anthered; and upon a third individual plant, stigmate.

The orders into which the 24th class, Cryptogamia, is divided, will be explained in the introduction to that class.

OF THE SECTIONS.

The orders are generally subdivided into what may be called *sections*. These may vary in number, according as the system is partial or universal; but they are almost as well established as the classes and orders. Sections are not employed in the 11th, 12th, 16th, 18th, 19th, 20th, 21st, 22d, 23d classes. The principles on which they are formed are few and very simple.

Elements. In the first ten classes they depend upon the following circumstances; on the flower being superior or inferior or naked, complete or incomplete, calycled, enclosed in a spathe or glume, aggregate, umbelled, involucred; on the number of petals, the seeds being naked or enclosed; on the number of seeds, and the number of cells in the capsule or seed-vessel, or number of berries.

The flower is said to be *superior* when the receptacle of the flower is above the germen, and *inferior* when the receptacle is below the germen. A flower is said to be *naked* when the calyx is absent; it is called *complete* when it has both a calyx and corolla, and *incomplete* when either of these is wanting. It is said to be calycled when the calyx has a small calyx or calyclet at the base. An *aggregate* flower, is a flower composed of florets standing on footstalks, attached to a broad receptacle.

An umbelled plant, is one which sends out towards the top, from the same point or centre, a number of branches like the spokes of an umbrella, and bearing flowers on the top. All the spokes, with their flowers, form an *universal* umbel. On the top of each spoke arises an umbellet, or *partial* umbel. At the base of the spokes of the umbel, or universal umbel, is a sort of calyx, called an involucre, or universal involucre; and at the base of the spokes of the umbellet is a partial involucre, or an involucret. This will suffice for explaining the sections of the first ten classes. The sections of the 13th depend on the number of petals.

In the 14th class, Didynamia, the sections depend upon the calyx; which is said to be cleft when it is cut or divided into so many parts, and two-lipped when its mouth has a resemblance to two lips.

In the 15th class the sections depend on the silicle and calyx. The silicle in one section is notched at the point, and in another unnotched or entire. In the first section of the order *siliquosa*, the calyx is closed by its own leaflets. In the second it is not closed, and the leaflets are separated at the upper end.

In the 17th class, Diadelphia, and the order decandria, there are six sections. 1. The first comprehends those flowers which have their stamens all united as in the class Monadelphia, and therefore forms an exception to the regularity of the class. 2. In the second, the stigma is pubescent or hairy. The stamens not. 3. The seed-vessel or legume, has two cells, without the connected marks of the former sections. 4. The legume contains only one seed, without the marks of the former three sections. 5. The legume is somewhat jointed, without the marks of the former. 6. The legume has only one apartment, but many seeds, without the marks already mentioned.

The only remaining class, whose orders are divided into sections, is the 19th, Syngenesia. 1. In the first section of the first order, the corollets are ligulate, that is, flat towards the exterior or upper end, and tubular only at the base. 2. Capitate or headed, when the flowers grow in globular forms; as the thistle. 3. Discoid, when the corollets are all tubular, not ligulate. In the order polygamia superflua are two sections. 1. Discoid corollets. 2. Rayed or radiate, when all the corollets are ligulate.

We

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Elements. We will now present a connected view of the Classes and Orders in a Table.

I. MONANDRIA, 1 stamen.
1. Monogynia, 1 style.
2. Digynia, 2 styles.

II. DIANDRIA, 2 stamens.
1. Monogynia, 1 style.
2. Digynia, 2 styles.
3. Trigynia, 3 styles.

III. TRIANDRIA, 3 stamens.
1. Monogynia, 1 style.
2. Digynia, 2 styles.
3. Trigynia, 3 styles.

IV. TETRANDRIA, 4 stamens. If the two nearest stamens be shorter, the plant belongs to class 14th.
1. Monogynia, 1 style.
2. Digynia, 2 styles.
3. Tetragynia, 4 styles.

V. PENTANDRIA, 5 stamens.
1. Monogynia, 1 style.
2. Digynia, 2 styles.
3. Trigynia, 3 styles.
4. Tetragynia, 4 styles.
5. Pentagynia, 5 styles.
6. Polygynia, more than 5.

VI. HEXANDRIA, 6 stamens. If the two opposite stamens be shorter, the plant is of the 15th class.
1. Monogynia, 1 style.
2. Digynia, 2 styles.
3. Tetragynia, 4 styles.
4. Polygynia, more than 4.

VII. HEPTANDRIA, 7 stamens.
1. Monogynia, 1 style.
2. Digynia, 2 styles.
3. Tetragynia, 4 styles.
4. Heptagynia, 7 styles.

VIII. OCTANDRIA, 8 stamens.
1. Monogynia, 1 style.
2. Digynia, 2 styles.
3. Trigynia, 3 styles.
4. Tetragynia, 4 styles.

IX. ENNEANDRIA, 9 stamens.
1. Monogynia, 1 style.
2. Trigynia, 3 styles.
3. Hexagynia, 6 styles.

X. DECANDRIA, 10 stamens.
1. Monogynia, 1 style.
2. Digynia, 2 styles.
3. Trigynia, 3 styles.
4. Pentagynia, 5 styles.
5. Decagynia, 10 styles.

XI. DODECANDRIA, 12 to 19 stamens, inserted in the receptacle.
1. Monogynia, 1 style.
2. Digynia, 2 styles.
3. Trigynia, 3 styles.
4. Pentagynia, 5 styles.
5. Dodecagynia, 12 styles.

XII. ICOSANDRIA, 20 stamens or more fastened to the inside of the calyx. Elements.
1. Monogynia, 1 style.
2. Digynia, 2 styles.
3. Trigynia, 3 styles.
4. Pentagynia, 5 styles.
5. Polygynia, more than 5 styles.

XIII. POLYANDRIA, more than 20 stamens fastened to the receptacle.
1. Monogynia, 1 style.
2. Digynia, 2 styles.
3. Trigynia, 3 styles.
4. Tetragynia, 4 styles.
5. Pentagynia, 5 styles.
6. Hexagynia, 6 styles.
7. Polygynia, more than 6 styles.

XIV. DIDYNAMIA, 4 stamens, 2 longer than the rest.
1. Gymnospermia, 4 naked seeds in the bottom of the calyx.
2. Angiospermia, seeds enclosed in a seed-vessel.

XV. TETRADYNAMIA, 6 stamens, 4 longer than the rest.
1. Siliculosa, seeds contained in a silique or roundish seed-vessel.
2. Siliquosa, seeds contained in a silique or long seed-vessel.

XVI. MONADELPHIA, stamens united by their filaments into one set or body.
1. Triandria, 3 stamens.
2. Pentandria, 5 stamens.
3. Octandria, 8 stamens.
4. Enneandria, 9 stamens.
5. Decandria, 10 stamens.
6. Endecandria, 11 stamens.
7. Dodecandria, 12 stamens.
8. Polyandria, more than 12 stamens.

XVII. DIADELPHIA, stamens united by their filaments into two bodies.
1. Pentandria, 5 stamens.
2. Hexandria, 6 stamens.
3. Octandria, 8 stamens.
4. Decandria, 10 stamens.

XVIII. POLYADELPHIA, filaments united and divided into more than two sets.
1. Pentandria, 5 stamens.
2. Icosandria, 20 stamens.

XIX. SYNGENESIA, anthers united into a cylinder.
1. Polygamia æqualis, florets all anther-stigmate.
2. Polygamia superflua, florets of the disk anther-stigmate; florets of the ray stigmate.
3. Polygamia frustranea, florets of the disk anther-stigmate; florets of the ray styled, but not stigmate.
4. Polygamia necessaria, florets of the disk anther-styled; florets of the ray anther-stigmate.
5. Polygamia segregata, several calyclets in one calyx.
6. Monogamia, flowers single, not compound, with anthers united.

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Elements.

XX. GYNANDRIA, stamens fastened to the pistils.
1. Diandria, 2 stamens.
2. Triandria, 3 stamens.
3. Tetrandria, 4 stamens.
4. Pentandria, 5 stamens.
5. Hexandria, 6 stamens.
6. Decandria, 10 stamens.
7. Dodecandria, 12 stamens.
8. Polyandria, more than 12 stamens.

XXI. MONOECIA, stamens and pistils not in the same flowers, but in the same plant.
1. Monandria, 1 stamen.
2. Diandria, 2 stamens.
3. Triandria, 3 stamens.
4. Tetrandria, 4 stamens.
5. Pentandria, 5 stamens.
6. Hexandria, 6 stamens.
7. Heptandria, 7 stamens.
8. Polyandria, more than 7.
9. Monadelphia, filaments united.
10. Syngenesia, anthers united.
11. Gynandria, stamens fixed to pistils.

XXII. DIOECIA, stamens and pistils on different plants.
1. Monandria, 1 stamen.
2. Diandria, 2 stamens.
3. Triandria.
4. Tetrandria.
5. Pentandria.
6. Hexandria.
7. Octandria.
8. Enneandria.
9. Decandria.
10. Dodecandria.
11. Polyandria.
12. Monadelphia.
13. Syngenesia.
14. Gynandria.

XXIII. POLYGAMIA.
1. Monoecia, anther-stigmate and stigmate, or anthered in the same plant.
2. Dioecia, anther-stigmate and stigmate, or anthered in two plants.
3. Trioecia, anther-stigmate in one plant, stigmate in a second, and anthered in a third.

XXIV. CRYPTOGAMIA.
1. Filices, or ferns.
2. Mosses.
3. Algae, or sea-weeds.
4. Funguses.

OF THE GENERA.

HAVING now shown how plants are arranged into classes, orders, and sections, we come to the next division, called *genera*. The characteristic marks of the genera are derived from the flower and fruit. A genus consists of a certain number of species, which resemble one another in some parts of the flower or of the fruit, or both. By way of illustrating the principles on which the formation and distinction of genera are founded, we shall run over the British genera in each class.

Elements.

I. In the first class, Order I. sect 1. the calyx is one-leaved or indistinct, corolla absent. Sect. 2. the berry contains many seeds, the spadix contains many flowers, and the capsule is one-seeded. Order II. genus 5. calyx wanting, two petals present; seeds four, not enclosed in a seed-vessel.

II. In the 2d class, DIANDRIA, Order I. the genera depend upon the figure of the corolla, which is divided, wheel-shaped, ringent, furnished with a spur, or two-petaled; on the calyx being cleft or being two-leaved; on the number of seeds which the berry contains; on the shape of the capsule, and the number of seeds enclosed in it; on the stamens being distant, or standing on a footstalk.

In the 2d order, the only genus is a grass, the calyx and corolla of which are called glumes.

III. In the 3d class, TRIANDRIA, Order I. sect. 1. the distinction of the genera depends on the number of divisions of the calyx and singularities of the stigma. In sect. 8. the genera are distinguished by the peculiarities of the glumes and seeds.

In the 2d order, Digynia, sect. 1, 2, 3, and 4, the genera are distinguished,
1. By the number of valves or pieces of which the glumes or corolla and calyx consist.
2. By the peculiarities of these valves.
3. By the number of flowers contained in the calyx.
4. By the peculiarities of the stigma and seed.
5. By the form of the spikelets, and
6. By the peculiarities of the spine or thread, or form of the receptacle.

In the 3d order, Trigynia, the genera are distinguished,
1. By the number of leaves of which the calyx is composed.
2. By the number of petals.
3. By the form of the capsule, the number of valves composing it, and seeds contained in it.

IV. In the 4th class, TETRANDRIA, Order I. the genera are determined,

Sect. 1.
1. By the peculiarities of the common and partial calyx, or of the calyx and calyculet.
2. By the corolla being superior.

Sect. 2. and 3.
1. By the form of the corolla.
2. By the peculiarities of the fruit.

Sect. 4.
1. By the number and the peculiarities of the nectaries.
2. By their absence.
3. By the nature of the seed-vessel; by its situation, and the number of cells or seeds it contains.

Sect. 5.
By the peculiarities of the calyx and seed.

Digynia and Trigynia, Order I. and II.
1. By the number of petals, and by their absence.
2. By the nature of the pericarp, and by the number of its valves and cells, and seeds.

V. In the 5th class, PENTANDRIA, Order I. the genera are distinguished,

Sect.

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Elements.

Sect. 1.
1. By the shape of the corolla, by the peculiarities of its throat.
2. By the shape of the calyx, and the number of its divisions.
3. By the peculiarities of the seeds.

Sect. 2, 3, 4, and 5.
1. By the number of valves and cells of the seed-vessel, and other peculiarities.
2. By the shape and division of the corolla.
3. By the situation and figure of the stamens and peculiarities of the anther.
4. By the divisions and shape of the stigma.
5. By the shape of the calyx and number of its divisions.

Sect. 6.
1. By the number of seeds and situations of the capsule.
2. By the number of divisions of the calyx, and its relation to the stamens.

Digynia, the genera are distinguished,

Sect. 1, 2, and 3.
1. By the nature and shape of the capsule, and the number of cells and seeds it contains.
2. By the shape of the corolla and the absence or presence of pores.
3. By the shape, number, and situation of the seeds.

Sect. 4. comprehending the umbelled plants, is formed into three subdivisions.
1. Plants that have an involucre and involucret.
2. Those that have only involucrets.
3. Those that have neither, or only a small involucre.

The genera are distinguished,
1. By the flowers being formed into heads.
2. By the flowers being tubular, by being radiate or rayed, that is, some tubular and some flat, by their being fertile or abortive, producing seed or not producing it.
3. By the form of the petals.
4. By the calyx being entire or divided, or indistinct.
5. By the peculiarities of the involucres or involucrets.
6. By the peculiarities of the stigmas and fruit.

The other orders have nothing peculiar.

VI. Hexandria, the genera are distinguished,
1. By the number of petals, shape, divisions, and situation of the corolla.
2. By the number of leaves, form, and situation of the calyx.
3. By the number of cells and seeds of the seed-vessels, and shape of the seed.
4. By the peculiarities of the stamens.
5. By the form and number of the stigmas.

The next seven classes form their genera in so similar a manner to those already described, that we omit them.

XIV. In the 14th class, Didynamia, Order I. Gymnospermia, the genera are determined,
1. By peculiarities of the anthers and filaments.
2. By peculiarities of the lips and throat of the corolla.
3. By peculiarities of the calyx.

Order II. Angiospermia.
1. By the number of cells and directions of the partitions of the capsule or seed-vessel.
2. By the form and number of the seeds.
3. And by other marks of the calyx and corolla, which require no explanation.

XV. Tetradynamia.

I. Siliculosa, the genera are distinguished,
1. By the silicle or short roundish seed-vessel, by the shape and position of its valves or pieces, by its being entire or notched, and the number of seeds it contains.

II. Siliquosa. The genera are distinguished,
1. By the shape of the silique or long seed-vessel, which is composed of two valves or pieces, with the seeds fastened to both sutures, or joinings of the valves; by the manner in which the silique opens.
2. By peculiar glands.
3. By the calyx being open or spreading.
4. By the position of the petals.
5. By the stigma being notched or entire.

XVI. In the 16th class, Monadelphia, the genera are distinguished,
1. By the number of styles.
2. By the divisions of the outer calyx.
3. By the position of the capsules and number of seeds contained in each.
4. By the seeds being beaked spirally or backwards.

XVII. Diadelphia. Here it is necesary to describe the corolla, which is called papilionaceous, or pea-blossomed, and usually consists of four petals. The lower petal, shaped like a boat, is called *the keel*; the upper petal, which spreads and rises upwards, is called the standard, and the two side petals are called the wings. The seed-vessel is called a *legume*, and consists of two pieces or valves, and the seeds are fixed to one of the sutures or joinings.

In the order Decandria, the genera are distinguished,
1. By the form and divisions of the calyx.
2. By the form and roughness of the style and stigma.
3. By the peculiarities of the standard, keel, and wings.
4. By the legume; its form, length, and the number of seeds it contains.

XIX. In the 19th class, Syngenesia, the genera are distinguished,
1. By the nature and form of the receptacle, by its smoothness or roughness, its being dotted, or like a honeycomb.
2. By the nature of the pappus, which is the feathery, or flying, or winged crown of the seed by which it flies.
3. By the peculiarities of the calyx, its resembling tiles, being double, accompanied with scales, &c.
4. By the number of florets in the ray.

XX. Gynandria, Diandria, the genera are distinguished,
By the form of the nectary, which is the lower lip of the corolla.

XXI. In the 21st class, Monoecia, the genera are distinguished,
2. By

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Elements.

1. By peculiarities in the male or anthered flower of the calyx and corolla.
2. By similar peculiarities in the female or stigmate flowers.
3. By the form of the ament. The ament is a species of flower consisting of a thread-form receptacle, to which a number of chaffy scales are attached. A specimen of it may be seen in the flowers of the fir, birch, hazel, beech, and oak.

XXII. XXIII. In the 22d and 23d classes, DIOECIA and POLYGAMIA, the genera are distinguished in a manner similar to those already described. We have only to remark, that what in other systems are called hermaphrodite flowers, in the class Polygamia we call anther-stigmate, or pistil-staminal, that is, flowers having both anthers and stigmas, or pistils and stamens.

OF THE SPECIES.

THE species consist of such groups or collections of plants as have certain resemblances, which render it convenient to class them under one genus. The species are distinguished from one another, either by marking in a few words the most striking differences, or by giving a minute description of each species. In the foreign plants, we have adopted the first method for the sake of brevity. But in the British, which it is of consequence we should study more perfectly, we have adopted the second. The first is a translation of Wildenow's *Species Plantarum*, the most complete system hitherto published, and the second, or the description of the British plants, is a translation from Dr Smith's *Flora Britannica*, which we have no hesitation in saying is a model of botanical description. For precision it is worthy of Linnæus, and is so minute that nothing peculiar to any species seems to have escaped the author.

The species, when numerous, are formed into subdivisions. This we think should always be done, when it can be done with propriety. There are some eminent botanists who disapprove of this practice, because, say they, it separates species that have the closest resemblance to one another. This, however, is of no consequence; for it is not the object of botanical arrangement to place these plants next one another, which are most like; but to point out the species, and most certain method of discovering the names of such plants as we have occasion to examine. We cannot help regretting, therefore, that Mr Salisbury, in his new arrangement of ERICA, a genus consisting of more than 240 species, should, in order to class them according to their affinities, have neglected to form them into subdivisions: the subdivision of the species diminishes the unnecessary labours of the botanist, and tends to increase the precision of inquiry. For example, 32 species of the campanula have leaves smooth polished, and the rest have leaves rough to the touch. This circumstance forms a very convenient subdivision. Again, 44 species of the solanum have neither prickles nor thorns, 39 are prickled, and one is thorny or spinous. Thus, in examining a solanum, we can have no occasion to run over 84 species; we are required only to go over 44, or 39, or one. There is as much propriety in forming the numerous species of a genus into subdivisions, as there is in separating plants that have a close resemblance into different genera. Who would have supposed that the botanist who has separated the *Erica vulgaris* or common heath, from the genus to which it has hitherto belonged, would have thought it improper to arrange so extensive a genus into subdivisions. We can only account for it, by supposing that an eminent botanist may sometimes forget the principles of the Linnean classification, to seek after a natural classification; a thing which we suspect is like the government of Utopia, that exists only in the mind of the inventor.

Elements.

OF VARIETIES.

EVERY part of a plant is subject to variation from climate, soil, cultivation, and diseases, or injuries produced by insects, winds, &c. The corolla and leaves are most liable to change. Variations arising from such accidents are not permanent; they may indeed be propagated by slips, but vanish in those plants which are raised from seeds. It is by rearing plants from seeds that we can determine whether a plant be a variety or a distinct species.

RULES FOR DIRECTING THE YOUNG BOTANIST IN INVESTIGATING A PLANT.

After the young botanist understands the principles upon which the classification is formed, he ought immediately to proceed to the examination of plants.

I. 1. The botanist ought to select flowers in different states, some expanded, some unopened, and if possible, some that are ripened into fruit.

2. If the flower contain both stamens and pistils, it belongs to some one of the first 20 classes. If either the pistils or stamens be wanting, it belongs to the 21st, 22d, or 23d. To this rule there are a few exceptions, which if the young botanist cannot overcome, he may pass them over till he has made some progress in the art of investigation.

3. He must next examine whether the stamens be connected or separate, and whether two of them be uniformly shorter than the rest. If the stamens be not connected, and two of them be not uniformly shorter, the plant belongs to one of the first 13 classes. If the stamens do not amount to 12, the number of the stamens and number of the class is the same. If the stamens be 12 or more, then, besides counting them, it is necessary to observe whether they be fixed at the lower end to the calyx or receptacle. This may be best known by tearing off the calyx; if the stamens do not come away with the calyx, the plant belongs to the class dodecandria. If the stamens be about 20, less or more, and fixed to the calyx, the plant belongs to icosandria. If 20 or more, and attached to the calyx, the class is polyandria.

In all these classes the orders may be known by examining the pistils.

4. If the stamens be four or six, and two shorter than the rest, the plant belongs to didynamia or tetradynamia. The corolla in didynamious plants is one petal divided into two lips; and the corolla of tetradynamious plants consists always of four petals, placed somewhat in the form of a cross: hence called *cruciform*.

The orders of the class didynamia may be known by observing whether the seeds be enclosed in a seed-vessel,

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Elements. vessel, be four in number, and naked at the bottom of the calyx.

In tetradynamia, the orders are distinguished by the form of the seed-vessel. If long, the order is siliquosa; if roundish it is siliculosa.

5. If the stamens be connected by the filaments into one set round the pistil, but separated at the top, and the petals five, the class is monadelphia. If the stamens be formed into two sets, and the corolla like the blossoms of a pea or bean, the class is diadelphia; and if formed into more than two sets, the class is polyadelphia. The orders depend upon the number of the stamens.

6. If the flower be compound, that is, if one calyx contain a great many corollets, each of which has five stamens united to a cylinder at the anthers, the flower belongs to the class syngenesia.

The orders are to be determined by examining the florets, that is, the corollets of the disk and ray, in order to know whether they both contain pistils and stamens, or anthers and stigmas, or otherwise. 1. If all the florets contain stamens and a pistil, the order is polygamia æqualis. 2. If the disk or central part have florets with a pistil and stamens, but the rays contain only a pistil, the order is polygamia superflua. 3. If the florets of the disk have stamens and pistils, or be anther-stigmate, but those of the rays have only a style, the order is polygamia frustranea. 4. If the florets of the disk have stamens and styles, but no stigmas, and those of the rays a pistil only, the order is polygamia necessaria. 5. When each of the florets has a small calyx, the order is the polygamia segregata. 6. And when the flower is not compound, but single with anthers united, the order is monogamia. But such plants are commonly now added to the class pentandria.

7. If the stamens be fixed to the pistil, the class is gynandria. The flower has something of a monstrous or irregular appearance. The petals are five, the style grows from the inner petal of the lower lip of the corolla, so as scarcely to be distinguishable.

The orders are determined by the number of the stamens.

8. When the flowers are imperfect, that is, when some in the same individual plant have only pistils and some only stamens, the plant belongs to the class monœcia. When the pistils are in one plant, and the stamens on another, the class is dioecia; and when perfect and imperfect flowers occur on the same plant, or on two or three different plants, the class is polygamia.

The orders of monœcia and dioecia, are known by the number of stamens; and in polygamia, if imperfect and perfect flowers, that is, anther-stigmate, and stigmate or anthered, be found on the same plant, the order is monœcia; if on two plants, the order is dioecia; and if anther-stigmate flowers be on one plant, stigmate on another, and anthered on a third, the order is trioecia.

9. Different flowers should be examined, and especially those that are unopened, if the number of stamens and pistils should vary. And if after this examination, different unopened or unexpanded flowers should vary, a preference should be given to the flowers that terminate the stalk. We ought always, therefore, to compare different flowers before we inquire after the class or orders.

II. 1. After determining the class and order, the botanist ought to compare with the flower which he is investigating the different sections of the order when it is divided into sections. He may then proceed to examine the genus. Elements.

2. In the beginning of each class he will find all the genera arranged as they agree and differ in some essential characters of the flower and fruit. But they are numbered in that order which brings those that have the closest resemblance next to one another. After the section is determined, then the flower must be compared with each of the genera of that section, or of the order when it is not divided into sections.

3. If none of the essential characters agree with the flower and fruit of the plant which is examined, then the plants which are named at the end of the orders are to be sought for and examined.

In this system we have first given the essential marks of all the genera at the beginning of each class in Latin, and also in English.

4. After determining the genus, the plant may be compared with the description of the species. In foreign plants we have in general given only the essential character of the species. But in some British plants we have added also, from Dr Smith's Flora Britannica, a minuter and fuller account, as an example of botanical description.

We have not referred to those books which give plates of the species, because they are accessible but to very few, and because we do not think that a man will ever be a botanist whose knowledge is indebted to plates. It is much better to consult an experienced botanist than a book of plates. Those, however, who wish to consult plates may do so from this system as well as from any other, after ascertaining the class and order.

As to the language which is employed in the following system, we need say very little. We have endeavoured to make it as much English as possible. We have always preferred words of English origin when we thought them sufficiently accurate; but when we had reason to believe that such words were so vague that they might lead into error, we thought it better to adopt the Linnean terms, and to give them an English termination. In a few cases we have retained the Linnean terms unaltered, as corolla, bractea, stipula, because we thought any such change would be unpleasant to the ear, as corol, bracte, stipule. Besides, it would be no disadvantage to the harmony of our language to have more words ending with vowels.

We once intended to have given English names to many of the genera, and to all the species, and had done so through the first four or five classes; but it was objected, that this would increase the synonymes, which are already too numerous; and consequently would oftener tend to mislead than to be useful. It would certainly be much better that plants were known in all nations by the same name.

Of the Method of forming an Herbarium or Hortus Siccus.

Every man who wishes to be a complete botanist will find it necessary to preserve and to form into a collection the plants which he has examined.

The

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Elements. The best method of preserving them is by drying them: specimens ought to be collected when dry, and carried home in a tin box. Plants may be dried by pressing, in a box of sand, or with a hot smoothing iron. Each of these has its advantages.

1. If pressure be employed, a botanical press may be procured. The press is made of two smooth boards of hard wood, 18 inches long, 12 broad, and two thick. Screws must be fixed to each corner with nuts. If a press cannot easily be had, books may be employed.

Next, some quires of unsized blossom blotting paper must be provided. The specimens, when taken out of the tin box, must be carefully spread on a piece of pasteboard covered with a single sheet of the blossom paper quite dry; then place three or four sheets of the same paper above the plant, to imbibe the moisture as it is pressed out; it is then to be put into the press. As many plants as the press will hold may be piled up in this manner. At first they ought to be pressed gently.

After being pressed for twenty-four hours or so, the plants ought to be examined, that any leaves or petals which have been folded may be spread out, and dry sheets of paper laid over them. They may now be replaced in the press, and a greater degree of pressure applied. The press ought to stand near a fire, or in the sunshine. After remaining two days in this situation, they should be again examined, and dry sheets of paper be laid over them. The pressure then ought to be considerably increased. After remaining three days longer in the press, the plants may be taken out, and such as are sufficiently dry may be put in a dry sheet of writing paper. Those plants which are succulent may require more pressure, and the blossom paper again renewed.

Plants which dry very quickly, ought to be pressed with considerable force when first put into the press; and if delicate, the blossom paper should be changed every day. When the stem is woody it may be thinned with a knife, and if the flower be thick or globular, as the thistle, one side of it may be cut away; as all that is necessary, in a specimen, is to preserve the character of the class, order, genus and species.

2. Plants may be dried in a box of sand in a more expeditious manner, and this method preserves the colour of some plants better. The specimens, after being pressed for ten or twelve hours, must be laid within a sheet of blossom paper. The box must contain an inch deep of fine dry sand, on which the sheet is to be placed, and then covered with sand an inch thick; another sheet may then be deposited in the same manner, and so on, till the box be full. The box must be placed near a fire for two or three days. Then the sand must be carefully removed, and the plants examined. If not sufficiently dried, they may again be replaced in the same manner for a day or two.

3. In drying plants with a hot smoothing iron, they must be placed within several sheets of blotting paper, and ironed till they become sufficiently dry. This method answers best for drying succulent and mucilaginous plants.

4. When properly dried, the specimens should be placed in sheets of writing paper, and may be slightly fastened by making the top and bottom of the stalk pass through a slip of the paper, cut neatly for the purpose. Then the name of the genus and species should be written down, the place where it was found, nature of the soil, and the season of the year. These specimens may be collected into genera, orders, and classes, and titled and preserved in a portfolio or cabinet. The method of preserving many of the cryptogamous plants is more difficult, on account of the greater quantity of moisture which they contain, and the greater delicacy of their texture.

Elements.

We will now conclude this introduction with particular reference to the plates.

EXPLANATION OF THE PLATES.

PLATE XCIV. exhibits the 24 CLASSES; fig. 1. representing the first class, or Monandria; fig. 2. the second class, or Diandria; fig. 3. the third class, or Triandria; and so on, according to the enumeration in the table.

PLATE XCV. represents the parts of a plant upon which the investigation of the GENUS depends.

Parts of the FLOWER.—Fig. 1. Spathe. Fig. 2. Spadix. Fig. 3. *Gluma*, or glume; b b, *arista*, or awn. Fig. 4. *Umbella* and *involucrum*; a, *Umbella universalis*, or universal umbel; b, *partialis*, or partial umbel: c, *Involucrum universale*, universal involucre; d, *partiale*, or partial involucre. Fig. 5. *Calyptra*, calyptre or veil; a, *capitulum*; b, *operculum*; parts of mosses. Fig. 6. Amentum. Fig. 7. *Strobilus*, strobile. Fig. 8. a, *Pileus*, cap; b, *volva*; c, *stipes*; parts of fungi or mushrooms. Fig. 9. a, *Receptaculum commune nudum*, the common receptacle or base of the flower when the stamina, pistillum, capsule, &c. are taken off. Fig. 10. *Receptaculum commune paleis imbricatum*, or common receptacle imbricated with paleæ or membranaceous lamella. Fig. 11. *a* the tube, *b* the edge or margin, of a one-petaled corolla. Fig. 12. is a flower laid in a proper position for showing its different parts. a, *Germen*, which includes the seeds and capsule in which they are enclosed; b, *style*, a continuation of the germen; c, *stigma*, or top of the stylus; d d d d d d, *filaments*, or threads; e e e e e, *anthers*; f f f f f, *petals*. Fig. 13. a, the *claws*, b, the *laminæ* or plates, of a many-petaled corolla. Fig. 14. a, Bell-shaped nectary of the narcissus. Fig. 15. Horned nectaries of monkshood. Fig 16. Horned nectary in the calyx of the tropœolum. Fig. 17. a a a a, The nectaries of the parnassia grass, five in number, each of which has 13 styles, with round buttons on their tops.

Parts of FRUCTIFICATION.—Fig. 18. a, *Perianth*; b, *germen*; c, *style*; d, *stigma*; e e, *filaments*; f f, *anthers*, some shedding the pollen or dust; g, the appearance of the anther before it sheds the pollen. Fig. 19. *a*, the *filament*, and *b*, the *anther*, separated from the flower. Fig. 20. *a*, one grain of the *pollen* magnified by a microscope; *b*, an elastic aura supposed to be necessary for impregnating the seeds. Fig. 21. a, *Germen*; b, *style*; c c, *stigma*. Fig. 22. *Folicle*: The seeds not adhering to the suture, are enclosed in a particular receptacle, *a*. Fig. 23. *Legume*, or a double-valved pericarp, having the seeds fixed only to one of the sutures *a a*. Fig. 24. *Silique*, or a double-valved pericarp, with the seeds fixed to both sutures or margins, *a b*. Fig. 25. *Pome*, or a fleshy pericarp, containing

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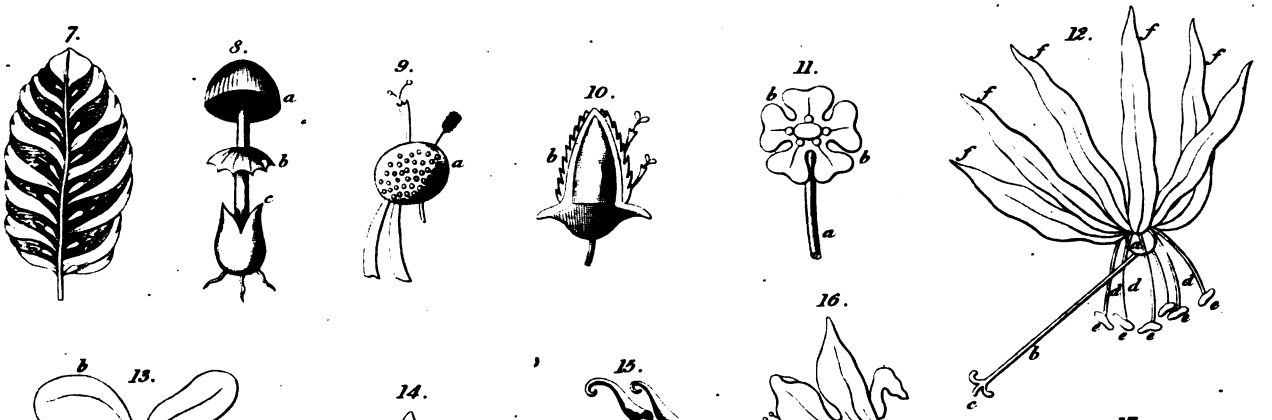
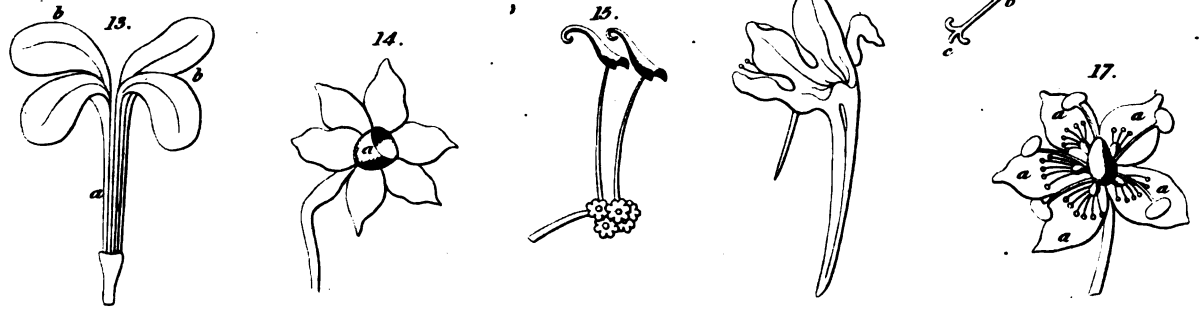
Fig. 1. 2. PARTS OF THE FLOWERS. 3. 4. 5. 6.

7. 8. 9. 10. 11. 12.

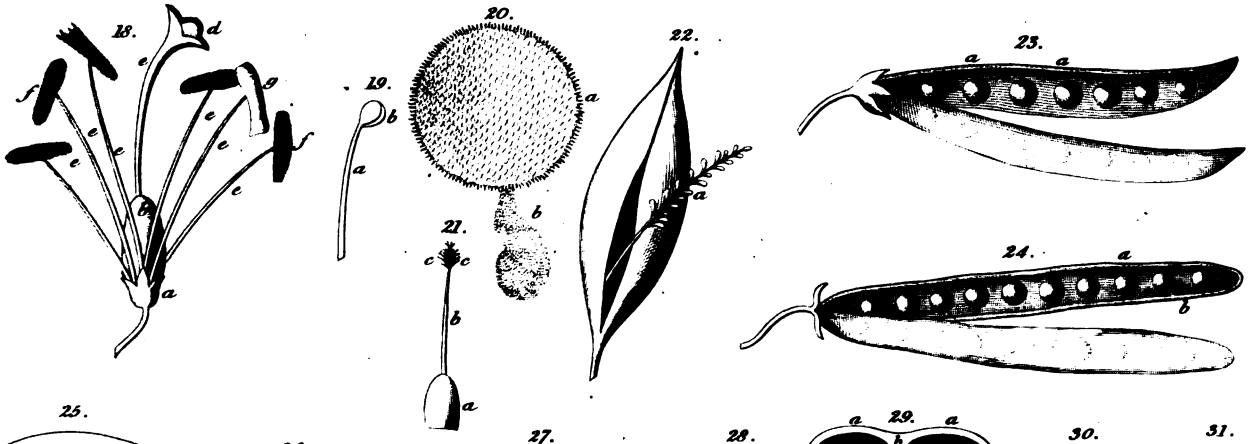


13. 14. 15. 16. 17.

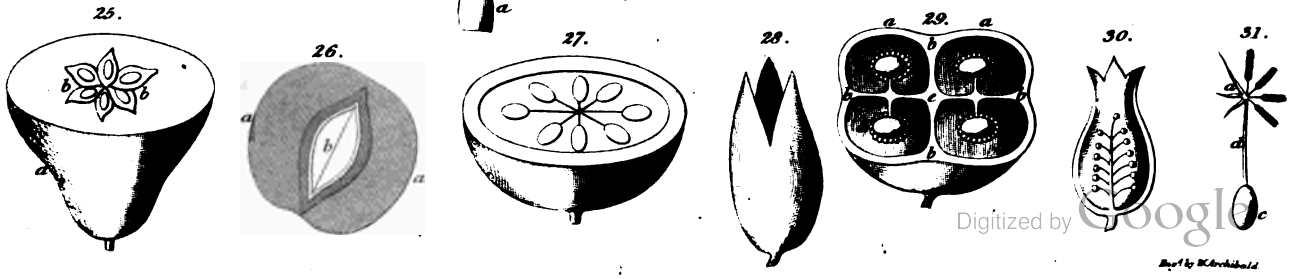


PARTS OF FRUCTIFICATION.

18. 19. 20. 21. 22. 23. 24.



25. 26. 27. 28. 29. 30. 31.



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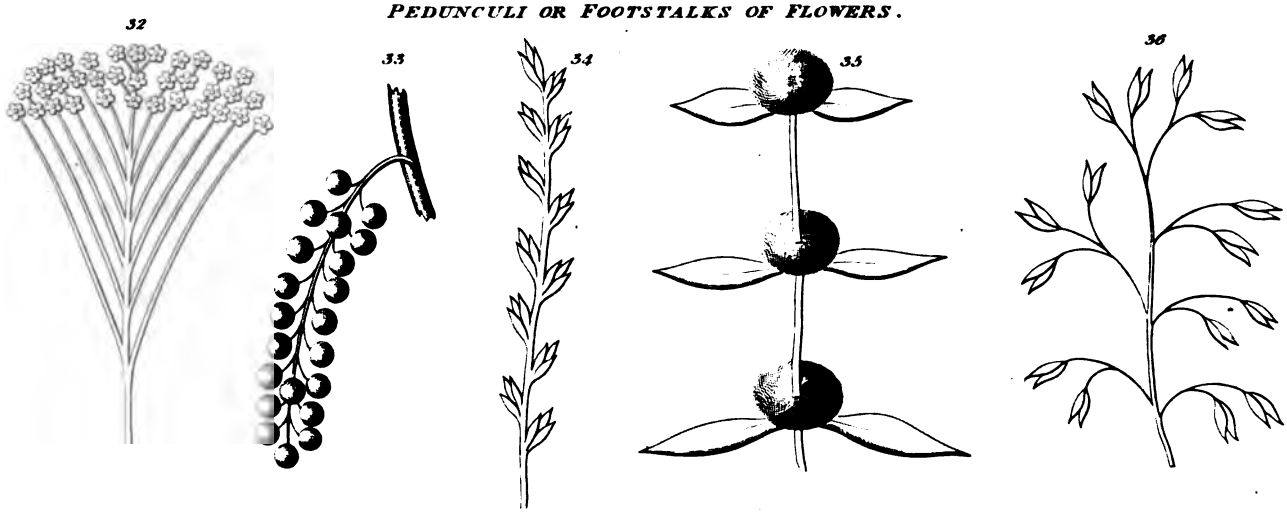
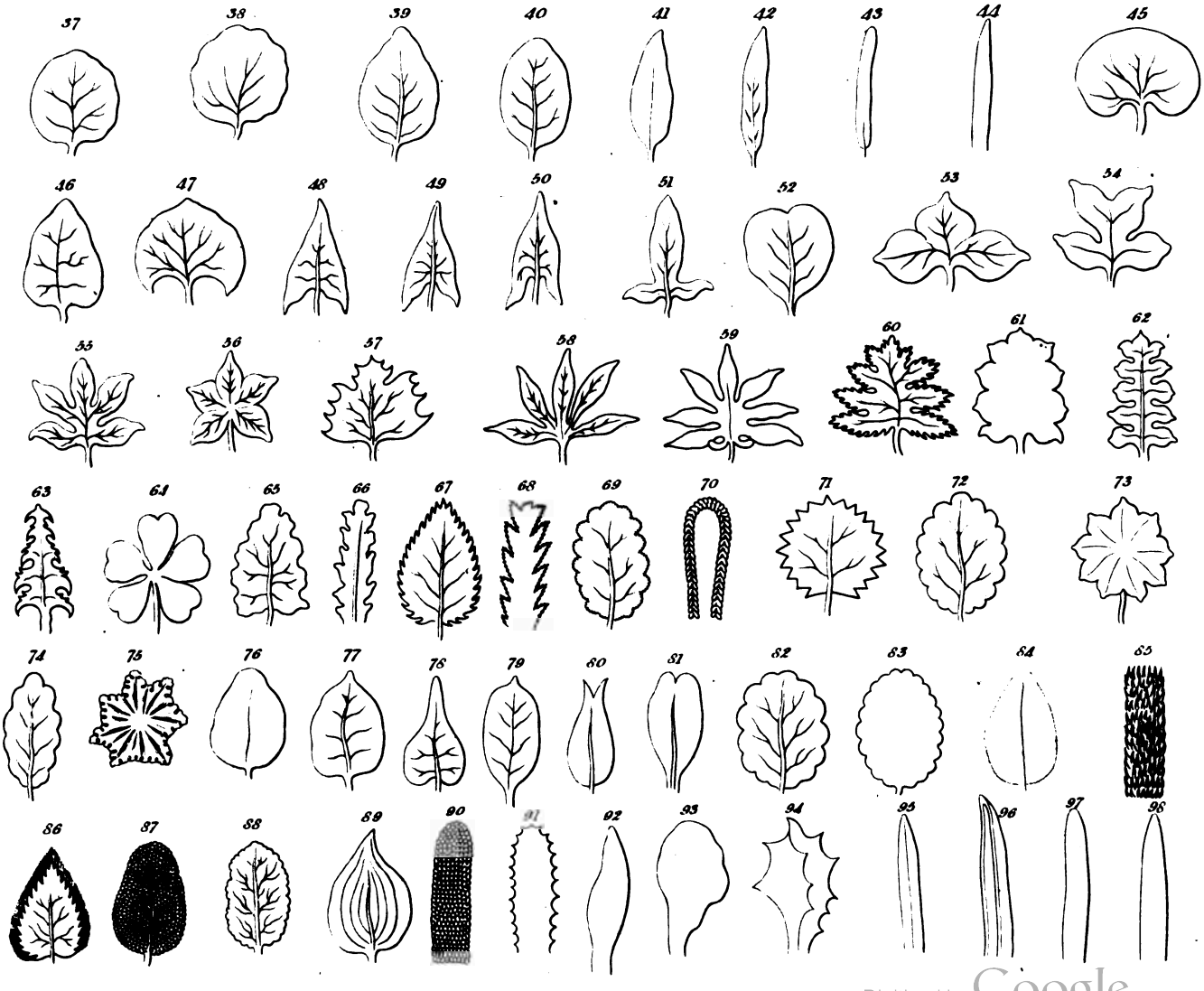
PEDUNCULI OR FOOTSTALKS OF FLOWERS.



LEAVES AS TO FIGURE A SIMPLE



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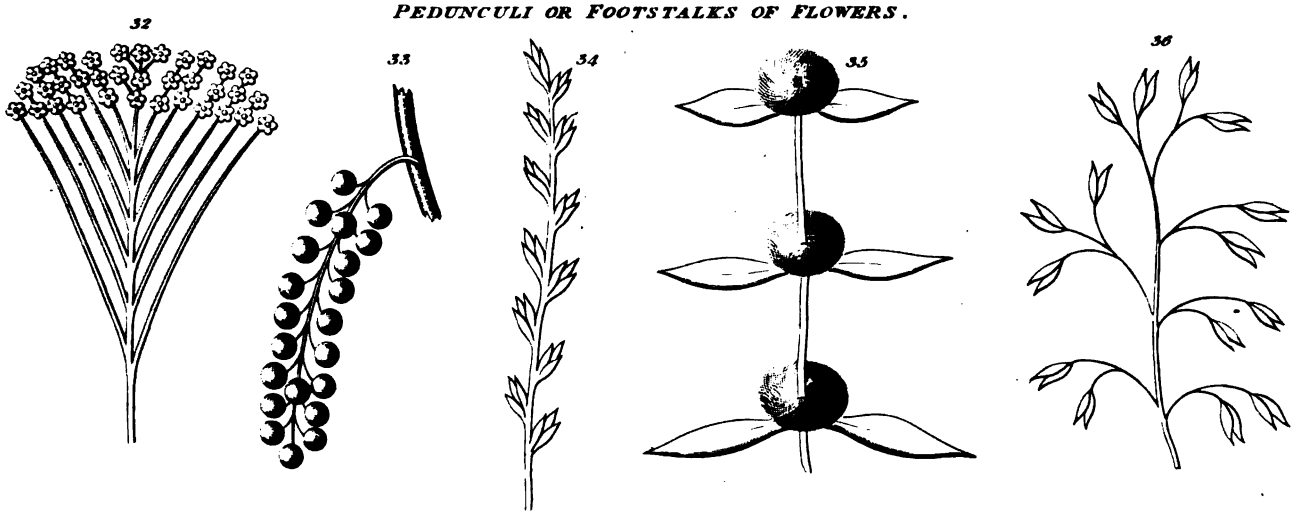
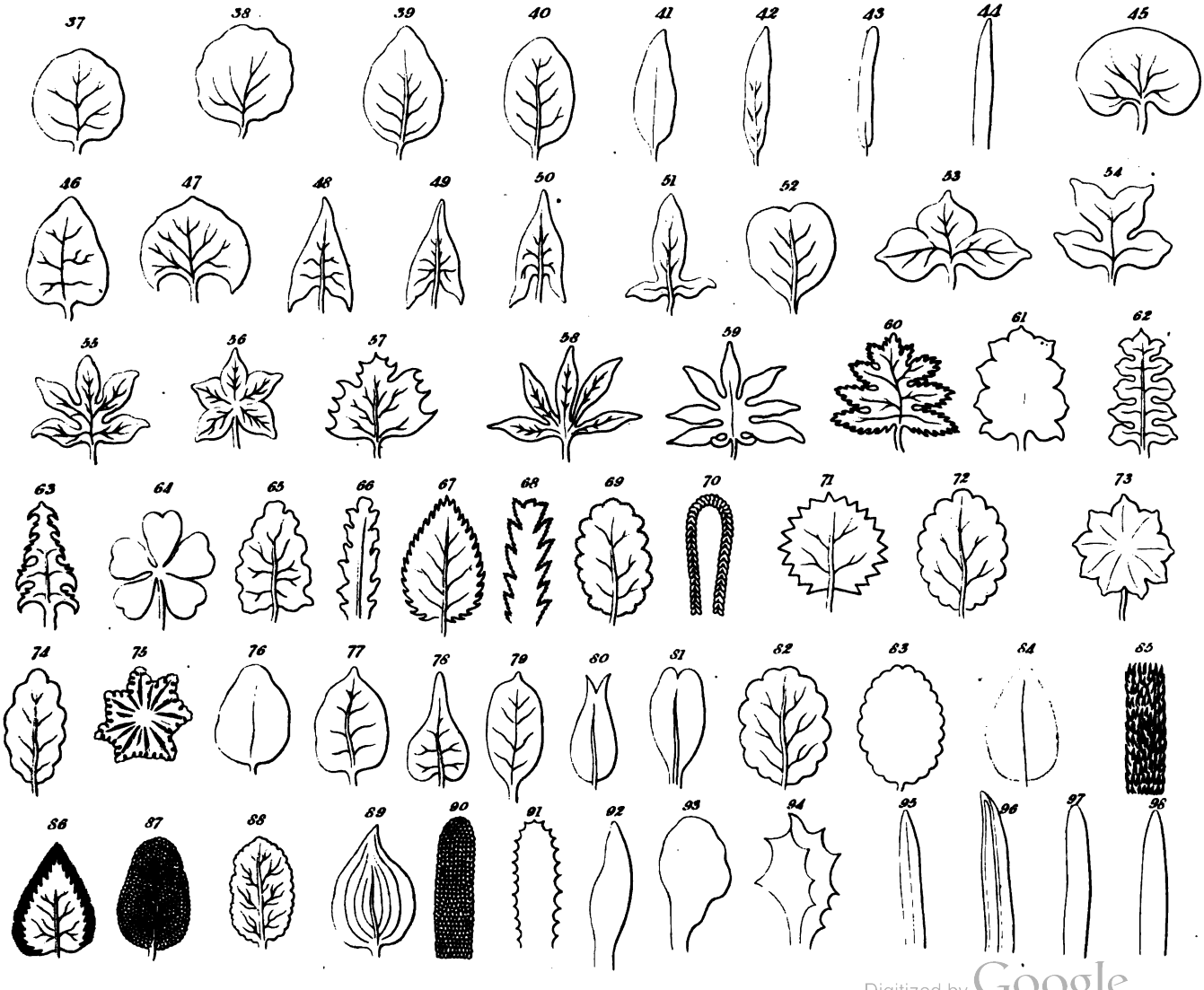
PEDUNCULI OR FOOTSTALKS OF FLOWERS.



LEAVES AS TO FIGURE A SIMPLE



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Selkirk sculp.

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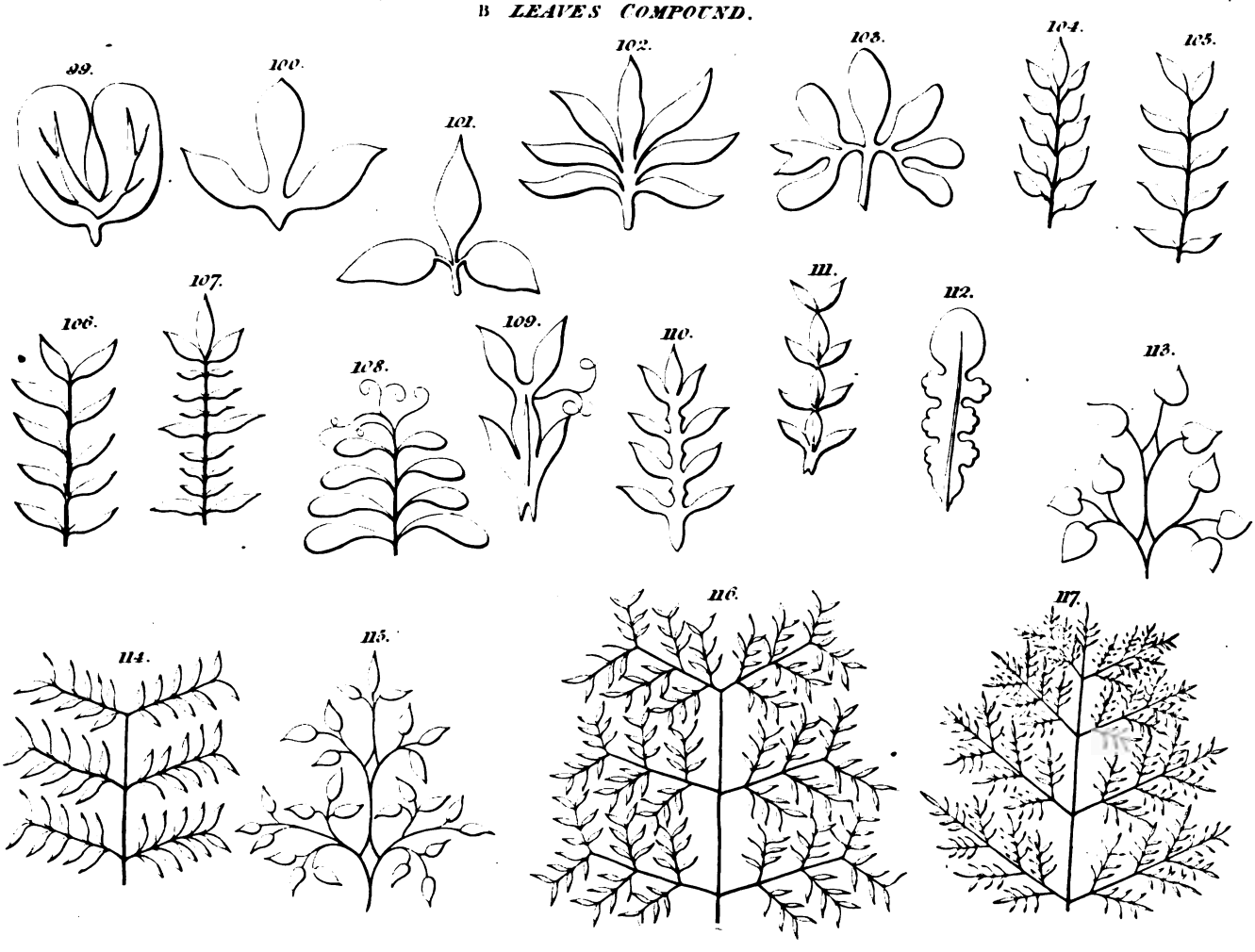
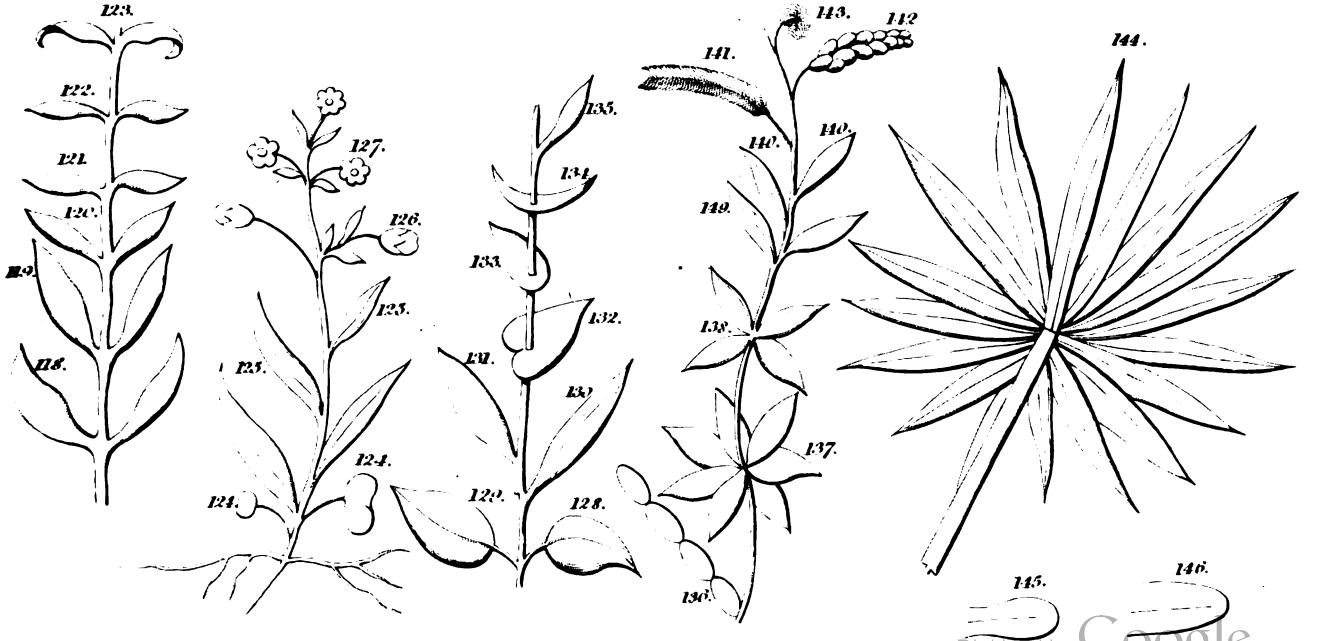
B LEAVES COMPOUND.



LEAVES AS TO DETERMINATION



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A Walcott Sculp.

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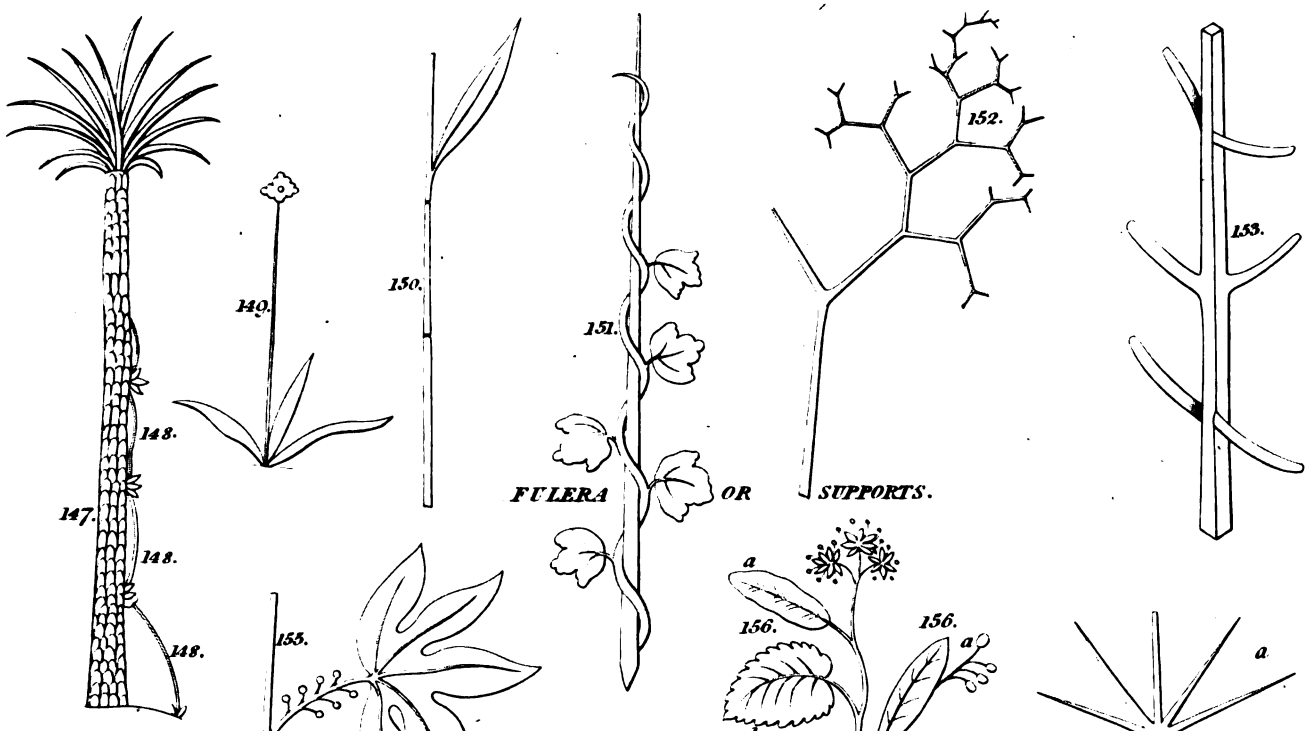
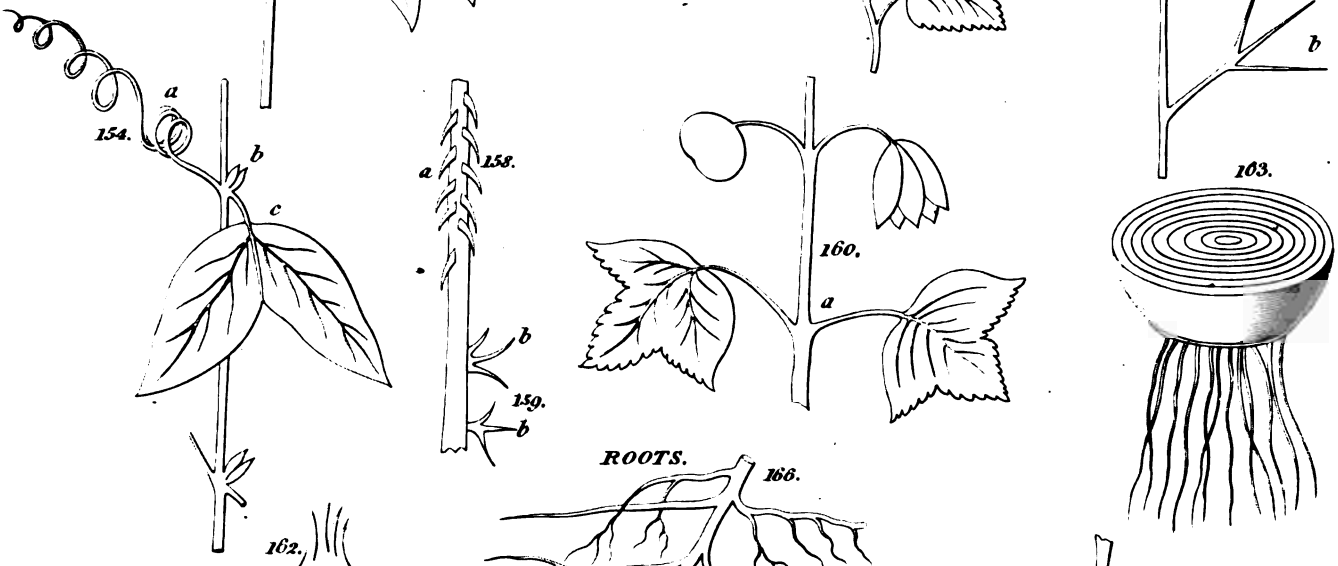
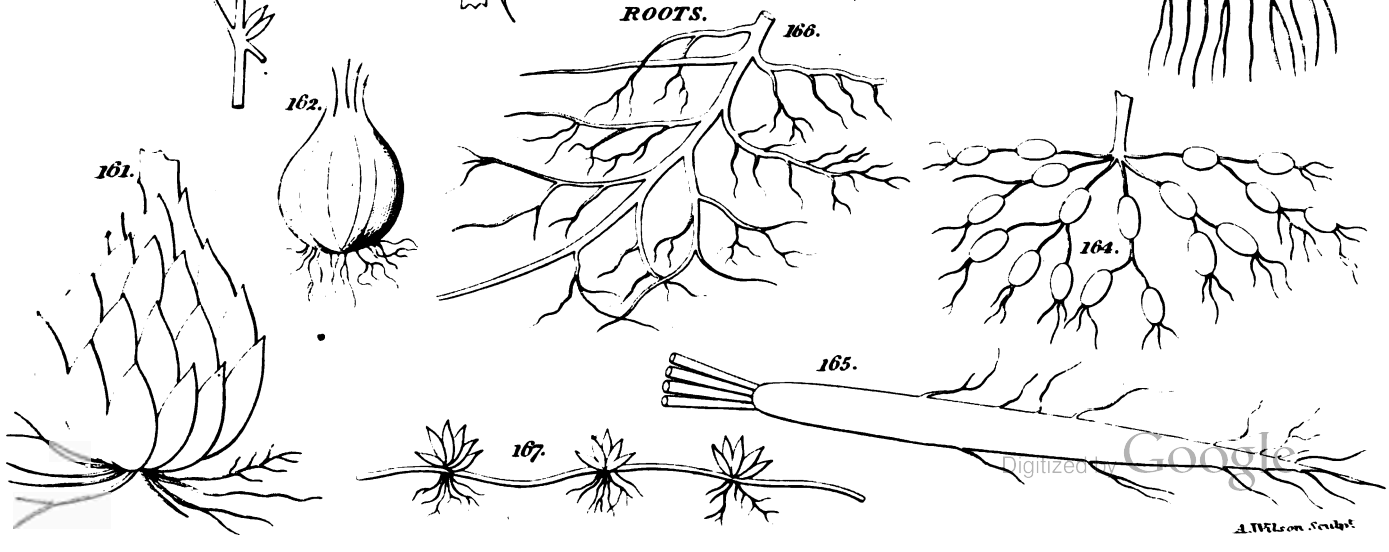
CAULES OR STEMS.



FULERA OR SUPPORTS.



ROOTS.



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Elements. ing a capsule in which the seeds are enclosed, as in the apple, &c.; *a*, the *pericarp*; *b*, the *capsule*, or seed-case. Fig. 26. a, *Drupe*, or pericarp containing a nut or stone, and having no valve. b, The *nucleus*, or stone. Fig. 27. *Bacca* or berry, a pericarp containing naked seeds dispersed through the pulpy part. Fig. 28. A capsule opening at the top to allow the seeds to fall out. Fig. 29. Four capsules included in a common pericarp. *a a*, The valves; *b b*, the dissepiment, or partition which separates the different seed-capsules from one another; c, *columella*, or central column, by which the capsules are connected. Fig. 30. A capsule cut off longitudinally, to show the receptacle of the seeds. Fig. 31. *Pappus*, or down; a, long-haired; b, feathered; c, seed; d, *stipe*.

Pedunculi or *Footstalks* of FLOWERS.—Fig. 32. Corymb. 33. Raceme. 34. Spike. 35. Verticil. 36. Panicle.

PLATES XCVI. XCVII. XCVIII. contain delineations relative to the SPECIES of plants.

1. LEAVES as to figure. A, *Simple*.—Fig. 37. Orbicular, of a circular figure. Fig. 38. Subrotundum, roundish or nearly circular. Fig. 39. Ovate. Fig. 40. Oval or elliptical. Eig. 41. Oblong. Fig. 42. Lanceolate. Fig. 43. Linear. Fig. 44. Subulate, or awl-shaped. Fig. 45. Reniform, or kidney-shaped. Fig. 46. Cordate, or heart-shaped. Fig. 47. Lunulated, or crescent form. Fig. 48. Triangular. Fig. 49. Sagittate. Fig. 50. Cordato-Sagittate, heart-shaped behind, and sharp like the point of an arrow before. Fig. 51. Hastate, or halbert-shaped. Fig. 52. Cleft. Fig. 53. Three-lobed, or having three (55) lobes. Fig. 54. Præmorse, fore-bitten. Fig. 55. Lobed. Fig. 56. Quinquangular, or five-angled. Fig. 57. Eroded. Fig. 58. Palmate. Fig. 59. Pinnated. Fig. 60. Laciniate. Fig. 61. Sinuate. Fig. 62. Dent-sinuate. Fig. 63. Sinuate backwards. Fig. 64. Partite or parted. Fig. 65. Repand, or scolloped. Fig. 66. Dentated, or dented. Fig. 67. Serrated or sawed. Fig. 68. Doubly serrated. Fig. 69. Doubly notched. Fig. 70. Cartilaginous. Fig. 71. Acutely notched. Fig. 72. Obtusely notched. Fig. 73. Plaited. Fig. 74. Crenate, notched. Fig. 75. Curled. Fig. 76. Blunt or obtuse. Fig. 77. Acute. Fig. 78. Acuminate, or awl-pointed. Fig. 79. Obtuse with an acumen, blunt with a sharp point superadded. Fig. 80. Acutely emarginated. Fig. 81. Cuneiform emarginate, wedgeform and notched at the end. Fig. 82. Retuse. Fig. 83. Long-haired. Fig. 84. Tomentose, or cottony. Fig. 85. Hispid, or bristle-haired. Fig. 86. Ciliated. Fig. 87. Rugose or wrinkly. Fig. 88. Veined. Fig. 89. Nerved. Fig. 90. Papillous. Fig. 91. Linguiform or tongue-shaped. Fig. 92. Scimitar-shaped. Fig. 93. Hatchet-shaped. Fig. 94. Deltoid. Fig. 95. Three-sided or triquetrous. Fig. 96. Channelled. Fig. 97. Furrowed. Fig. 98. Cylindrical. B. *Compound* Leaves. Fig. 99. Three-lobed. Fig. 100. Binate. Fig. 101. Ternate. Fig. 102. Digitate, or fingered. Fig. 103. Pedate. Fig. 104. Pinnated with an odd leaflet. Fig. 105. Abruptly pinnated. Fig. 106. Pinnated alternately. Fig. 107. Abruptly pinnated. Fig. 108. Pinnated with a cirrhus. Fig. 109. Pinnated with only two leaflets. Fig. 110. Pinnated decursively. Fig. 111. Pinnated jointedly. Fig. 112. Lyre-shaped. Fig. 113. Biternate, or duplico-ternate, biternate, (100), or doubly ternate, or having three ternate (100) leaves upon one petiole. Fig. 114. Bipinnate or doubly pinnate, i. e. having the primary pinnæ pinnated again a second time. Fig. 115. Triternate, or triple ternate, or consisting of three biternate (113) leaves. Fig. 116. Triple pinnated without an odd leaflet, or having the secondary *pinnæ* pinnated again, and these last *pinnæ* not terminated with an odd leaflet. Fig. 117. Triple pinnated with an odd leaflet. Elements.

2. LEAVES, as to determination.—Fig. 118. Incurvated. Fig. 119. Erect. Fig. 120. Patent or spreading. Fig. 121. Horizontal. Fig. 122. Reclined or reflex. Fig. 123. Revolute or rolled back. Fig. 124. Seminal leaves, or seed-leaves. Fig. 125. Cauline or stem-leaf. Fig. 126. A branch-leaf. Fig. 127. Floral; leaf next the flower; also termed a *bractea*. Fig. 128. Peltate, or target-shaped. Fig. 129. On a leaf-stalk. Fig. 130. Sessile. Fig. 131. Decurrent. Fig. 132. Stem-clasping. Fig. 133. Perfoliate. Fig. 134. Connate, or united at the base. Fig. 135. Sheathing. Fig. 136. Articulated or jointed. Fig. 137. Stellate, or verticilled. Fig. 138. *Quaterna*, *quina*, *sena*, &c. denote different species of stellated or verticilled leaves, when there are four, five, or six, &c. leaves in one verticil or whirl. Fig. 139. Opposite. Fig. 140. Alternate. Fig. 141. Linear and persisting. Fig. 142. Imbricated, or tiled. Fig. 143. Fascicled. Fig. 144. *Frond*; a species of stalk or trunk, consisting of branches and leaves, and sometimes the fructification, all united together; peculiar to the Filices or Ferns, and the Palmæ. Fig. 145. (Sauv.) Spatulate, or roundish above, with a long linear base. Fig. 146. Parabolical; having its longitudinal diameter longer than the transverse, and growing narrower from the base till it terminate somewhat like an oval.

3. CAULES, or STEMS.—Fig. 147. A scaly culm or stalk. Fig. 148. *Caulis repens*, a repent or creeping stalk or stem; appropriated to herbaceous plants. Fig. 149. Scape. Fig. 150. A jointed culm (147) or stalk. Fig. 151. A twining stem. Fig. 152. A dichotomous or two-forked stem. Fig. 153. Brachiated.

4. FULCRA, or SUPPORTS.—Fig. 154. a, A clasper or tendril; b, *Stipulas*, the little scales at the base of the foot-stalk of the leaf, or at the base of the flower-stalk; c, Small hollow glands for the secretion of some particular fluid. Fig. 155. a, Small glands. Fig. 156. a, *Bractea*; on footstalk, or differing from the other leaves of the plant. Fig. 157. a, A simple or one-pointed spine. b, A triple or three-pointed spine. Fig. 158. A triple or three-pointed prick. Fig. 160. Opposite leaves; *a*, the *axil*, or angle betwixt the leaf and the stalk.

5. ROOTS.—Fig. 161. A scaly bulb. Fig. 162. A solid bulb. Fig. 163. A tunicated or coated bulb. Fig. 164. A tuberous root. Fig. 165. Fusiform or spindle-shaped. Fig. 166. A branchy root. Fig. 167. A repent or creeping root.

EXPLANATION OF SIGNS.

Duration. ☉ Annual. ♂ Biennial. ♃ Perennial.
Magnitude ♄ Tree or shrub.
Time of flowering. I. II. III. January, February, March, &c.

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CLASSIFICATION.

CLASSIS I.
MONANDRIA.

ORDO I. MONOGYNIA.

Sect. I. SCITAMINEÆ, *Fructu infero uni vel triloculari.*

12. KÆMPFERIA. Cal. obsoletus. Cor. 6-partita: laciniis 3 majoribus patulis, unica bipartita. Stigma bilamellatum.

3. RENEALMIA. Cal. 1-phyllus rumpens. Cor. 3-fida inæqualis. Nectar. oblongum basi utrinque unidentatum. Bacca.

2. HELLENIA. Cal. spathiformis. Cor. limbus duplex: exterior subtrifidus. Nect. diphyllum s. bifidum.

6. HEDYCHIUM. Cal. 1-phyllus rumpens. Cor. tubus longissimus; limbus duplex 3-partitus. Nect. 2-phyllum.

11. CURCUMA. Cal. 2-fidus. Cor. 4-partita. Nect. 3-lobum. Anth. basi bicalcarata.

5. HORNSTEDTIA. Cal. 2-fidus. Cor. tubus longus filiformis; limbus duplex, exterior tripartitus. Nect. tubulosum.

8. ALPINIA. Cal. 3-dentatus æqualis tubulosus. Cor. 3-partita æqualis. Nect. 2-labiatum: labio inferiore patente.

4. AMOMUM. Cal. 3-fidus inæqualis cylindricus. Cor. 3-partita inæqualis patens. Nect. 2-labiatum erectiusculum.

7. COSTUS. Cal. 3-fidus gibbus. Cor. 3-partita ringens. Nect. 2-labiatum, labio inferiore maximo trilobo.

10. MARANTA. Cal. 3-phyllus. Cor. 3-fida. Nect. 3-partitum: lacinia tertia superiore latere antherifera.

1. CANNA. Cal. 3-phyllus. Cor. 6-partita. Nect. 2-partitum. Caps. 3-locularis.

14. PHRYNIUM. Cal. 3-phyllus. Cor. 3-petala tubo nectarii adnata. Nect. tubo filiformi, limbo 4-partito. Caps. 3-locul. Nuces 3.

13. THALIA. Cal. 3-phyllus. Cor. 5-petala: duo interiora minora. Nect. lanceolatum concavum. Drupa nuce unilocul.

9. MYROSMA. Cal. duplex: exterior 3-phyllus: interior 3-partitus. Cor. 5-partita irregularis.

Sect. II. *Fructu infero quadriloculari.*

18. LOPEZIA. Cal. 4-phyll. Cor. 5-petala inæqualis. Caps. 4-locul. 4-valvis, polysperma.

Sect. III. *Fructu supero.*

15. PHYLIDRUM. Spatha 1-flora. Cal. 0. Cor. 4-petala irregularis. Caps. 3-locul. polysperma.

CLASS I.
MONANDRIA.

ORDER I. MONOGYNIA.

Sect. I. SCITAMINEÆ *or Spicy Plants. The Germen Inferior, and* 1 *or* 3*-celled.*

12. K. Cal. indistinct. Cor. 6-parted, the three greater segments open in two-parted stigmas, bilamellated.

3. R. Cal. 1-leaved, bursting. Cor. 3-cleft, unequal. Nect. oblong, one tooth on each side of the base. A berry.

2. H. Cal. spathiform. Cor. limb double, exterior one subtrifid. Nect. two-leaved, or bifid.

6. H. Cal. 1-leaved, bursting. Cor. tube long, limb double, 3-parted. Nect. diphyllous.

11. C. Cal. 2 cleft. Cor. 4-parted. Anth. two horns at the base. Nect. 3-lobed.

5. H. Cal. 2-cleft. Cor. long, filiform; limb double, the exterior one 3-parted. Nect. tubulous.

8. A. Cal. 3-dented, equal. Cor. 3-parted, equal. Nect. 2-lipped, inferior lip spreading.

4. A. Cal. 3-cleft, unequal. Cor. 3-parted, unequal. Nect. 2-lipped, somewhat erect.

7. C. Cal. 3-cleft, gibbous. Cor. 3-parted, ringent. Nect. 2-lipped, inferior lip greatest, and 3-lobed.

10. M. Cal. 3-leaved. Cor. 3-cleft. Nect. 3-parted, third segment on the higher side anther-bearing.

1. C. Cal. 3-leaved. Cor. 6-parted. Nect. 2-parted. Caps. 3-celled.

14. P. Cal. 3-leaved. Cor. 3-petaled. Nect. tube filiform. Limb 4-parted. Caps. 3-celled. Nuts 3.

13. T. Cal. 3-leaved. Cor. 5-petaled, two interior pet. less. Nect. lanceolate, concave. Drupe 1 cell.

9. M. Cal. double; exterior one 3-leaved, interior 3-parted. Cor. 5-parted, irregular.

Sect. II. *Germen inferior, and four-celled.*

18. L. Cal. 4-leaved. Cor. 5-petals, unequal. Caps. 4 cells, 4 valves, many seeds.

Sect. III. *Germen superior.*

15. P. Spathe one flower. Cal. none. Cor. 4-petals irregular. Caps. 3 cells, many seeds.

16. CUCULLARIA.

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16. CUCULLARIA. Cal. 4-partitus. Cor. 4-petala inæqualis calcarata. Fil. petaliforme. Anth. loculis discretis!

17. QUALEA. Cal. 4-partitus. Cor. dipetala. *Bacca?*

19. USTERIA. Cal. 4-dentatus, lacinia unica reliquis multo majore. Cor. infundibuliformis 4-dentata. Caps. 1-locul. 2-sperma.

† *Mangifera Indica. Tradescantia monandra.*

Sect. IV. MONOSPERMÆ.

20. BOERHAAVIA. Cal. superus margo integerrimus. Cor. 1-petala campanulata.

* 23. HIPPURIS. Cal. superus margo bilobus. Cor. 0.

22. SALICORNIA. Cal. 1-phyllus ventricosus. Cor. 0.

21. POLLICHIA. Cal. 1-phyllus 5-dentatus. Cor. 0. Sem. 1, receptaculi squamis 2 baccatis tectum.

24. MITHRIDATEA. Recep. multiflorum 4-fidum. Cal. 0. Cor. 0. Sem. solitaria recept. carnoso immersa.

* CHARA. Cal. 0. Cor. 0. Anth. sessilis. Styl. 0. Stigma 5-fidum. Sem. plura.

* ZOSTERA. Spadix linearis, altera latere fructifero. Cal. 0. Cor. 0. Stam. alterna. Sem. solitar. alterna.

† *Valeriana rubra, angustifolia. Calcitrapa. Scirpi et Cyperi nonnullæ species. Alchemilla Aphanes, monandra. Polycnemum monandrum.*

ORDO II. DIGYNIA.

Sect. I. PLANTÆ.

25. LACISTEMA. Cal. amenti squama. Cor. 4-partita. Fil. 2-fid. Bac. pedicellata monosperma.

26. CORISPERMUM. Cal. 0. Cor. 2-petala. Sem. 1.

* 27. CALLITRICHE. Cal. 0. Cor. 2-petala. Cap. 2-locularis.

28. BLITUM. Cal. 3-fidus baccatus. Cor. 0. Sem. 1.

29. MNIARUM. Cal. 4-partitus superus. Cor. 0. Sem. 1.

Sect. II. GRAMINEÆ.

30. CINNA. Cal. gluma 1-flora. Cor. gluma, 2-valvis.

† *Leersia Monandra.*

16. C. Cal. 4-parted. Cor. 4 petals unequal, spur-shaped. Fil. petal-shaped.

17. Q. Cal. 4-parted. Cor. 2 petals. A berry.

19. U. Cal. 4-dented, one segment greater than the rest. Cor. funnel-shaped, 4-dentate. Caps. 1 cell, 1 seed.

† *Mangifera Indica. Tradescantia monandra.*

Sect. IV. MONOSPERMÆ, *or having one Seed.*

20. B. Cal. superior, margin very entire. Cor. 1 petal, campanulated or bell-shaped.

* 23. H. Cal. superior, margin two-lobed. Cor. none.

22. S. Cal. 1-phyllous, ventricose. Cor. 0.

21. P. Cal. 1-phyllous, 5-dented. Cor. 0. Seed 1, fleshy, scaly, inclosing the germen.

24. M. Cal. none. Cor. none. Recep. fleshy, having many flowers.

* C. Cal. 0. Cor. 0. Anth. sessile. Style 0. Berry many seeds.

* Z. Spadix linear, sheathed by the leaves, fruit-bearing. Cal. 0. Cor. 0. Seeds solitary alternate.

† *Valeriana rubra, angustifolia. Calcitrapa. Several species of Scirpus and Cyperus, Alchemilla Aphanes, monandra. Polycnemum monandrum.*

ORDER II. DIGYNIA.

Sect. I. PLANTS.

25. L. Cal. scale of an ament. Cor. 4-parted. Fil. 2-cleft, berry on a footstalk, 1 seed.

26. C. Cal. 0. Cor. 2 petals, seed 1.

* 27. C. Cal. 0. Cor. 2 petals. Caps. 2 cells.

28. B. Cal. 3-cleft, enclosing a berry. Cor. 0. seed 1.

29. M. Cal. 4-parted, superior. Cor. 0. Seed 1.

Sect. II. GRASSES.

30. C. Cal. glume, 1-flowered. Cor. glume, 2-valved.

† *Leersia Monandra.*

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1. CANNA, *Flowering Reed.*

Cor. 6-parted, erect. Nect. 2-parted, rolled back. Style lanceolate, adhering to the corolla. Cal. 3-leaved.

indica. 1. C. leaves ovate, acuminate ribbed.

rubra. α *C.* whole flower reddish, leaves ellipse-ovate.

lutea. β *C.* interior petals erect and yellow, the segments of the nectary rolled back and sprinkled with reddish lines; leaves ovate elliptical.

coccinea. γ *C.* interior petals erect, scarlet, the segments of the nectary rolled back, yellow sprinkled with red lines, leaves ovate elliptical.

patens. δ *C.* interior petals reflected, scarlet leaves lanceolate oblong. Between the tropics.

2. C. leaves lanceolate on footstalks, ribbed. *Small angustifolia.* *Flowering reed.* America.

3. C. leaves lanceol. petiol. glaucous beneath, with- *glauca.* out ribs. Carolina.

4. C. Leaves linear, ribbed. *Rushy flowering reed. juncea.* China.

2. HELENIA.

Limb of the cor. double, the outer one commonly 3-cleft. Nect. 2-leaved or 2-cleft. Caps. 3-celled, coriaceous, inflated, subglobose. Cal. spathiform, campanulated, 2-cleft.

1. H. Nect. 2-leaved. Caps. subspongious, leaves *alughas.* entire. Ceylon.

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alba. 2. H. Nect. diphyllous. Caps. striated, leaves entire. China.

chinensis. 3. H. Nect. 2-leaved, leaves ciliated. China.

aquatica. 4. H. Nect. 1-leaved, 2-cleft, leaves denticulated. India.

3. Renealmia.

Cor. trifid. Nect. oblong. Cal. 1-leaved, having two or three irregular dents. Anth. sessile, opposite to the nectary. Berry fleshy.

exaltata. 1. R. *High* or *tall renealmia.* It is a tree which grows 20 feet high; the leaves are lanceolated, and 5 or 6 feet long. Surinam.

4. Amomum, *Ginger.*

Cal. 3-cleft, unequal, cylindrical. Cor. 5-parted, unequal, spreading. Nect. bilabiate, almost erect.

zingiber. 1. A. Scape naked, spike and scales ovate, leaves lanceolate, ciliated on the margin near the apex. ♃. East Indies, and Jamaica.—This plant grows to the height only of two or three feet. It is valued chiefly on account of its root, which is tuberous, of the thickness of a finger, white or reddish within, and pale or yellow without. Ginger is reckoned a good stomachic. It is much used by the Indians by way of seasoning. It grows in Malabar, Ceylon, Amboina, and China, and is cultivated in the West Indies. As it is very plentiful on the mountains of Gingi, some suppose that from this circumstance the name Gingiber or Zingiber was derived.

zerumbet. 2. A. Scape naked; spike oblong, obtuse; scales roundish; leaves ovate, smooth on the margin. ♃. East Indies.

zedoaria. 3. A. scape naked; spike loose, cylindrical, truncated; leaves ovate acuminate. ♃. India.

sylvestre. 4. A. scape naked, spike elongated, bracteas oblong ventricose, leaves broad lanceolate. ♃. Jamaica.

mioga. 5. A. scape very short, capsule ovate, leaves sword-form and acute. ♃. Japan.

angustifolium. 6. A. scape naked, very short, spike-headed; leaves linear lanceolate. ♃. Madagascar.

cardamomum. 7. A. spike radical sessile obovate, leaves obovate-elliptical and cuspidate. ♃. India.

villosum. 8. A. scape sheathed very short, spike roundish; bracteas lanceolate, longer than the flower. ♃. India.

echinatum 9. A. spike radical, somewhat globular, capsules furrowed, echinate and globular. ♃. India.

repens. 10. A. scape branchy, decumbent; leaves lanceolate. ♃. Malabar.

granum paradisi. 11. A. scape branched loose, leaves ovate. ♃. Madagascar, Guinea, and Ceylon.—The fresh leaves of this plant, which grows to the height of 10 or 12 feet, have a strong aromatic taste, but somewhat bitter. Its grains have the same qualities in a higher degree. The Indians mix them with betel, in order to promote digestion. Their taste is very agreeable; when squeezed in the mouth, they produce a pleasant coolness. They are an object of commerce on the Malabar coast.

5. Hornstedtia.

Cal. bifid. Tube of the corolla long, filiform; border double, outer one three-parted. Nect. tubular; capsule three-celled, oblong.

1. H. leaves tomentose beneath. ♃. Malacca. *scyphus.*

2. H. leaves smooth ciliated. ♃. Malacca. *leoninus.*

6. Hedychium.

Cal. 1-leaved, bursting. Cor. with a very long tube; border double, three-parted. Nect. 2-leaved.

1. H. ♃. India. *coronarium.*

7. Costus.

Cal. trifid, gibbous. Cor. 3-parted, ringent. Nect. 2-lipped, the inferior lip largest, 3-lobed.

1. C. leaves smooth on both sides, spike with few flowers, scales leaf-like at the apex, the highest ones fastigiate. ♃. America. *arabicus.*

2. C. leaves smooth on both sides; spike many-flowered, somewhat ovate, closely imbricated; scales ovate simple. ♃. Brasil and the Caribbee islands. *spicatus.*

3. C. leaves covered beneath with a silky velvet down. ♃. East Indies. *speciosus.*

8. Alpinia.

Cal. 3-dented, equal, tubular. Cor. 3-parted, equal. Nect. bilabiate, lower lip spreading.

1. A. the raceme or cluster terminating spiked, flowers alternate, lip of the nectary 3-cleft; leaves oblong acuminate. ♃. America. *racemosa.*

2. A. the cluster terminating loose with flowers alternate, lip of the nectary emarginated, leaves lanceolate. ♃. East Indies. *galanga.*

3. A. spike terminating hairy, bracteas longer than the flower, coloured leaves, oblong-obovate pubescent. ♃. America. *comosa.*

4. A. cluster radical, compound, erect; nectary emarginate at the apex, capsule 3-celled, leaves lanceolate-ovate and very smooth. *Swartz* prod. 11. ♃. Jamaica and St Domingo. *occidentalis.*

9. Myrosma.

Cor. 5-parted, irregular. Cal. double, the outer part 3-leaved, the inner 3-parted. Caps. 3-angled, 3-celled with many seeds.

1. M. ♄. Surinam. *canneæformis.*

10. Maranta.

Cal. 3-leaved. Cor. 3-cleft. Nect. 3-parted, the third being a segment, the superior side anther-bearing.

1. M. culm branched and herbaceous, leaves ovate-lanceolate, somewhat hairy beneath. ♃. America. *arundinacea.*

2. M. culm branched, shrub-like, leaves ovate smooth. ♄. Cochin China. *tonchat.*

3. M. culm simple, leaves oblong, on footstalks, silky, pubescent beneath. ♃. Malacca. This species has not yet been accurately examined. *malaccensis.*

4. M. stemless scape; naked, spiked, hairy, the leaflets of the hair reflected. ♃. Surinam. It is uncertain whether this plant may not belong to an unformed genus; at any rate, it is very different from the other species of maranta already mentioned. *comosa.*

11. Curcuma.

Cal. bifid. Cor. quadripartite. Nect. 3-lobed. Anth. with two spurs at the base.

1. C. leaves lanceolate-ovate, ribs or nerves lateral, very few. ♃. India. *rotunda.*

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longa. 2. C. leaves lanceolate, ribs lateral and very numerous. ♃. India.

12. KÆMPFERIA.

Cal. indistinct. Cor. 6-parted, the three greater segments a little expanded, one two-parted. Stigma bilamellated.

galanga. 1. K. leaves ovate sessile. *Galangale.* ♃. India.
rotunda. 2. K. leaves lanceolate on footstalks. ♃. India.

13. THALIA.

Cor. 5-petaled; the two inner petals less. Nect. lanceolate concave. Nect. one cell. Cal. 3-leaved.

geniculata. 1. T. cor. 5-petaled. Nect. lanceolate. ♃. South America.
cannæformis. 2. T. Cor. 5-petaled. Nect. 2-cleft, erect. ♃. New Hebrides.

14. PHRYNIUM.

Cal. 3-leaved. Petal three, equal, adhering to the tube of the nectary. Nect. 1-leaved, tube filiform, border four-parted. Caps. three-celled. Nuts 3.

capitatum. 1. P. ♃. Malabar, Cochinchina, and China.

15. PHYLIDRUM.

Spathe one flower. Cal. none. Cor. 4-petaled, irregular. Caps. 3-celled, with many seeds.

lanuginosum. 1. P. ♃. Cochinchina, and China.

16. CUCULLARIA.

Cal. 4-parted. Cor. 4-petaled unequal, with a spur. Fil. petaliform.

excelsa. 1. C. Guiana. A lofty tree, with leaves opposite, obovate acute veined; racemes terminating, flowers yellow.

17. QUALEA.

Cal. 4-parted. Cor. 2-petaled.

rosea. 1. Q. Guiana.
cærulea. 2. Q. petals emarginate, leaves acute. Guiana.

18. LOPEZIA.

Cal. 4-leaved. Cor. 5-petaled unequal. Caps. 4-celled, 4-valved, many seeds.

mexicana. 1. L. ☉. Mexico. The *Lopezia hirsuta* of Jacquin is only a variety.

19. USTERIA.

Cal. 5-dented, one dent much larger than the rest. Cor. funnel-shaped, 4-dented. Caps. one cell, 2 seeds. Seeds arilled.

guineensis. 1. U. Guinea. ♄ with opposite branches; leaves opposite, roundish, ovate, entire. Flowers panicled terminating.

20. BOERHAAVIA.

Cal. margin quite entire. Cor. 1 petal, campanulated plaited. Seed 1, naked, inferior.

erecta. 1. B. stem 4-angled smooth, the internodes viscous, flowers corymbous-panicled. ♃. Vera Cruz, and Jamaica. The stamens are two in number.

ascendens. 2. B. leaves oblong-ovate, a little fleshy, flowers panicled, fruitstalks with two flowers, stem ascending or rising like an arch. Guinea.

diffusa. 3. B. stem tapering pubesent, flowers capitate corymbous. ♃. South America. The leaves are whitish beneath. Flowers purple, with one stamen.

hirsuta. 4. B. stem a little tapering, hirsute flowers capitate. ♃. Jamaica. The stem is a foot long, the flowers blood-coloured, the stamens two.

plumbaginea. 5. B. leaves nearly heart-shaped, orbicular-acute, pubescent beneath, flowers umbellated. ♃. Spain. The corolla is of a pale rose hue, the stamens three, the fruit top-shaped and striated.

scandens. 6. B. stem erect, flowers umbellated bistaminal, leaves heart-shaped. West Indies. ♄ six feet high, erect, smooth. The branches alternate, the umbels green, bearing six flowers, the involucre 5-leaved.

excelsa. B. stem erect, leaves inferior heart-shaped ovate, the highest leaves ovate, flowers umbellated, 3-stamined. ♄. The corolla is purple, the stamens three.

repanda. 8. B. stem erect, leaves heart-shaped repando-sinuated, flowers umbellated, 3-stamined. China.

chærophylloides. 9. B. leaves bipinnatifid, dented; flowers umbellated and 3-stamined. *Valeriana Chærophylloides* of Dr Smith. ☉. Chancay in Peru.

repens. 10. B. stem creeping. ♃. Nubia.

augustifol. 11. B. leaves linear and acute.

tetrandra. 12. B. stem creeping, flowers 4-stamined. Society islands.

Several species of Boerhaavia resemble the Valeriana.

21. POLLICHIA.

Cal. 1-leaved, 5-dented. Cor. none. Seed 1. Recept. including the fruit within its scales.

campestris 1. P. ♂. Cape of Good Hope.

22. SALICORNIA, *Samphire.*

Cal. ventricose, entire. No petals. Stam. 1 or 2. Seed 1, covered with the calyx.

herbacea. * 1. S. Knees compressed, emarginate, internodes obconical, spikes on footstalks tapering towards the apex. Europe.

α *S. Europæa;* small jointed glasswort.
β. *S. erecta,* leaves short; woody-jointed.
γ *S. myosuroides,* procumbent shoots very long.
δ More branched, procumbent, leaves short, purplish.
Marsh samphire, jointed glasswort, or *saltwort.*

Frequent on the sea shore in muddy or sandy places. ☉ or ♂. Flowers VIII. and IX.

The root is fibrous, small. Stem commonly erect, subdivided at the base, branched above. Branches opposite, simple erect, very succulent, without leaves; kneed, knees compressed, dilated at the summit, emarginated. Spikes opposite terminating with a large odd one, on footstalks, tapering gradually towards the summit, somewhat pointed, jointed. Flowers opposite, three commonly on each side.

β Has a more branched stem, spikes longer and thicker.

Note, The genera and species of plants found in Britain are marked with an asterisk.

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thicker. γ A diffuse stem, spikes very long. δ A stem very much branched, spikes small, purplish. ε A stem very much branched, firmer, spikes shorter, green.

fruticosa. * 2. S. knees cylindrical, entire, internodes equal, spikes subsessile cylindrical obtuse. *Shrubby samphire* or *jointed glasswort.* Is found in sea marshes. ϰ. Flowers in VIII. and IX. The root is woody and perennial, the stem somewhat shrubby, ascending, very much branched, the branches and branchlets opposite. All the internodes commonly cylindrical. The spikes generally sessile, cylindrical obtuse, many-flowered, joints very short.

perennans 3. S. knees compressed emarginate, spikes axillary, three together on fruitstalks, scales acute, root perennial. Siberia.

strobilacea 4. S. stem prostrate shrubby, genicles truncated alternately bearing spikes; spikes naked, very short opposite. ♄. Near the Caspian sea.

virginica. 5. S. erect, branches very simple. Virginia.

arabica. 6. S. leaves alternate, sheathing, obtuse dehiscent. ♄. Arabia.

foliata. 7. S. leaves linear, alternate, stem-clasping, decurrent. Siberia. ♄.

amplexicaulis. 8. S. leaves heart-shaped, stem-clasping. Tunis. ♄.

caspica. 9. S. genicles cylindrical, spikes filiform. Shores of the Caspian and Mediterranean. ♄.

23. Hippuris.

Cal. indistinct, entire. Cor. none. Stigma simple. Seed 1, inferior.

vulgaris. * 1. H. with leaves verticilled and linear. In ditches and muddy stagnant pools, but not common. Near Hornsey and Lynn: also in the King's park at Edinburgh. ϰ. Flowers in V. The root is composed of long verticilled fibres; the stem very simple, erect, often kneed, immersed and leafless to the middle, leafy above. The leaves verticilled, from 8 to 12, spreading, linear, acute, very entire, smooth. Flowers axillary, solitary, sessile.

tetraphyllus. 2. H. leaves inferior in fours, higher leaves six together obtuse. Sweden.

24. Mithridatea.

Recep. has many flowers, and is 4-cleft. Cal. none. Cor. none. Seeds solitary, immersed in a fleshy receptacle.

quadrifida 1. M. ♄. Madagascar, Mauritius, and Bourbon. It has opposite branches, leaves on footstalks opposite, elliptical obtuse, entire, venous; flowers solitary on footstalks, four-cleft, lateral on the older branches. The fruit is fleshy, and of the size of an apple.

Chara.

Cal. none. Cor. none. Anth. sessile. Style none. Berry many seeds.

vulgaris. * 1. C. without prickles striated, leaves awl-shaped, jointed. *Common Chara.*

β *C. minor*, with stems and leaves very slender.

Frequent in muddy waters. β In water more pure. ⊙. Flowers in VII. The whole plant immersed, fetid, brittle, and commonly incrusted with a whitish calcareous gritty substance. The stem is a foot long, filiform, branchy, leafy, striated, twisted. The leaves verticilled, about 8-subulate, acute, jointed, striated, channelled above, flower-bearing. The anther naked, sessile, depressed, fleshy, rimose. The germen surrounded with four leaflets, near the anther, ovate, striated spirally, 5-dented at the summit. The berry corticated, and many seeds. No stigma is visible.

hispida. * 2. C. furrowed, the leaves subulate and jointed, the leaflets verticilled, the prickles on the stem bristly and deflected.

β *C. major*, brittle, and somewhat ash-coloured. *Prickly Chara.* Grows in pools and ditches. North of England; in Guillon Loch, East Lothian. ⊙. Flowers in VII. and VIII. The habit of this species the same as the former, but larger, the stem being five times thicker, furrowed rather than striated, very prickly above, the higher prickles all deflected, the lower ones varying in direction. The leaflets verticilled. The flowers resemble those of the *vulgaris.*

Variety β is chiefly distinguished by its stem being prickly only under the higher verticils.

flexilis. * 3. C. without prickles, smooth, diaphanous, leaves cylindrical obtuse, a little dagger-pointed. *English Smooth Chara.* Grows in ditches and lakes. ⊙. Flowers in VII. and VIII. Green, pellucid, smooth, not striated. Stem round, branched, equal. Leaves verticilled, cylindrical, filiform, obtuse, mucronulate, often jointed and branched; hence might be called branchlets: the flower-bearing ones are aggregate, terminating shorter.

Zostera, *Grass-wrack.*

Spadix linear-sheathed by the leaves, flower-bearing. Cal. none. Cor. none. Anth. sessile opposite to the germen. Stigmas two, linear. Caps. 1 seed.

marina. * 1. Z. with sessile pericarps. *English Grass-wrack.* On the sea-shore in salt marshes and ditches. ϰ. Flowers in VIII. and IX. The root is fibrous. Stems tapering, smooth geniculated, decumbent at their base, striking root; partly floating, leafy, somewhat branched and a little compressed. The leaves alternate, on leafstalks, linear, a little obtuse, entire, smooth, opening a little above the same into a longitudinal chink, and exhibiting a spadix plane and linear, flower-bearing on one side. The anther oblong, sessile at the side of the germen. The germen sessile, oblong. Stigmas 2, linear, acute, somewhat spreading. Capsule elliptical, pendulous, 1-seeded.

Order II. DIGYNIA.

25. Lacistema.

Cal. scale of an ament. Cor. 4-parted. Fil. 2-cleft. Berry on a fruitstalklet, 1 seed.

myricoides 1. L. Jamaica and Surinam. ♄.

26. Corispermum, *Tickseed.*

Cal. none. Petals 2. Seed 1, oval, naked.

hyssopifolium. 1. Cor. spikes terminal, leaves linear, ribless, awnless. Russia, Tartary, and south of France. ⊙.

squarrosum. 2. Cor. spikes axillary, squarrose, leaves lanceolate-acuminate, pungent, nerved, or ribbed. Banks of the Wolga and the deserts of the Cossacs. ⊙.

27. Callitriche.

Cal. none. Petals two. Stigmas acute. Seeds 4, compressed,

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compressed, naked, with a membranous margin on one side. Some flowers are monoecious.

equatica. * 1. C. commonly called *verna*.
β *Stellaria minor*, creeping.
γ *C. autumnalis.*
English Water Star-wort. Flowers from IV. to X. The whole plant floats in spring, and after the season of flowering sinks a little. Roots fibrous simple. Stems filiform, branched, leafy, smooth. Leaves opposite, spatulate, obtuse, entire, triple, nerved, pellucid, smooth. Lower leaves linear, with one nerve, emarginate. Flowers axillary, solitary, sessile, small, white, hermaphrodite or anther-stigmate, the pistils and stamens sometimes intermingled. Fruit small, sessile, with four keels.
The variety γ, which has been called *Cal. Autumnalis*, and considered as a distinct species, is entirely immersed, all the leaves uniform, linear, emarginate; all the flowers anther-stigmate. It flowers in the beginning of summer.

28. BLITUM.

Cal. 3-cleft. Petals none. Seed 1, in a berried calyx.

1. B. little heads spiked, terminal. South of Europe, especially of the Tyrol, Switzerland. ⊙. *capitatum.*
2. B. little heads scattered and lateral. *virgatum.*
β. *B. chenopodioides*, little heads verticilled and juiceless. Tartary, Spain and France. ⊙.

29. MNIARUM.

Cal. 4-parted, superior. Cor. none. Seed 1.

1. M. New Zealand and Terra del Fuego. ♃. *biflorum.*
This genus very much resembles the genus Minuartia in the 3d class.

30. CINNA.

Cal. a glume 2-valved, one flower. Cor. a glume 2-valved.

1. C. Canada. ♃. This plant seems to be a species of *agrostis*, though evidently distinct from AGROSTIS CINNA. *arundinacea.*

In the class Monandria are

30 Genera; and 84 species, 8 of which are British.

CLASSIS II.

DIANDRIA.

ORDO I. MONOGYNIA.

Sect. I. *Flores inferi, monopetali, regulares.*

36. OLEA. Cor. 4-fida: laciniis subovatis. Drupa monosperma.
37. CHIONANTHUS. Cor. 4-fida: laciniis longissimis. Drupa monosperma, nuce striata.
35. PHILLYREA. Cor. 4-fida. Bacca monosperma.
* 34. LIGUSTRUM. Cor. 4-fida. Bacca tetrasperma.
40. PIMELEA. Cor. 4-fida. Cal. nullus. Stam. fauci inserta. Nux corticata unilocularis.
38. SYRINGA. Cor. 4-fida. Caps. bilocularis.
41. ERANTHEMUM. Cor. 4-fida: laciniis obovatis planis. Capsula.
31. NYCTANTHES. Cor. 4-fida: laciniis truncatis. Caps. 2-locularis marginata. Sem. solitaria.
32. JASMINUM. Cor. 5-8 fida. Bacca dicocca. Sem. solitaria arillata.
33. GALIPEA. Cor. 4-5-fida. Stam. 4, duo sterilia. Capsula?

Sect. II. *Flores inferi, monopetali, irregulares. Fructus capsularis.*

45. PÆDEROTA. Cor. 4-fida, fauce glabra. Cal. 5-partitus. Caps. 2-locul.
46. WULFENIA. Cor. 4-fida, fauce barbata. Cal. 5-partitus. Caps. 2 locul.
* 44. VERONICA, Cor. 4-fida, limbo planiuscule: lacinia inferiore angustiore. Caps. 2-locul.

CLASS II.

DIANDRIA.

ORDER I. MONOGYNIA.

Sect. I. *Flowers inferior.*

36. O. Cor. 4-cleft, segments subovate. Drupe 1 seed.
37. C. Cor. 4-cleft, segments very long. Drupe 1 seed. Nut striated.
35. P. Cor. 4-cleft. Berry 1 seed.
* 34. L. Cor. 4-cleft. Berry with 4 seeds.
40. P. Cor. 4-cleft. Cal. 0. Stam. inserted into the throat. Nut.
38. S. Cor. 4-cleft. Capsule corticated, 2-celled.
41. E. Cor. 5-cleft, segments obovate, plane.
31. N. Cor. 4-cleft, segments truncated. Caps. 2-celled, marginate. Seeds solitary.
32. J. Cor. 5-8-cleft. Berry 2-grained. Seeds solitary, arillate.
33. G. Cor. 4-5-cleft. Stamens 4, 2 barren.

Sect. II. *Flowers inferior, one-petaled, irregular. Fruit capsular.*

45. P. Cor. 4-cleft, throat bare. Cal. 5-parted. Caps. 2-celled.
46. W. Cor. 4-cleft, throat bearded. Cal. 5-parted. Caps. 2-celled.
* 44. V. Cor. limb 4-parted, lower segment narrowest.

49. GRATIOLA.

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49. GRATIOLA. Cor. 4-fida bilabiata resupinata. Stamina 4: duo sterilia. Caps. 2-locul.

50. SCHWENKIA. Cor. subæqualis: ore plicato-stellato glanduloso. Stam. 5: 3 sterilia. Caps. 2-locul.

48. JUSTICIA. Cor. irregularis. Caps. 2-locul. ungue elastico dissiliens: Dissepimentum contrarium adnatum.

47. CYRTANDRA. Cor. irregularis. Stam. 4: 2 sterilia. Bacca 2-locularis.

* 53. PINGUICULA. Cor. ringens, calcarata. Cal. 5-fidus. Casp. 1-locul.

51. CALCEOLARIA. Cor. ringens, inflata. Cal. 4-fidus. Casp. 2-locula. 4-valvis.

52. BAEA. Cor. ringens. Cal. 5-partitus. Caps. 2-locul. 4-valvis.

* 54. UTRICULARIA. Cor. ringens, calcarata. Cal. 2-phyllus. Caps. 1-locularis.

55. GHINIA. Cor. ringens. Cal. 5-aristatus. Nux carnosa 4-locula.

66. SCIURIS. Cor. ringens. Stam. 5: 3 sterilia. Caps. 5 coalitæ.

† *Hemimeris sabulosa, diffusa, montana. Bignonia catalpa, longissima.*

SECT. III. *Flores inferi monopetali, irregulares. Fructus gymnospermi.*

* 56. VERBENA. Cor. subæqualis. Cal. lacinia suprema breviore.

* 57. LYCOPUS. Cor. 4-fida subæqualis; lacinia unica emarginata. Stam. distantia.

58. AMETHYSTEA. Cor. 5-fida subæqualis: lacinia infima concava. Stam. approximata.

60. ZIZIPHORA. Cor. ringens: galea reflexa. Cal. filiformis.

61. MONARDA. Cor. ringens: galea lineari obvolvente genitalia.

62. ROSMARINUS. Cor. ringens: galea fornicata bifida. Stam. curva cum dente.

* 63. SALVIA. Cor. ringens. Fil. transversè pedicellata.

59. CUNILA. Cor. ringens, galea plana. Stam. 4: 2 sterilia.

64. COLLINSONIA. Cor. subringens: labio capillari multifido.

Sect. IV. *Flores inferi polypetali.*

42. FONTANESIA. Cor. 2-petala. Cal. 4-partitus. Caps. 2-locul. non dehiscens.

68. LITHOPHILA. Cor. 3-petala. Cal. 3-phyllus. Peric. 2-locul.

69. LINOCIERA. Cor. 4-petala. Cal. 4-dentatus. Bacca 2-locul.

39. DIALIUM. Cor. 5-petala. Cal. nullus.

† *Polycnemum sclerospermum.*

Sect. V. *Flores superi.*

65. MORINA. Cal. fructus dentato-aristatus, floris bifidus.

49. G. Cor. 4-cleft, bilabiate, resupinate. Stam. 4, 2 barren. Caps. 2-celled.

50. S. Cor. subequal, mouth plaited-stellate glandular. Stam. 5, 3 barren. Caps. 2-celled.

48. J. Cor. irregular. Caps. 2-celled, bursting, with an elastic claw.

47. C. Cor. irregular, 4 stamens, 2 barren. Berry.

* 53. P. Cor. ringent, spurred. Cal. 5-cleft, 1-celled.

51. C. Cor. ringent, inflated. Cal. 4-cleft. Caps. 2-celled, 4-valved.

52. B. Cor. ringent. Cal. 5-parted. Caps. 2-celled, 4-valved.

* 54. U. Cor. ringent, spurred. Cal. 2-leaved. Caps. 1-celled.

55. G. Cor. ringent. Cal. 5-awned. Nut fleshy, 4-celled.

66. S. Cor. ringent. 5 Stam. 3 barren. Caps. 5, united.

Plants apt to be confounded with those are,

Hemimeris sabulosa, diffusa, montana. Bignonia catalpa, longissima.

Sect. III. *Flowers inferior, one-petaled, irregular. Seeds naked.*

* 56. V. Cor. subequal. Cal. highest segment shorter.

* 57. L. Cor. subequal. Stamens distant.

58. A. Cor. 5-cleft subequal, longest segment concave cleft. Stamens near.

60. Z. Cor. ringent, helmet reflected. Cal. filiform.

61. M. Cor. ringent, helmet linear, covering the pistils and stamens.

62. R. Cor. ringent, helmet arched, 2-cleft. Stam. crooked.

* 63. S. Cor. ringent. Fil. on a transverse foot-stalk, with a dent.

59. C. Cor. ringent, helmet plane. 4 Stam. 2 barren.

64. C. Cor. subringent, lip capillary many-cleft.

Sect. IV. *Flowers inferior, many-petaled.*

42. F. Cor. 2-petaled. Cal. 4-parted. Caps. 2-celled, not dehiscent.

68. L. Cor. 3-petaled. Cal. 3-leaved. Peric. 2 cells.

69. L. Cor. 4-petaled. Cal. 4-dented. Berry 2 cells.

39. D. Cor. 5-petaled. Cal. none.

Flowers sometimes Diandrous.

Polycnemum sclerospermum.

Sect. V. *Flowers superior.*

65. M. Cal. double, that of the fruit dented; that of the flower 2-cleft.

43. CIRCÆA.

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* 43. CIRCÆA. Cal. 2-phyllus. Cor. 2-petala obcordata.

67. GLOBBA. Cal. 3-fidus. Cor. 3-fida. Caps. 3-locularis.

Flowers sometimes Diandrous, resembling those of Sect. V.

† *Valeriana Cornucopiæ. Boerhaavia erecta, hirsuta, scandens.*

Sect. VI. *Flores apetali.*

70. ANCISTRUM. Cal. 4-phyllus. Drupa exsucca, hispida, 1-locul.

71. ARUNA. Cal. 5-partitus. Bacca 1-locularis.

ORDO II. DIGYNIA.

* 72. ANTHOXANTHUM. Cal. gluma 2-valvis, 1-flora. Cor. gluma 2-valvis, acuminata aristata.

73. CRYPSIS. Cal. gluma 2-valvis, 1-flora. Cor. gluma 2-valvis, mutica.

Flower resembling these.

Saccharum Cylindricum Thunbergii.

ORDO III. TRIGYNIA.

74. PIPER. Cal. 0. Cor. 0. Bacca 1-sperma.

43. C. Cal. 2-leaved. Cor. 2-petaled.

67. G. Cal. 3-cleft. Cor. 3-cleft. Caps. 3-celled.

Sect. VI. *Flowers without Petals.*

70. A. Cal. 4-leaved. Drupe juiceless, hispid, 1-celled.

71. A. Cal. 5-parted. Berry 1 cell.

ORDER II. DIGYNIA.

72. A. Cal. a 2-valved glume, 1 flower. Cor. a 2-valved glume, acuminate awned.

73. C. Cal. a 2-valved glume, 1 flower. Cor. a 2-valved glume, awnless.

ORDER III. TRIGYNIA.

74. P. Cal. none. Cor. none. Berry 1 seed.

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31. NYCTANTHES.

Cor. salver-shaped, the segments truncated. Caps. 2-celled, marginate. Seeds solitary.

arbor tristis. 1. N. with a stem four-cornered, leaves ovate, sharp-pointed, seed-vessels membranaceous and flattened. ♄. East Indies.

32. JASMINUM, *Jasmine.*

Cor. salver-shaped, from five to eight-cleft. Berry 2-grained. Seeds solitary in a seed-coat.

Subdiv. I. *Leaves simple.*

sambac. 1. J. with leaves simple, opposite, elliptical ovate, membranaceous and opaque, the branchlets and footstalks pubescent, the segments of the calyx awl-shaped. India. ♄.

α With a simple flower.

β With a multiplied flower, segments oblong acute, shorter than the tube.

γ With full flowers, segments roundish, longer than the tube.

2. J. with leaves ovate, sharp-pointed, a little waved, the branches columnar. Malabar. ♄.

hirsutum. 3. J. with leafstalks and fruitstalks villous. India. ♄.

angustifolium. 4. J. with leaves blunt, lanceolate and ovate. India. ♄.

pubescens. 5. J. with leaves opposite, ovate, dagger-pointed, fruitstalks axillary, one-flowered, those terminating three flowered. ♄. Java and Malabar. Has a great affinity to the preceding.

pubescens. 6. J. with leaves opposite, ovate, heart-shaped, pubescent on both sides. ♄. Calcutta.

scandens. 7. J. with leaves opposite, simple, ovate-oblong, tapering; panicles right-angled; segments of the calyx bristle-shaped, bent back. Bengal.

elongatum 8. J. with leaves heart-shaped, lanceolate, acute, and long; branches columnar. *Nyctanthes elongata* of Linn. Suppl. E. Indies.

glaucum. 9. J. with leaves opposite, simple, lanceolate, glossy, the segments of the calyx awl-shaped. *Nyctanthes glauca* of Linn. Suppl. ♄. Cape of Good Hope.

trinerve. 10. J. with leaves opposite, simple, ovate, tapering, three-nerved; footstalks axillary and commonly one-flowered. Java.

simplicifolium. 11. J. with leaves opposite, ovate-lanceolate, simple. Friendly islands.

Subdiv. II. *Leaves ternate.*

angulare. 12. J. with leaves ternate opposite, leaflets ovate, blunt; branches angular and leafstalks villous, fruitstalks axillary, three-flowered. *Jasminum capense* of Thunberg. Cape of Good Hope.

auriculatum. 13. J. with leaves opposite ternate, leaves of the flower-bearing branchlets simple; the calyxes angled, the branches columnar and pubescent. Malabar.

flexile. 14. J. smooth, with leaves ternate and opposite, stem climbing, branches columnar. E. Indies.

15. J.

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didymum. 15. J. smooth with leaves ternate, opposite, leaflets ovate-lanceolate, branches axillary. Society islands.

uxoricum. 16. J. with leaves ternate, opposite; leaflets ovate and a little heart-shaped waved; branches smooth, columnar, the segments of the calyx equal to the tube. Azores.

fruticans. 17. J. with leaves ternate and alternate, leaflets obovate, wedge-shaped and blunt, branches angled, segments of the calyx awl-shaped. South of Europe, and the Levant.

humile. 18. J. with leaves ternate, alternate, acute pinnated, branches angled, the segments of the calyx very short. *Obs.* Pinnated leaves are seldom found in this species.

odoratissimum. 19. J. with leaves ternate, alternate bluntish and pinnated, branches columnar, segments of the calyx very short. Madeira.

Subdiv. III. *Leaves pinnated.*

officinale. 20. J. with leaves opposite and pinnated, leaflets sharp-pointed, the buds a little erect. India and Switzerland.

grandiflorum. 21. J. with leaves opposite and pinnated, leaflets bluntish, buds horizontal. East Indies.

33. GALIPEA.

Cal. four or five-cornered, four or five-toothed. Cor. salver-shaped, four or five parted. Stamens four, two barren.

trifoliata. 1. G. Guiana. ♄ 6 feet high, with leaves alternate on footstalks ternate; leaflets sessile, lanceolate, sharp-pointed, entire. The flowers small, grow in a cyme.

34. LIGUSTRUM, *Privet.*

Cor. 4-cleft; berry superior, 2-celled, with four seeds.

vulgare. * 1. L. leaves ellipse-lanceolate, obtuse, mucronulated. *Privet, Print* or *Prim print.* Grows in woods, thickets, and hedges, especially in a gravelly moist soil. Europe. ♄. Flowers in V. and VI. The branches are wand-like. The leaves opposite, subsessile, dark green, smooth, lanceolate, sometimes elliptical, entire, pointed like a dagger, but not very sharp, sometimes continuing through the winter; panicles terminating and crowded with flowers. Flowers milky, strong smelled. Berries black, very bitter, as are also the leaves and bark. This plant is not injured by the smoke of towns.

japonicum. 2. L. with leaves ovate, sharp-pointed; panicle obtuse-angled. Japan.

35. PHILLYREA.

Cor. 4-cleft. Berry one seed.

media. 1. P. with leaves oblong-lanceolate, serrated.

α *P. ligustrifolia*, with leaves oblong-lanceolate.

β *P. virgata*, with leaves lanceolate, branches erect and wand-like.

γ *P. pendula*, with leaves lanceolate, branches obtuse-angled, hanging.

δ *P. oleæfolia*, with leaves oblong-lanceolate, branches nearly erect.

ε *P. buxifolia*, with leaves oval-oblong and bluntish. South of Europe.

angustifolia. 2. P. with leaves linear-lanceolate and very entire.

α *P. lanceolata*, with lanceolate leaves, and straight branches.

β *P. rosmarinifolia*, with leaves lanceolate awl-shaped, long; branches straight.

γ *P. brachiata*, with leaves oblong-lanceolate shorter; branches obtuse-angled. South of Europe.

latifolia. 3. P. with leaves ovate-heartshaped, serrated.

α *P. lævis*, with leaves ovate, plane, indistinctly serrated.

β *P. spinosa*, with leaves ovate-oblong, acute, sharply serrated and plane.

γ *P. obliqua*, with leaves lanceolate-oblong, acute, serrated, bending obliquely. South of Europe.

36. OLEA, *Olive.*

Cor. 4-cleft, segments nearly ovate. Drupe one seed.

europea. 1. O. with leaves lanceolate, very entire, racemes axillary and condensed.

α *O. communis*, with leaves lanceolate, plane, hoary beneath.

β *O. verrucosa*, with leaves lanceolate, plane, whitish beneath, branches warted.

γ *O. longifolia*, with leaves linear-lanceolate, plane, silvery beneath.

δ *O. latifolia*, leaves oblong plane, hoary beneath.

ε *O. ferruginea*, leaves lanceolate, rusty beneath.

ζ *O. obliqua*, leaves oblong, bending obliquely, pale beneath.

η *O. buxifolia*, leaves oblong-oval. *Common olive.* ♄. South of Europe, and north of Africa. β Cape of Good Hope.

capensis. 2. O. with leaves ovate very entire, branches panicled, obtuse-angled.

α *O. coriacea*, leaves ovate-oblong, stiff, plane, with red leafstalks.

β *O. undulata*, leaves elliptical waved, leafstalks green. *Cape olive.* ♄. Cape of Good Hope.

americana 3. O. with leaves lanceolate-elliptical, very entire, racemes narrow, all the bracteas permanent, connate and small. Carolina and Florida.

cernua. 4. O. with leaves oblong lanceolate, very blunt; racemes axillary, simple; flowers drooping. Madagascar. ♄.

apetala. 5. O. with leaves elliptical, flowers racemops without petals. New Zealand.

excelsa. 6. O. with leaves elliptical, acute, bracteas perfoliate; the lowest cup-shaped, permanent; the higher leafy, large, deciduous. Madeira.

fragrans. 7. O. with leaves lanceolate and serrated, leafstalks lateral, aggregate, bearing one flower. Cochin-china, China and Japan.

37. CHIONANTHUS, *Fringe-tree.*

Cor. 4-cleft, segments very long. The kernel of the drupe striated.

virginica. 1. C. with a panicle terminating 3-cleft, fruitstalks bearing three flowers, the leaves acute. North Ameriea.

α *C. latifolia*, with leaves ovate-elliptical.

β *C. angustifolia*, with leaves lanceolate. *Obs.* The corolla varies with 4, 5, or 6 segments, and 4 stamens.

cotinifolia. 2. C. with a panicle terminating trichotomous, footstalks bearing three flowers, leaves blunt. Ceylon.

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compacta. 3. C. with panicles trichotomous, the last flowers almost head-shaped, the calyxes villous, the leaves lanceolate oblong, the anthers sharp-pointed. Caribbees.

zeylanica. 4. C. the branches of the axillary panicle opposite, flowers almost sessile. ♄. Ceylon.

incrassata. 5. C. with panicles axillary, trichotomous, all the flowers separate, and anthers blunt. Guiana and Jamaica.

38. SYRINGA, *Lilac.*

Cor. 4-cleft. Caps. 2-celled.

vulgaris. 1. S. with leaves ovate heart-shaped. *Common lilac.* ♄. Persia.
- α *S. cærulea*, with blue flowers. *Blue lilac.*
- β *S. violacea*, with violet flowers. *Violet lilac.*
- γ *S. alba*, with white flowers. *White lilac.*

chinensis. 2. S. with leaves ovate lanceolate. ♄. China.

persica. 3. S. with leaves lanceolate. Persia.
- α with leaves lanceolate entire.
- β *S. laciniata*, leaves pinnatifid.
- γ *S. cærulea*, with leaves simple, flowers blue.
- δ *S. alba*; leaves simple, flowers white.

sussiensa. 4. S. with leaves ovate serrated and ternate. Japan.

39. DIALIUM.

Cor. 5-petaled. Cal. 0. Stam. on the higher side.

indicum. 1. D. with a panicle simple and nodding. ♄. India.

guineensis. 2. D. with a panicle, more than doubly compound, and erect. Guinea.

40. PIMELEA.

Cal. none. Cor. 4-cleft. Stam. inserted into the throat. The nut corticated and 1-celled.

linifolia. 1. P. with leaves linear lanceolate, heads terminating involucred; corolla villous on the outside. New Holland.

gnidia. 2. P. with leaves oblong lanceolate-acute, very smooth; corolla villous on the outside. New Zealand. *Banksia gnidia* of Forster. *Passerina gnidia* of Lin. Suppl.

pilosa. 3. P. hairy, with leaves linear, blunt. New Zealand. *Banksia tomentosa* of Forster. *Banksia pilosa*, *Passerina pilosa* of Lin. Suppl.

prostrata. 4. P. hairy, leaves ovate, sessile, fleshy. New Zealand. *Banksia prostrata* of Forster. *Passerina prostrata* of Lin. Suppl.

41. ERANTHEMUM.

Cor. 5-cleft, tube thread-shaped. Anth. without the tube. Stigma simple.

capense. 1. E. with leaves lanceolate-ovate on footstalks. Ethiopia.

angustifolium. 2. E. with leaves linear, remote, acute-angled to the stem. Ethiopia.

parvifolium. 3. E. with leaves ovate-linear, imbricated. Cape of Good Hope.

salsoloides. 4. E. shrubby, leaves fleshy, somewhat tapering, linear, very smooth; racemes axillary and the calyxes pubescent, tube bowed downwards.

42. FONTANESIA.

Cor. 2-petaled. Cal. 4-parted inferior. Caps. membranaceous, not opening, 2-celled; cells contain one seed.

1. F. Syria. *phillyræoides.*

43. FRAXINUS, *the Ash.*

Cal. none or 4-parted. Cor. none or 4-parted. Caps. superior, 2-celled, leafy above, compressed. Seeds solitary, pendulous. Some of the flowers have pistils only.

* F. with leaflets serrated, flowers destitute of a calyx and corolla. *Common Ash Tree.* There is a variety with pendulous branches, called *weeping ash.* ♄. Flowers in IV. and V. and thrives best in calcareous soils on mountains. It is a very lofty and beautiful tree, its bark is of the colour of wood ashes, its buds are large and black. The flowers grow in loose panicles, pistostaminal, intermixed with pistils sometimes very numerous. The anthers are large, dark-purple. When these fall off, the leaves unfold themselves. This is the latest of all our native trees of coming into leaf. The leaves are pinnate, terminated by an odd one, serrated, sometimes simple, very easily injured by frost in autumn. The capsules soon fall. The seeds are flat. *excelsior.*

44. CIRCÆA, *Enchanter's Nightshade.*

Cor. 2-petaled. Cal. 2-leaved, superior. Caps. 2-celled. Seeds single.

* 1. C. with stem upright, leaves egg-shaped, edged with small teeth, opaque, pubescent. *Common enchanter's nightshade.* Grows in shady moist places. Europe and North America. ♃. Flowers in VI. and VII. The root creeps, and can scarcely be eradicated. The stem is erect, not much branched, having commonly but one raceme, which is terminal. The leaves when full grown are egg-shaped, faintly green, pubescent, opaque, somewhat repand, edged with small teeth not serrated. The calyx not membranaceous. *lutetiana.*

* 2. C. with a stem ascending, leaves heart-shaped, serrated, and glossy, the calyx membranaceous. *Mountain enchanter's nightshade.* Grows in shady moist places on mountains and rocks; in Lancashire, Westmoreland, and Cumberland, at the foot of the mountains; about Loch Broom, Ross-shire, and in Hamilton Wood, Scotland; and in the cold countries of Europe. ♃. Flowers in VII. and VIII. The root creeps, and the whole plant is less pubescent than the former. The stalk is short, spreading at the base; the knee-joints red, the leaves tender, pale-green, glossy, heart-shaped, tooth-serrated, the leaf-stalks edged with a membrane. *alpina.*

45. VERONICA, *Speedwell.*

Cor. 4-cleft, wheel-shaped, the lowest segment least. Caps. superior, 2-celled.

BRITISH SPECIES.

Subdiv. 1. *Spiked.*

* 1. V. with a terminating spike; the leaves opposite, bluntish, notched-serrulated, very entire at the extremity; the stalk ascending, very simple. *Spiked Speedwell.* Grows in meadows and calcareous soils. On Newmarket heath and Gogmagog hills; on Cavenham heath near Bury; and near Penny-bridge, Lancashire. Flowers in VII. and often continues in flower till IX. The stalk are seven inches high, ascending, simple, somewhat *spicata.*

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somewhat round, leafy, somewhat woody, pubescent. The leaves opposite, commonly blunt, sometimes a little sharp-pointed, crenate-serrulated, entire at the extremity, hairy. Spike erect, many flowered. The flowers are of a deep blue, the throat of the corolla bearded. This species varies, with leaves linear and almost entire.

hybrida. * 2. V. with spikes terminating, leaves opposite, elliptical, blunt, unequally crenate-serrated, the stalk somewhat erect. *Welsh speedwell.* Grows on the sides of mountains, but is very rare. It is found on Craig Wreidhin, Montgomeryshire, and at Cartmell Fells, Lancashire. ♃. Flowers in VII. Nearly allied to the preceding, but twice as large in every part: the spikes generally numerous; the stalk and leaves more rugged above, and more deeply serrated: the leaf-stalk in the former is often found winged.

officinalis * 3. V. with lateral spikes on footstalks, leaves opposite, scabrous, stalk procumbent. Europe. *Male* or *common speedwell.* Grows commonly in barren sandy pastures. Flowers in V. and VI. The stalk has wide-spreading branches; the leaves pale, a little stiff and roughish; the spikes axillary, solitary, on footstalks, many-flowered, hairy, longer than the stalk; the flowers of a faint blue, with deeper veins.

Subdiv. 2. *Corymb racemous.*

saxatilis. * 4. V. with a corymb terminating and bearing few flowers, the leaves elliptical, stalks spreading, capsule egg-shaped, 4-valved. *Blue rock speedwell.* Grows on Ben Lawers, Perthshire; and on the Alps. ♃. Flowers in VII. The stalks decumbent at the base, somewhat shrubby, branched; the branches ascending, simple, leafy; the leaves opposite, small, elliptical or elliptical-lanceolate, blunt, very entire, sometimes but seldom serrated on the middle, light-green, somewhat fleshy, smooth, crowded at the base of the branches, more distant above; the flowers three or five in a terminating corymb, on footstalks which are three or four times longer than the floral leaf or bractea, large, beautiful, of a blue-violet hue, the throat red. The calyx 4-cleft, almost equal, blunt, pubescent; the capsule pubescent, egg-shaped, 4-valved. It differs from the *fruticulosa* in having generally broader leaves, stalks more spreading, in having a larger corolla, which is blue and not flesh-coloured; and is still more distinguished by having longer footstalks, fewer, and in being corymbous, not spiked.

fruticulosa * 5. V. with a corymb terminating many-flowered, spiked, leaves elliptico-lanceolate, stalks erect, capsule egg-shaped, 4-valved. *Flesh-coloured shrubby speedwell.* Grows in Cruachan, Argyleshire, and Ben Lawers, Perthshire. Also on the Alps and Pyrenees. ♃. Flowers in VII. The stalks are branched at the base, twisted, lying upon the ground, a little shrubby, afterwards becoming erect, stiff, and straight, seven inches long, simple, leafy, round, a little pubescent. The leaves are opposite, elliptico-lanceolate, most commonly entire, sometimes serrated, pale green, hellowish, and a little shaggy on the edge. The corymb is terminating, pubescent, a little spiked, and afterwards extended into a long leafy raceme. The flower-bearing footstalks are of the same length with the bracteas, and those which bear the fruit half as long again. The calyx is four-cleft, almost equal, blunt, shaggy. The corolla of a pale flesh colour, with purple lines less than the preceding. The capsule egg-shaped, shaggy, four-valved.

alpina. * 6. V. with a corymb terminating, a little spiked; leaves oval, smooth, slightly serrated, the calyx ciliate, stem ascending and simple. *Alpine speedwell.* Grows on wet spongy places, on mountains about Garway-moor, on Ben Nevis, and on the mountains of Badenoch, and on the Alps. ♃. Flowers in VII. and VIII. The stalks are a finger long, ascending simple, leafy, rooting at the base. The leaves opposite, elliptic-oval, thin, slightly shaggy, often entire, sometimes notched, commonly three-nerved, pale green, shining. The flowers are small, blue, on a small corymb, which afterwards extends into a short raceme. The fruitstalks are of the same proportion as in the preceding. The calyx is nearly equal, bluntish, ciliate, and often shaggy. The hairs jointed like the pubescence of the leaves. The capsule elliptical, emarginate, two-valved, pubescent, terminated with a short persisting style.

serpyllifolia. * 7. V. with a raceme terminating, approaching to a spike; the leaves oval, a little notched, three-nerved, smooth; the capsule obcordate, shorter than the style. Europe and N. America.

β *V. Humifusa. Smooth Speedwell,* or *Paul's Betony.* The first variety grows in meadows and pastures; the second on the highest mountains in Scotland, under wet shady rocks. ♃. Flowers in V. and VI. The plant is shining, somewhat fleshy; in moist places smooth, in mountains rough-haired. The stalks decumbent and taking root, leafy; the branches commonly erect. The leaves on footstalks oval or roundish, more or less crenated, three-nerved. The raceme terminating, long, loose, many-flowered, oftener pubescent. The bracteas elliptical. The segments of the calyx are obovate-elliptical, smoothish, equal. The corolla of a blue or flesh-coloured whitish colour, with violet streaks. The capsule obcordate, double, of the length of the style or a little shorter.

The variety called *humifusa*, has a procumbent stem with a shorter raceme.

beccabunga. * 8. V. with racemes lateral, leaves elliptical and plane, and stalk creeping. *Brooklime.* Europe. Grows frequently in rivulets and ditches containing clear water. ♃. Flowers in VI. and VII. The plant is very smooth and glossy. The stalks decumbent or swimming, columnate. The leaves on short footstalks, elliptical, broad pointed, indistinctly serrated, of a beautiful green, somewhat fleshy. The racemes axillary, opposite, on footstalks, many-flowered. The bracteas linear, lanceolate, shorter than the fruitstalks. The segments of the calyx sharp-pointed. The corolla blue. The capsule almost double.

anagallis. * 9. V. with racemes lateral and opposite, leaves lanceolate and serrated, stalk erect. *Water speedwell,* or *long-leaved brooklime.* Europe and the Levant. Grows in ditches and marshes. ♃. Flowers in VII. It is distinguished from the former by leaves lanceolate, longer, a little ovate or elliptical, and by an erect stalk. The racemes are longer and more pointed.

scutellata. * 10. V. with racemes lateral and alternate, fruit-stalklets divaricate, leaves linear and denticulate. *Narrow-leaved marsh speedwell.* Europe. Grows in marshes and places that have been overflowed with water

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water in a sandy soil. ♃. Flowers in VII. and VIII. The stalks are feeble, and have spreading branches. The leaves are linear lanceolate, seldom very entire, often dentletted, sometimes serrated. The racemes are axillary, solitary, alternate, never opposite, loose, divaricate, varying in length. The flowers are small, of a blue flesh colour, streaked. The capsule approaching to double. Sometimes its stalk and leaves are pubescent.

montana. * 11. V. with racemes lateral, long, thread-shaped, few-flowered; leaves ovate, serrated, on footstalks, the stalk hairy on all sides. *Mountain speedwell*, or *mountain madwort*. Italy, Switzerland, and Germany. Grows in woods, in moist shady places, and beside hedges in a calcareous soil. It is found in Charlton wood, Kent; in the Devil's ditch, Newmarket heath; at Linton, in Gamlingay park and Kingston wood, near Worcester, near Virginia water, about Kirkstal abbey near Leeds, at Shortwood, Pucklechurch, Gloucestershire; and is very common in Yorkshire. Also in the woods at Dunglass, near the river, Berwickshire, and on the banks of the Esk near Roslin, Mid-Lothian. ♃. Flowers in V. and VI. The root is fibrous. The stalks decumbent, feeble, hairy on all sides, leafy. The leaves grow on footstalks, ovate, serrated with teeth of unequal size, slender, glossy, somewhat hairy. The racemes axillary, alternate, flaccid, few-flowered. The flowers light blue, diversified with purple. The capsule circular, double, flat, acutely edged, ciliated.

chamædrys. * 12. V. with lateral racemes, leaves ovate, sessile, wrinkled, incised, serrated; the stalk hairy on two sides. Europe. *Germander speedwell*, or *wild germander*. Grows in meadows and pastures, and under hedges, and is very common. ♃. Flowers in V. The stalks form an acute angle with the branches, are decumbent, and have a longitudinal line of hair on each side. The leaves are sessile, ovate, serrated with unequal teeth, the edge very hairy. The racemes are axillary, opposite, many-flowered, longer than the stalk. The flowers are large, beautiful, of a fine blue colour in the inside, and flesh-coloured on the outside. The capsule is obcordate and small.

Subdiv. 3. *Flowers solitary.*

agrestis. * 13. V. with flowers solitary, leaves ovate, incised, serrated, shorter than the flower-stalk, stalk procumbent, seeds pitcher-shaped. *Procumbent speedwell*, or *germander chickweed*. Grows in cultivated grounds, and among rubbish. ☉. Flowers from IV. to IX. The stalks are several, procumbent, simple towards the top. The leaves scattered, almost sessile, heart-shaped-ovate, widely serrated. Footstalks axillary, solitary, one-flowered, of the length of the leaves or longer; the fruitstalks curved downwards. The segments of the calyx ovate-lanceolate, broad at the points, ciliated. The corolla small, and of a bright blue colour. The capsule double, swelling in the middle, rough-haired. The seeds sixfold on each side, dimpled and wrinkled.

arvensis. * 14. V. with flowers solitary, leaves ovate, incised, serrated; flowers lanceolate, longer than the leafstalk, stalk erect. Europe. *Wall speedwell*, or *speedwell chickweed*. Grows frequently in dry cultivated grounds, on walls, and among rubbish. ☉. Flowers in V. The stalk is often branchy at the base, erect, seven inches high. The flowers are sessile, issuing from the axils of lanceolate bracteas, which are quite dissimilar to the leaves. For which reason, this species might have been arranged among the *Spiked Veronicas*, were it not for its affinity to the preceding and following species. The segments of the calyx are lanceolate, unequal and acute. The corolla is pale blue. The capsule is sessile, erect, obcordate, flattened. The seeds are elliptical, plane and furrowed in the middle.

hederifolia. * 15. V. with flowers solitary, leaves heart-shaped, plane, five-lobed, the segments of the calyx heart-shaped, the seeds pitcher-shaped. Europe. *Ivy-leaved speedwell*, or *small henbit*. Grows in cultivated grounds and among rubbish. ☉. Flowers from IV. to IX. The stalks are procumbent and unbranched. The leaves alternate on longer footstalks, kidney-heart-shaped, five-lobed, the central lobe being largest. The fruitstalks are longer than the leaves. The segments of the calyx are widely heart-shaped, acute, ciliate. The corolla is pale blue. The capsule is double, and swelling in the middle. The seeds are large, two on each side, dimpled, wrinkled.

triphyllos. * 16. V. with solitary flowers, superior leaves divided to the base, fruitstalks longer than the calyx, seeds flattened. Europe. *Fingered speedwell*, or *upright chickweed*. Grows in sandy cultivated grounds, but rare. It is found on the borders of Norfolk and Suffolk, near Bury, and near Rossington, Yorkshire. ☉. Flowers in IV. The stalk commonly branchy, flexuose. The lowest leaves entire, seldom lobed, the higher almost sessile, three-parted, the central lobe largest, obovate, the lateral lobes commonly two-parted. The flowers on long footstalks and erect, as well as the fruit. The segments of the calyx are obovate-oblong, blunt, ciliate, unequal. The corolla a deep blue. The capsule circular emarginate, flattened. The seeds numerous, obovate-flattened. The plant becomes blackish when dried.

verna. * 17. V. with flowers solitary, leaves deeply divided, the fruitstalks shorter than the calyx; the stalk stiff and straight. Germany, Sweden, and Spain. *Vernal speedwell*. Grows in dry sandy cultivated fields. Is found near Bury, and at Foulden, Norfolk. ☉. Flowers in IV. It resembles the *arvensis* in its habit, in the figure of its seeds and situation of its flowers; but is of a pale colour, and never grows blackish when dried. It is sufficiently distinguished by leaves deeply divided, by the central lobe being obovate; the floral leaves are three-parted. The stalk is scarcely a finger length, stiff and straight, often branchy. The segments of the calyx are lanceolate, acute, nearly equal. The capsule obcordate flattened.

FOREIGN SPECIES.

Subdiv. 1. *Spiked.*

sibirica. 18. V. with spikes terminating, leaves in sevens verticilled, stem a little shaggy. Dauria. ♃.

virginica. 19. V. with spikes terminating, leaves in fours or fives. Virginia and Japan.

spuria. 20. V. with spikes terminating, leaves in fours, equally serrated. South of Europe, of Siberia, and Thuringia. ♃.

maritima. 21. V. with spikes terminating, leaves nearly heart-lanceolate, unequally serrated. Var. with broader leaves. European sea-coasts.

22. V.

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longifolia. 22. V. with spikes terminating, leaves lanceolate, sharp-pointed, serrated. Tartary, Austria, and Sweden. ♃.

incana. 23. V. with spikes terminating, leaves opposite, crenated blunt, stem erect, downy. Native of the Ukrain, Samara. ♃. *Obs.* It varies with a white flower.

pinnata. 24. V. with spike terminating, leaves linear, pinnatifid, bunched; segments thread-shaped, forming an obtuse angle. Siberia. ♃.

laciniata. 25. V. with a raceme approaching to a spike, and terminating, leaves pinnatifid, jagged. Siberia. ♃.

incisa. 26. V. with spikes terminating, leaves lanceolate, cut into irregular segments, pinnatifid, smooth. Siberia. ♃.

catarractæ. 27. V. with racemes terminating flexuose, stem somewhat shrubby, leaves lanceolate, serrated. New Zealand. ♄.

elliptica. 28. V. with racemes lateral, stem shrubby, leaves elliptical, very entire. New Zealand. ♄.

macrocarpa. 29. V. with racemes almost terminating erect; leaves lanceolate, very entire, smooth, plain; stem shrubby. New Zealand. ♄.

salicifolia. 30. V. with racemes lateral, nodding; leaves lanceolate, very entire; stem shrubby. New Zealand. ♄.

parviflora 31. V. with racemes almost terminating; leaves linear-lanceolate, very entire, smooth, dagger-pointed; stem shrubby. New Zealand. ♄.

allionii. 32. V. with spikes lateral, on footstalks; leaves opposite, roundish, glossy, rigid; stalk smooth, creeping. The Alps. ♄.

decussata. 33. V. with racemes axillary, few-flowered; leaves elliptical, perennial, very entire; stem shrubby. Falkland islands. ♄.

Subdiv. 2. *Corymb racemous.*

aphylla. 34. V. with a corymb terminating, and naked stem.
α *V. Kamtchatka*, rough-haired; raceme three-flowered, long, lateral, and without leaves; leaves ovate, oblong, serrated, rough-haired, hairs jointed. The Alps and north of Asia.

bellidoides. 35. V. with a corymb terminating, stem ascending, two-leaved; leaves obtuse, crenated; calyx shaggy. Pyrenees and Alps of Switzerland. ♄.

gentianoides. 36. V. with a corymb terminating, stem ascending; leaves lanceolate, cartilaginous on the edge, the lower leaves connate, sheathing. Cappadocia and Armenia. ♃.

ponæ. 37. V. with a raceme terminating, stem very little branched, leaves heart-ovate, dented, sessile. Var. 1. *Pumila*, with unbranched stem, terminating with a bunch of flowers; leaves ovate, acute, dented. Native of the Pyrenees, the var. *pumila* on the top of the Piedmontese Alps.

integrifolia. 38. V. with a corymb terminating; leaves opposite, elliptical, blunt, very entire; calyxes hairy. The Alps. ♃.

tenella. 39. V. with leaves oblong, crenated, stems creeping, calyxes villous. Pyrenees and Piedmontese Alps. ♃.

teucrium. 40. V. with racemes lateral, and very long; leaves ovate, wrinkly, dented, blantish stalks, procumbent. *Obs.* This is a doubtful species.

pilosa. 41. V. with racemes axillary, leaves ovate, blunt, plaited, deeply dented; stalk procumbent, hairy on both sides. Austria. *Obs.* Dr Smith suspects that this is only a variety of the latifolia.

prostrata. 42. V. with racemes lateral, leaves oblong, ovate, and serrated, stalks procumbent. Germany, Italy, and Switzerland. ♃.

pectinata. 43. V. with racemes lateral, leafy; leaves oblong, combike-serrated; stems procumbent. Constantinople.

orientalis. 44. V. with racemes lateral; leaves pinnatifid, smooth, acute, tapering at the base; the calyxes unequal, the footstalks capillary, and longer than the bractea. Armenia. ♃.

multifida. 45. V. with racemes lateral, leaves many-parted, segments pinnatifid, lobes decurrent, footstalk short, calyx very smooth, stalk villous. Siberia. ♃.

austriaca. 46. V. with racemes lateral; leaves a little hairy, linear, pinnatifid, lowest segments longer; the calyxes a little hairy, the footstalks shorter than the bractea. Austria, Silesia, and Carniola. ♃.

taurica. 47. V. with racemes lateral; leaves a little hairy, linear, undivided, and pinnatifid, denticulate; footstalks longer than the bractea, the calyx four-cleft, smooth. Tauria. ♃.

verticifolia. 48. V. with racemes lateral; leaves heart-shaped, sessile, sharply serrated, sharp-pointed; stem stiff and straight, the leaflets of the calyx in fours. Switzerland, Bithynia, Austria, and Bavaria. ♃.

latifolia. 49. V. with racemes lateral; leaves heart-shaped, sessile, wrinkled, bluntly serrated, stem stiff and straight, leaflets of the calyx in fives. Austria and Switzerland. ♃.

paniculata 50. V. with racemes lateral and very long; leaves lanceolate, in threes; serrated; stem ascending. Tartary and Bohemia. *Veronica dentata* of Schmidt. ♃.

Subdiv. 3. *Fruitstalks bearing one flower.*

biloba. 51. V. with flowers solitary; leaves heart-lanceolate, dented; the segments of the calyx equal, ovate, sharp-pointed, three-nerved. Cappadocia. ⊙.

filiformis. 52. V. with flowers solitary; leaves heart-shaped, crenated, shorter than the fruitstalk, segments of the calyx lanceolate. Levant. ⊙.

digitata. 53. V. with flowers solitary, sessile; all the leaves finger-parted, stem stiff and straight. Bohemia, Montpelier, and Spain. ⊙.

asinifolia. 54. V. with flowers on footstalks solitary; leaves ovate, smooth, crenated; stem erect, a little hairy.
α *V. romana* of Allionius and Schmidt. Warm climates of Europe. ⊙.

peregrina. 55. V. with flowers sessile and solitary; leaves lanceolate-linear, smooth, blunt, very entire; stem erect. North of Europe. ⊙.

bellardi. 56. V. with flowers solitary, on footstalks; leaves linear, very entire, rough-haired, longer than the flower; stalk very little branched, erect. Piedmont. ⊙.

marilandica. 57. V. with flowers solitary, sessile, leaves linear, stems with spreading branches. Virginia.

45. PÆDEROTA.

Cor. ringent, four-cleft, the throat naked. Cal. 5-parted. Caps. 2-celled.

ageria. 1. P. with leaves sharply pointed, helmet of the corollas two-cleft. *Pæderota lutea* of Lin. Suppl. Carniola and Italy. ♃.

bonarota. 2. P. with leaves roundish-ovate, the helmet of the corollas entire. Alps. ♃. *Pæderota cærulea* of Lin. Suppl.

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3. P.

minimus. 3. P. with leaves oblong, entire, opposite; flowers axillary, opposite, teeth of the calyx hairy within. India.

46. WULFENIA.

Cor. ringent, upper lip short, entire; the inferior three-parted; throat bearded. Cal. 5-parted. Caps. 2-celled.

carinthiaca. 1. W. *Pæderota Wulfenii* of Lamarck. *Carinthian Wulfenia.* Highest mountains of Carinthia. ♄.

47. CYRTANDRA.

Cor. five-cleft, irregular. Cal. five-dented, almost 2-lipped. Stamens four, two of them barren. Berry 2-celled.

biflora. 1. C. with fruitstalks somewhat branched; leaves elliptical, almost quite entire, smooth. Otaheite.

cymosa. 2. C. with fruitstalks nearly cymous; leaves ovate, crenated, oblique at the base, pubescent beneath. Tanna.

48. JUSTICIA.

Cal. simple, sometimes double. Cor. of one petal, irregular. Caps. bursting by means of an elastic claw, the partition opposite, and adhering to the valves.

Subdiv. 1. *Calyx double, one anther.*

fastuosa. 1. J. with thyrses terminating, pointing one way, leaves lance-elliptical. Tranquebar. ♄.

forskælei. 2. J. with thyrses axillary, terminating, leaves ovate, sharp-pointed. Arabia Felix and India. ♄. *Justicia paniculata* of Forskael.

purpurea. 3. J. with spikes axillary, and terminating; bracteas lanceolate, smooth, branches pubescent. China.

verticillaris. 4. J. villous, with flowers axillary, verticilled; exterior calyxes awnless, leaves ovate. Cape of Good Hope.

aristata. 5. J. villous, with flowers axillary and verticilled, exterior calyxes awned, leaves ovate. Cape of Good Hope.

chinensis. 6. J. with fruitstalks axillary, verticilled, three-cleft; bracteas ovate, dagger pointed, coloured at the base. China and Arabia Felix.

triflora. 7. J. with fruitstalks axillary, long, three-flowered; bracteas linear-lanceolate. Arabia Felix.

Subdiv. 2. *Calyx double, anthers two.*

sulcata. 8. J. with spikes terminating, flowers verticilled, leaves ovate, heart-shaped. Arabia Felix.

bicalyculata. 9. J. with panicles axillary and dichotomous. *J. ligulata* of Lamarck. *Dianthera Malabarica* of Lin. Suppl. *Dianthera bicalyculata* of Retz. *Dianthera paniculata* of Forskael. *Justicia Malabarica* of Aiton. Malabar and Arabia Felix. ☉.

bivalvis. 10. J. with fruitstalks axillary, three-cleft, fruitstalklets lateral, two-flowered; bracteas ovate, awned, nerved. Arabia and India. ♄.

falcata. 12. J. with flowers axillary, nearly sessile, leaves ovate-lanceolate. Mauritius. ♄.

Subdiv. 3. *Calyx single; corollas 2-lipped, lips undivided.*

sexangularis. 13. J. with fruitstalks bearing three flowers, bracteas wedge-shaped, leaves ovate, branches six-angled. Vera Cruz, and Jamaica. ☉.

14. J. with spikes axillary, arched downwards; leaves lanceolate-ovate, shaggy, sessile. Vera Cruz. ♄. *scorpioides*

15. J. with racemes terminating, axillary and simple; flowers alternate, pointing one way; bracteas indistinct. India. *gangetica.*

16. J. with spikes axillary, terminating, branched; flowers alternate, bracteas linear. Jamaica and Santa Cruz. *assurgens.*

Subdiv. 4. *Calyx single, corollas 2-lipped, lips divided. One anther.*

17. J. stemless, leaves crenated, veins villous beneath. Tranquebar. ♄. *acaulis.*

Var. 1. with leaves lyre-pinnatifid, veins smooth. *Obs.* It is doubtful whether the var. 1. be not a distinct species.

18. J. with fruitstalks terminating, many-flowered, segments of the calyx and bracteas linear awl-shaped, ciliated, leaves oblong-lanceolate, branches hispid-pubescent. Sierra Leona. ♄. *hispida.*

19. J. with spikes terminating, four-cornered; bracteas ovate, imbricated, ciliated, dagger-pointed; the helmet of the corollas linear, and bent back. Arabia, Malabar, and Ceylon. ♄. *Justicia viridis* of Forskael. *ecbolium.*

20. J. with spikes terminating, four-cornered; bracteas ovate, imbricated, keel-shaped, ciliated; leaves crenate and smooth. Cayenne. ♄. *tetragona.*

21. J. with spikes terminating; leaves and bracteas elliptical, bare on the edge; the helmet of the corollas lanceolate, bent back at the apex. Cayenne. ♄. *coccinea.*

22. J. with spikes terminating and axillary; bracteas ovate, imbricated, ciliated, and awnless; helmet of the corollas lanceolate, erect. South America. ♄. *pulcherrima.*

23. J. with spikes axillary, terminating four-cornered; bracteas oblong, imbricated, ciliated. Carthagena and Martinico. *carthagenensis.*

24. J. with spikes axillary, terminating four-cornered; bracteas ovate, imbricated, hirsute; leaves dented. Java. *hirsuta.*

25. J. with spikes axillary, opposite, double on each side; bracteas linear, lengthened; seeds globular and shining. Caribbees. *spherosperma.*

26. J. with spikes terminating, leafy, flowers verticilled, leaves lanceolate, lengthened. Ceylon, Java, and Malabar. ♄. *gendarussa.*

27. J. with spikes axillary, terminating; calyxes of four segments, ciliated; bracteas of the length of the calyx, leaves lanceolate. Ceylon. ♄. *procumbens.*

28. J. with spikes axillary and terminating; calyxes of four segments, smooth; bracteas shorter than the calyx, leaves elliptical. India. ♄. *diffusa.*

29. J. with spikes axillary, opposite, pointing one way, ascending, linear, rough with hair. Malabar and Ceylon. ♄. *echioides.*

30. J. with spikes axillary, double, opposite, pointing one way; leaves lanceolate, long. Malhe. *longifolia.*

31. J. with spikes terminating, a little branched; inferior leaves verticilled; leaves ovate, sharp-pointed. East Indies. ♄. *latifolia.*

32. J. with racemes axillary and terminating, flowers verticilled, leaves ovate and coloured. Asia. ♄. *picta.*

33. J. with racemes terminating, a little branched, flowers commonly verticilled, leaves lance-elliptical, *nitida.*

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cal, tapering. Martinico, Santa Cruz, and Guadaloupe. ♄.

variegata. 34. J. with spikes terminating, axillary simple, flowers opposite, calyxes hispid, leaves ovate and sessile.

stricta. 35. J. with racemes axillary, two-parted; flowers pointing one way, leaves lance-elliptical, filaments smooth. Malabar.

paniculata 36. J. with panicles axillary, terminating, dichotomous; flowers pointing one way, filaments hirsute, capsules flattened, leaves lanceolate. East Indies.

nutans. 37. J. with racemes terminating, nodding at the apex, flowers reversed, leaves dented. Java.

nasuta. 38. J. with fruitstalks axillary and dichotomous, leaves elliptical and very entire. India. ♄.

scandens. 39. J. with fruitstalks axillary, trichotomous, obtuse-angled; leaves ovate, sharp-pointed, somewhat repand, the branches villous. Malabar. ♄.

ciliaris. 40. J. with flowers axillary, opposite; leaves lanceolate. ☉.

Subdiv. 5. *Calyx single; corollas two-lipped, the lips divided. Anthers two.*

secunda. 41. J. with racemes terminating, compound racemelets pointing one way; leaves ovate-lanceolate, sharp-pointed. Trinity island.

debilis. 42. J. with spikes axillary and terminating; bracteas ovate, imbricated, and ciliated. Arabia Felix. ♄.

violacea. 43. J. with spikes terminating; bracteas lanceolate, imbricated, ciliated; leaves lanceolate. Arabia Felix. *Dianthera violacea* of Vahl. ♄.

bracteolata 44. J. with a raceme terminating, fruitstalks three-flowered, leaves tapering oblong, stem four-cornered, edge scabrous. Caraccas. ♄.

rohrii. 45. J. with spikes terminating, compound, imbricated, pubescent; bracteas ovate, leaves elliptical, very entire.

polystachia. 46. J. with spikes axillary, opposite, pointing one way; bracteas ovate, hirsute, leaves lanceol-ovate. Cayenne.

retusa. 47. J. with spikes terminating; bracteas obovate, commonly retuse, imbricated; leaves ovate, sharp-pointed. Santa Cruz.

flava. 48. J. with spikes terminating, flowers in pairs, bracteas lanceolated, blunt, leaves lanceol-oblong. Arabia Felix. ♄. *Dianthera flava* of Vahl. *D. Americana flava* of Forskael.

americana 49. J. with spikes axillary, flowers crowded, fruitstalks long, alternate, leaves lanceolate. Virginia and Florida.

punctata. 50. J. with spikes terminating, flowers distant, commonly verticilled, bracteas lanceolate, sharp-pointed, leaves lanceol-ovate. Arabia Felix. *Dianthera punctata* of Vahl. *D. Americana alba* of Forskael.

eustachiana. 51. J. with spikes axillary and terminating; flowers in pairs below, above solitary; bracteas wedge-shaped. St Eustatius. ♄.

caracasana. 52. J. with spikes axillary and terminating; bracteas sharp-pointed, shorter than the calyx; leaves ovate, sharp-pointed, waved, pubescent. Caraccas. ♄.

pectoralis. 53. J. with a panicle terminating, dichotomous. St Domingo and Martinico. ♃.

comata. 54. J. with spikes terminating, thread-shaped; spikelet verticilled. Jamaica. ♃. *Dianthera comata.*

undulata. 55. J. with fruitstalks terminating, umbelled, simple, three-cleft; leaves lanceolate, undulated. Java and Malabar.

frondosa. 56. J. with umbels axillary, compound, on long foot-stalks; bracteas obovate, rhomboid, blunt, smooth. Otaheite.

pubescens. 57. J. with fruitstalks axillary, opposite, four-flowered, on fruitstalklets; bracteas ovate, roundish, dagger-pointed, pubescent. Botany island. *Dianthera cærulea* of Forskael.

lævigata. 58. J. with fruitstalks axillary, opposite, bearing three flowers on fruitstalklets; bracteas oblong, dagger-pointed, pubescent. Java. ♄.

cuspidata. 59. J. with fruitstalks axillary, verticilled, bearing commonly three flowers on fruitstalklets; bracteas wedge-shaped, awned, anthers double. Arabia Felix. *Dianthera verticillata* of Forskael.

lithospermifolia. 60. J. with fruitstalks axillary, verticilled, bearing one flower; bracteas linear-lanceolate; leaves oblong, scabrous. ♃.

biflora. 61. J. with fruitstalks axillary, two-flowered; leaves ovate, equal; bracteas awl-shaped. East Indies. ♄.

sessilis. 62. J. with flowers axillary, solitary, and sessile; leaves ovate and crenated. St Eustatius. ♄.

Subdiv. 6. *Calyx single, corollas ringent; one anther.*

adhatoda. 63. J. with spikes axillary and opposite, bracteas ovate, acute, nerved. Ceylon. ♄. *Malabar Nut.*

betonica. 64. J. with spikes terminating; bracteas ovate, sharp-pointed, vein-netted, coloured. India. ♄.

repens. 65. J. with spikes axillary, terminating, and smooth; bracteas dorsal, pointing two ways, membranaceous at the edge. ♃. Ceylon.

sanguinolenta. 66. J. with fruitstalks axillary, solitary, bearing one flower, alternate; leaves oblong, stalk creeping. Ceylon. *Obs.* The whole plant is of a blood colour.

Subdiv. 7. *Calyx single, corollas ringent; two anthers.*

peruviana. 67. J. with spikes axillary and terminating, leaves ovate and acute. Lima. ♃.

crinita. 68. J. with fruitstalks axillary, alternate, commonly bearing four flowers on fruitstalklets; bracteas lanceolate, ciliated. Japan. ☉. *Dianthera Japonica* of Thunberg.

trisulca. 69. J. with fruitstalks axillary, usually bearing three flowers, flowers sessile; leaves oblong, blunt. Arabia Felix. ♄.

hyssopifolia. 70. J. with fruitstalks axillary, generally bearing one flower; leaves lanceolate, blunt. Canaries. ♄.

periplocifolia. 71. J. with flowers axillary, solitary, almost sessile; leaves ovate, sharp-pointed. Caraccas. *Obs.* It is uncertain whether this be a distinct species or a variety of the *peruviana.*

orchioides. 72. J. with fruitstalks one-flowered, axillary; leaves lanceolate, rigid, acute. Cape of Good Hope. ♄.

madurensis. 73. J. with fruitstalks axillary, one-flowered; leaves oblong and dented. ♄. Madeira.

cuneata. 74. J. with flowers axillary, solitary, sessile, and leaves obovate, emarginate. Cape of Good Hope. ♄.

tranquebariensis. 75. J. with flowers axillary, solitary, sessile, leaves obovate, branches hoary. Tranquebar. ♄. *Justicia parvifolia* of Lamarck.

odora. 76. J. with flowers axillary, sessile, opposite, leaves roundish, branches smooth. Arabia Felix. *Dianthera odora* of Forskael.

Subdiv.

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Subdiv. 8. *Calyx single, corollas almost equal.*

infundibuliformis. 77. J. with spikes terminating; leaves lanceol-ovate, in fours. India. ♄.

sinuata. 78. J. with fruitstalks axillary, trifid; leaves linear, sinu-pinnifid. Tanna. ♄. *J. longifolia* of Forskael.

vincioides. 79. J. with fruitstalks axillary, generally bearing one flower, leaves ovate, stalk unarmed. Madagascar. ♄.

spinosa. 80. J. with fruitstalks bearing one flower, leaves oblong, spikes axillary. South America. ♄.

Subdiv. 9. *Species indeterminate in the calyx and corolla.*

repanda. 81. J. shrubby, leaves ovate repand, fruitstalks axillary, trifid. Tanna. ♄.

armata. 82. J. shrubby, prickly; leaves oblong emarginate, stiff like leather, glossy. Jamaica. ♄.

aciculatis. 83. J. shrubby, branches spreading, thorny, thorns bristle-shaped, flowers on footstalks axillary and solitary. Jamaica. ♄.

parviflora. 84. J. with branches spreading, leaves ovate, entire, spikes pointing one way, bracteas lanceolate, anterior, winged. Calcutta. ♄.

remorsa. 85. J. with a stalk herbaceous, four-cornered, a little erect; leaves ovate-lanceolate, spikes ovate. Jamaica and Hispaniola. ♃.

japonica. 86. J. herbaceous, with leaves ovate and serrated, spikes terminating, bracteas bristle-shaped, stem forming an acute angle. Japan.

lancea. 87. J. with flowers verticil-aggregate; leaves entire, lanceolate. Japan. ⊙.

reptans. 88. J. two-anthered, stalk herbaceous creeping, leaves blunt, spike terminating and undivided. St Domingo. ⊙.

humifusa. 89. J. two-anthered, stalk herbaceous decumbent, leaves ovate and heart-shaped, spikes umbelled. Jamaica. ⊙.

49. Gratiola.

Cor. irregular, reversed. Stam. two, barren. Caps. two-celled. Calyx of several segments, the two outer segments spreading.

officinalis. 1. G. with leaves lanceolate and serrated, flowers on footstalks. South of Europe.
α *G. alpina.*

monnieria. 2. G. with leaves oblong entire, fruitstalks bearing one flower, leaves longer, stem bending. Antilles. ♃.

repens. 3. G. with leaves ovate, stalk creeping, calyx five-leaved, style bifid. Jamaica.

rotundifolia. 4. G. with leaves ovate, three-nerved. Malabar.

lucida. 5. G. with a stalk branched, spreading, taking root; leaves heart-ovate, dented; fruitstalks axillary, longer than the leaves. Malabar, Amboina, and China.

veronicifolia. 6. G. with a stalk creeping, leaves ovate-lanceolate, acutely serrated, flowers terminating, opposite, calyx 5-leaved. India. ⊙.

hyssopioides. 7. G. with leaves lanceolate, somewhat serrated, shorter than the stem joint. Tranquebar. ⊙.

lobelioides. 8. G. with stem almost naked, stipulated; leaves oblong, very entire; panicle dichotomous, capsules a little globular. India. ⊙.

trifida. 9. G. with leaves linear-lanceolate, in fours, dented at the apex, trifid; capsules hairy. Malabar. ⊙. *Gratiola chamædrifolia* of Lamarck.

virginica. 10. G. with leaves lanceolate, blunt, a little dented. Virginia.

peruviana 11. G. with flowers almost sessile. Peru.

grandiflora. 12. G. with stalks decumbent, leaves ovate, serrated, fruitstalks opposite, capsules awl-shaped. Tranquebar, Madras, Siam, Malacca.

oppositifolia. 13. G. with stem ascending, leaves lanceolate, serrated, fruitstalks opposite to the leaves. Tranquebar.

pusilla. 14. G. with stem very little branched; leaves ovate, notched, acute; fruitstalks axillary, bearing one flower, longer than the leaves. India. ⊙.

50. Schwenkia.

Cor. nearly equal; throat plaited, glandular. Stamens three, barren. Caps. 2-celled, with many seeds.

americana 1. Schwenkia. Berbice. ♂.

51. Calceolaria.

Cor. ringent, inflated. Caps. 2-celled, 2-valved. Cal. 4-parted, equal.

pinnata. 1. C. with leaves pinnated.
Var. with pinnas of the leaves fewer and broader. Peru. ⊙.

integrifolia. 2. C. with leaves lanceolate, wrinkled, serrated; flowers panicled and terminating. Peru.

ovata. 3. C. with a branched stem, leaves ovate and crenated. Peru. ⊙. *Calceolaria dichotoma* of Lamarck. *C. integrifolia* of Lin. Suppl.

perfoliata. 4. C. with stem perfoliate, leaves sagittate, villous on both sides. New Granada and Peru.

crenata. 5. C. with leaves sessile, oblong, acute, crenated; flowers cymous, terminating the stalk and branches. Peru.

rosmarinifolia. 6. C. with leaves linear, very entire, bent back at the edge, downy below; stem smooth. Peru.

fothergillii 7. C. with leaves battledore-shaped, very entire; fruitstalks scape-like, bearing one flower. Falkland islands. ♂.

plantaginea. 8. C. with scapes bearing few flowers, leaves rhomboous and serrated. *Calceol. biflora* of Lamarck. S. America near the straits of Magellan. ♃.

sana. 9. C. with scapes bearing one flower, leaves ovate and very entire. *Calceol. uniflora* of Lamarck. S. America near the straits of Magellan. ♃.

52. Bala.

Cor. ringent, tube very short, upper lip plain, 3-dented, the lower lip plane and 2-lobed. Cal. 2-celled, 4-valved, contorted. Caps. 5-parted, and equal.

magellanica. 1. B. Near the straits of Magellan. ♃.

53. Pinguicula, *Butterwort.*

Cor. ringent, spur-shaped. Cal. 2-lipped, 5-cleft. Caps. 1-celled.

lusitanica. * 1. P. with a blunt nectary shorter than the petal, the scape villous, the capsule globular. Synon. *Pinguicula villosa. Viola palustris. Pale Butterwort.* It grows on the sides of marshes and bogs. ♃. Flowers in VI. and VII.

vulgaris. * 2. P. with a cylindrical nectary, acute, and of the length of the petal, the capsule ovate. Com-

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man butterwort, or *Yorkshire sanicle*. Grows in spongy marshes. Europe. ♃. Flowers in V. and VI.

The inhabitants of Lapland and of the north of Sweden, give to milk the consistence of cream, by pouring it when warm from the cow upon the leaves of this plant. They then strain it, and lay it aside for two or three days, till it becomes a little acid. In this state they are extremely fond of it.

grandiflora. 3. P. nectary awl-shaped, straight; upper lip spreading, emarginate. Alps. ♃.

alpina. 4. P. nectary awl-shaped, bent down, shorter than the petals. Lapland, Switzerland, and Austria. ♃.

villosa. 5. P. scape stiff, straight and pubescent; nectary very short; leaves nerved. Lapland and Siberia. ♃.

54. Utricularia.

The corolla is ringent and spur-shaped. The calyx has two equal segments. The capsule superior and one-celled.

vulgaris. * 1. U. with a conical nectary and a scape with few flowers. *Lentibularia* of Ray. *Common bladder-wort*, or *hooded milfoil*. Grows in stagnant waters. Europe. ♃. Flowers in VI.

minor. * 2. U. with a nectary keel-shaped, very short and blunt. *Lentibularia minor* of Ray. *Less hooded milfoil*. Grows in ditches and marshes, but rarely. Europe. ♃. Flowers in VI.

alpina. 3. U. with an awl-shaped nectary, leaves ovate and very entire. Martinico.

foliosa. 4. U. with a conical nectary, fruits drooping, rootlets without any bottle or bladder. S. America.

obtusa. 5. U. with nectary bent inwards, blunt, somewhat emarginate. Jamaica.

subulata. 6. U. with awl-shaped nectary. Virginia. *Obs.* The leaves are like hairs, the flowers white.

gibba. 7. U. with gibbous nectary. Virginia.

bifida. 8. U. with a scape naked and bifid. China.

capillacea. 9. U. scape naked, capillary, commonly bearing three nodding flowers; capsule awl-shaped. India.

cærulea. 10. U. with a naked scape; scales alternate, scattered, awl-shaped. Ceylon.

stellaris. 11. U. *verticillo utriculario bracteatum cilari* Lin. Suppl. India.

55. Ghinia.

Cal. 5-awned. Cor. ringent, limb 5-cleft. Nut fleshy, 4-celled. Seeds solitary.

spinosa. 1. G. with fruit having 4 spines or thorns, leaves smooth. *Verbena curassavica.* Antigua and the Caribbee islands. ⊙.

mutica. 2. G. with fruits awnless, leaves downy. Guiana. ⊙.

56. Verbena, *Vervain*.

Cor. funnel-shaped, almost equal, curved. Cal. with one dent, truncated. Seeds two or four naked.

Subdiv. 1. *Diandrous; two anthers, and two seeds.*

urubica. 1. V. with spikes very long and leafy. Oruba in North America.

indica. 2. V. spikes long, fleshy, naked; leaves lanceol-ovate, obliquely dented; stalk polished. Ceylon. ⊙.

jamaicensis. 3. V. spikes fleshy, naked; leaves battledore-ovate, serrated; stem rough with hair. Caribbees.

mutabilis. 4. V. spikes fleshy, naked; leaves ovate, long at the base, dented, downy beneath; stalk shrubby. South America. ♄.

prismatica. 5. V. spikes loose; calyxes alternate, prismatic, truncated, awned; leaves ovate, blunt. Jamaica. ⊙.

mexicana. 6. V. spikes loose; calyxes of the fruit turned downwards, rounded and double, hispid. Mexico. ♃.

stoechadifolia. 7. V. spikes ovate, leaves lanceolate serrate-plaited, stem shrubby. Jamaica.

Subdiv. 2. *Tetrandrous, or species with four stamens.*

globiflora. 8. V. spikes globular, leaves lanceolate, crenated wrinkled, scabrous; stem shrubby. South America. ♄.

javanica. 9. V. spikes cylindrical, leaves rhomb-ovate crenated, stem erect. Java.

nodiflora. 10. V. spikes capitate conical, leaves wedge-shaped, dented; stalk creeping. Naples, Sicily, E. and W. Indies, and Virginia. ♃.

bonariensis. 11. V. spikes fascicled; leaves lanceolate, stem-clasping. Buenos Ayres. ♃.

hastata. 12. V. spikes long, sharp-pointed; leaves hastate. Canada. ♃.

triphylla. 13. V. flowers panicled, leaves in threes, stem shrubby. Chili. ♄.

lappulacea. 14. V. calyxes fruit-bearing, roundish, inflated; seeds echinated. Caribbee islands.

forskaelii. 15. V. the calyxes fruit-bearing, roundish, beaked, sharp-pointed; seeds rounded, wrinkly. Arabia Felix.

carolinia-na. 16. V. spikes thread-shaped; leaves undivided, lanceolate-serrated, sessile. North America. ♃.

urticifolia. 17. V. spikes panicled; leaves undivided, ovate, serrated, on footstalks. Virginia and Canada. ♃.

tubletia. 18. V. spikes loose, solitary; leaves trifid, incised. Virginia. ⊙.

spuria. 19. V. spikes thread-shaped, leaves multifid-laciniated, stems numerous. Canada and Virginia.

officinalis. 20. V. spikes thread-shaped, panicled; leaves multifid-laciniated, stem solitary. *Common vervain.* Europe. ⊙.

supina. 21. V. spikes thread-shaped, solitary; leaves doubly pinnatifid.

57. Lycopus.

Cor. four-cleft, one segment emarginate. Stamens distant. Seeds four, retuse.

europeus. * 1. L. with sinuate-serrated leaves. *L. palustris glaber* of Ray. *Marrubium aquaticum* of Gerbard. *Water horehound*, or *gypsywort*. Banks of rivers and lakes, Europe. ♃. Flowers in VII. and VIII.

exaltatus. 2. L. leaves pinnatifid-serrated at the base. Italy. *Obs.* The stem is about the height of a man.

virginicus 3. L. with leaves equally but slightly serrated. Virginia. ginia. ♃.

58. Amethystea.

Cor. five-cleft: lowest segment more spreading. Stamens near. Cal. almost bell-shaped. Seeds four, gibbous.

cærulea. A. Siberia. ⊙.

59. Cunila.

Cor. ringent, upper lip erect, plane. Filaments two, without anthers. Seeds four.

fruticosa. 1. C. with leaves linear, rolled back, downy beneath; flowers axillary; stem shrubby. New Holland.

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land. ♄. *Obs.* This species is not probably well ascertained.

capitata. 2. C. with leaves ovate, flowers terminating, umbel roundish. Siberia.

mariana. 3. C. with leaves ovate, serrated, corymbs terminating and dichotomous. Virginia. ♃.

pulegioides 4. C. with leaves oblong, having two dents, flowers verticilled. Virginia and Canada. ☉.

thymoides. 5. C. with leaves oval, very entire, flowers verticilled, stem four-cornered. Montpelier. ☉.

60. Ziziphora.

Cor. ringent, upper lip bent back, entire. Cal. thread-shaped. Seeds four.

capitata. 1. Z. with fascicles terminating, leaves ovate. Syria, Armenia, and Siberia. ☉.

hispanica. 2. Z. with leaves ovate, flowers raceme-spiked, bracteas obovate, nerved, acute. Spain. ☉.

tenuior. 3. Z. with flowers lateral, and leaves lanceolate. ☉.

acinoides. 4. Z. with flowers lateral, leaves ovate. Siberia. ☉.

61. Monarda.

Cor. unequal, upper lip linear, wrapping the filaments. Seeds four.

fistulosa. 1. M. with leaves oblong-lanceolate, heart-shaped, villous, plane. Canada. ♃.

oblongata. 2. M. leaves oblong-lanceolate, rounded, and tapering at the base, villous, plane. N. America. ♃.

didyma. 3. M. with leaves ovate smooth, heads verticilled, flowers approaching to the didynamious, the stem acute-angled. Pennsylvania and New York. ♃.

rugosa. 4. M. with leaves ovate-lanceolate, heart-shaped, smooth, wrinkled. North America. ♃.

clinopodia. 5. M. with leaves ovate-lanceolate, rounded at the base, unequal, smooth. Virginia. ♃. *Obs.* This resembles the preceding, but it bears leaves like *Clinopodium*. Its spike is not red but purple, and its leaves very smooth.

punctata. 6. M. with flowers verticilled, corollas dotted, bracteas coloured. *Obs.* The corollas are yellow with purple dots.

ciliata. 7. M. with flowers verticilled, corollas longer than the involucre. Virginia.

62. Rosmarinus.

Cor. unequal, upper lip two-parted. Filaments long, curved, simple with a dent.

officinalis. 1. R. with sessile leaves. S. of Europe. ♄.

chilensis. 2. R. with leaves on footstalks. Chili. ♄.

Obs. This plant has not been properly examined.

63. Salvia, *Sage.*

Cor. unequal. Filaments two, very short, supporting two others fixed transversely upon them almost by the middle. Seeds four, and naked.

pratensis. * 1. S. with leaves heart-shaped oblong and crenated, the highest stem-clasping. The verticils commonly without leaves, the corollas glutinous in the upper lip. *Meadow Clary.* In dry meadows and under hedges, but rarely. Europe. ♃. Flowers in VII. This is a beautiful species, with large corollas of a blue violet colour, arched.

verbenaca. * 2. S. with leaves serrated, sinuated and smoothish, the corollas narrower than the calyx. *Wild English clary.* Grows in meadows and pastures. Europe. ♃. Flowers from VI. to X.

ægyptiaca. 3. S. with leaves lanceolate, slightly dented, flowers on footstalks. *Melissa perennis* of Forskael. Egypt and the Canaries. ☉. *Obs.* The flowers are often tetrandrous.

dentata. 4. S. with leaves linear-oblong, dent-pinnatifid, verticils two-flowered, segments of the calyx blunt. Cape of Good Hope. ♄.

cretica. 5. S. with leaves linear-lanceolate, flowers with two pistils, calyxes of two segments. Crete. ♄. *Obs.* This seems to be a variety of the *Salvia officinalis.*

lyrata. 6. S. with root-leaves lyrated, dented, the helmet of the corollas very short.

Var. 2. *Horminum virginicum*, with leaves wedge-oblong, stem with two leaves. N. America. ♃.

leucantha. 7. S. with leaves linear-lanceolate, slightly crenated, wrinkled, flowers verticil-spiked, calyxes downy. Mexico. ♃.

hablizisana. 8. S. with leaves linear, very entire, pubescent, sessile, flowers verticil-spiked, bracteas ovate, awl-pointed. Taurea. ♃. This is a beautiful plant.

officinalis. 9. S. leaves lanceol-ovate, slightly crenated, verticils few-flowered, calyx dagger-pointed. S. of Europe.

grandiflora. 10. S. with leaves heart-oblong, crenated, verticils many-flowered, calyxes acute. ♄.

triloba. 11. S. downy, leaves on footstalks, very wrinkly, three-lobed, the middle lobe oblong and extended, the side lobes ovate and blunt. Crete and Syria. ♄.

pomifera. 12. S. with leaves heart-elliptical, blunt, downy, slightly crenate-waved on the margin, verticils crowded, calyxes trifid, blunt. Crete and Syria. ♄.

urticifolia. 13. S. with leaves ovate-oblong, doubly serrated; calyxes three-dented, highest segment three-dented. Virginia and Florida. ♃. *Obs.* The corollas are small, the upper lip short, the pistil longer than the upper lip.

occidentalis. 14. S. with leaves ovate, serrated, spikes flexible, bracteas heart-shaped, commonly with three flowers. Caribbees. ♃.

tiliæfolia. 15. S. with leaves heart-shaped, wrinkled, crenated, and equally serrated, acute; calyxes smoothish, awned. ♃.

serotina. 16. S. with leaves heart-shaped, serrated, soft; flowers raceme-spiked, corollas scarcely longer than the calyx.

tenella. 17. S. with leaves heart-shaped, stalk thread-shaped, creeping, spikes ascending. Jamaica. ☺.

viridis. 18. S. with leaves oblong crenated, helmet of the corollas semicircular, calyxes fruit-bearing, turned back. Italy. ☉.

horminum. 19. S. with leaves blunt, crenated, the highest bracteas barren and coloured, and larger. Greece. ☉.

virgata. 20. S. with leaves oblong, heart-shaped, wrinkled, crenated; hairs of the stem and calyx glandular at the apex. Armenia. ♃.

sylvestris. 21. S. leaves heart-shaped, wrinkled, twice-serrated; bracteas coloured, shorter than the flower, awl-pointed; hairs of the stem and calyx simple. Europe. ♃.

nemorosa. 22. S. with leaves heart-shaped, lanceolate, serrated and plane; bracteas coloured, the lowest lip of the corolla turned back. Austria and Tartary. ♃.

syriaca. 23. S. with leaves heart-shaped and dented, inferior

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ferior leaves repand; bracteas heart-shaped, short, acute; calyxes downy. The Levant. ♄.

viscosa. 24. S. with leaves oblong, obtuse, erose-crenated, viscid; flowers in verticils; bracteas heart-shaped, acute. Italy. ♃.

hæmatodes 25. S. with leaves heart-ovate, wrinkled, downy; calyxes hispid; root knobby. Italy and Istria. ♃.

bicolor. 26. S. with leaves ovate erose-dented; flowers nodding, the middle segment of the lower lip of the corolla hollow. Barbary. ♃.

indica. 27. S. with leaves heart-shaped, lateral, a little lobed, the highest leaves sessile, the verticils almost naked and very remote. India. ♃.

dominica. 28. S. with leaves heart-shaped, blunt, crenated, and somewhat downy; the corolla narrower than the calyx. E. Indies. ♃.

scabra. 29. S. scabrous, with leaves lyrated, dented and wrinkled; stem panicle-branched. C. of G. Hope. ♄.

runcinata. 30. S. scabrous; leaves runcina-pinnatifid and dented; flowers spiked and verticilled. C. of G. Hope.

clandestina. 31. S. with leaves serrated, pinnatifid, and very much wrinkled; spike blunt; the corollas narrower than the calyx. Italy and Africa. ♂.

austriaca. 32. S. with leaves ovate, heart-shaped, erose-sinuated; the root-leaves on footstalks; stem almost leafless; the stamens double the corolla in length. Austria, Hungary, and Moldavia. ♃.

pyrenaica. 33. S. leaves blunt and erose; stamens twice the corolla in length. Pyrenees.

disermas. 34. S. leaves heart-oblong erose; the stamens equalling the corolla. Syria.

rugosa. 35. S. leaves heart-shaped, oblong-lanceolate, erose-crenated, wrinkled, a little hairy; the stamens shorter than the corolla. C. of G. Hope. ♄.

nubia. 36. S. leaves oblong, nearly heart-shaped; the sides unequal, wrinkled, crenated. Africa. ♃.

nilotica. 37. S. leaves sinuate, angled, crenate-dented; the dents of the calyx spinous; the angles and edge of the throat ciliated. Egypt. ♃.

mexicana. 38. S. leaves ovate, awl-pointed, serrated. Mexico. ♄.

amethystina. 39. S. leaves heart-shaped, acute, serrated, woolly beneath; verticils naked, calyxes trifid, corollas pubescent. New Granada. ♄.

fulgens. 40. S. with leaves heart-shaped, acute, crenated, wrinkled, downy beneath; verticils naked, calyxes trifid, helmet of the corollas villous. Mexico. ♃.

formosa. 41. S. leaves somewhat heart-shaped, the helmet of the corollas bearded, the calyxes three-lobed, stem becoming shrubby. Peru. ♄.

tubiflora. 42. S. leaves heart-shaped, crenated, somewhat hairy; calyxes trifid, corollas very long, and tubular; stamens protruded. Lima. ♄.

longiflora. 43. S. leaves ovate, acute, serrated, pubescent; calyxes trifid, corollas very long, tubular, pubescent; stamens of the length of the corolla. Mexico. ♃. *Obs.* The corolla of this and the preceding is scarlet.

coccinea. 44. S. leaves heart-shaped, acute, downy, and serrated; the corollas double the length of the calyx, but narrower. Florida. ♄.

pseudococcinea. 45. S. leaves ovate, acute, serrated, unequal at the base; stem hairy; corollas double the length of the calyx. S. America. ♄.

hispanica. 46. S. leaves ovate; leafstalks dagger-pointed; spikes four-cornered, imbricated; calyxes trifid. ☉. Italy.

abyssinica 47. S. lower leaves lyrated, highest heart-shaped, flowers verticilled, the calyxes dagger-pointed and ciliated. Africa. ♃.

verticillata. 48. S. leaves heart-shaped, crenate-dented; verticils almost naked; style of the corolla leaning upon the lower lip. Germany and Switzerland. ♃.

napifolia. 49. S. leaves heart-shaped, crenate-dented, the lower one hastate and lyrated; verticils almost naked, upper lip shorter. Italy and France.

glutinosa. 50. S. leaves heart-sagittate, serrated, and acute. Europe. ♃. *Obs.* The calyx is three-lobed; the corolla sickle-shaped, yellow, dotted with brown; the middle lobe of the lower lip crenated.

barrelieri. 51. S. leaves unequally dented, awl-pointed, heart-shaped, angle-hastate at the base; verticils almost naked. Spain. ♃.

canariensis. 52. S. leaves hastate-triangular, oblong, crenated, blunt. Canaries. ♄.

aurita. 53. S. villous, with leaves ovate, dented, ear-shaped; flowers verticil-spiked. C. of G. Hope.

africana. 54. S. leaves roundish, serrated, truncated at the base and dented. Cape of Good Hope. ♄.

aurea. 55. S. leaves roundish and very entire, truncated at the base and dented. C. of Good Hope. ♃.

colorata. 56. S. leaves elliptical, almost quite entire, downy; the limb of the calyx membranaceous and coloured. C. of G. Hope. ♃.

paniculata 57. S. leaves obovate-wedge-shaped, slightly dented, and naked; stem shrubby. Africa. ♄.

acetabulosa. 58. S. leaves obovate and dented; calyxes bell-shaped, forming an acute angle, hairy; stem shrubby. Levant. ♄.

spinosa. 59. S. leaves oblong and repand; calyxes thorny; bracteas heart-shaped, dagger-pointed, hollow. Egypt. ♃.

tingitana. 60. S. leaves heart-shaped, erose-dented; calyxes thorny; bracteas very entire, heart-shaped, dagger-pointed, hollow, ciliated. Africa. ♄. *Obs.* Smell very fetid.

sclarea. 61. S. leaves wrinkled, heart-shaped, oblong, villous, serrated: floral bracteas longer than the calyx, hollow, awl-pointed. Syria and Italy. ♂.

involucrata. 62. S. leaves ovate-lanceolate, serrated: flowers spiked, terminating, the largest bracteas coloured. Mexico. ♃. *Obs.* This is a very beautiful plant in the number and magnitude of its flowers.

ceratophylla. 63. S. leaves wrinkled, pinnatifid, woolly; the highest verticils barren. Persia. ♂.

æthiops. 64. S. leaves oblong, gnawed, woolly; verticils woolly; bracteas arched downwards, a little thorny.

Var. 2. with laciniated leaves. Greece, Africa, and France. ♂. The lower lip coheres on the fore part, and forms a sack.

phlomoides. 65. S. leaves lanceolate, almost entire; stem woolly-viscous. Spain.

argentea. 66. S. leaves oblong, dent-angled, woolly; highest verticils barren, bracteas hollow. Crete. ♃. This species connects the *sclarea* and *æthiops*.

vulnerariifolia. 67. S. leaves pinnated and very entire, the terminating leaflet greatest. Levant. ♄.

pinnata. 68. S. leaves pinnated, pinnas gnawed. Crete and the Levant. ♂.

69. S.

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incarnata. 69. S. leaves pinnated and serrated, stalks procumbent and hirsute. Levant. ♃. *Obs.* The stem is quadrangular; the inferior leaves are pinnated, the superior ternate.

rosæfolia. 70. S. leaves pinnated, hoary, leaflets serrated, calyxes ringent. Armenia. ♃.

japonica. 71. S. leaves twice pinnated and smooth. Japan. ☉.

cerato-phylloides. 72. S. leaves pinnatifid, wrinkled, villous; stem paniculed, much branched. Sicily and Egypt. ♂.

forskalii. 73. S. leaves lyre-earshaped, stem almost leafless, the helmet of the corolla half bifid. The East. ♃.

nutans. 74. S. leaves heart-shaped, indistinctly 5-lobed gnawed, stem roundish, racemes nodding. Russia. ♃.

hastata. 75. S. leaves hastate-lanceolate, crenated, stalk almost naked, racemes drooping. Supposed a native of Russia.

betonica. 76. S. leaves lanceolate crenated, stem almost naked, racemes drooping. Russia.

64. COLLINSONIA.

Cor. unequal, the lower lip multifid, hair-like. Seed one, perfect.

canadensis 1. C. leaves ovate, and stems smooth. ♃. North America.

scabriuscula. 2. C. leaves ovate, and somewhat heart-shaped, and a little hairy; stem a little hairy and scabrous. Florida. ♃.

65. MORINA.

Cor. unequal. Cal. of the fruit 1-leaved, dented. Calyx of the flower bifid. Seed one, crowned with the calyx of the flower.

persica. 1. MORINA. Persia. ♃.

66. SCIURIS.

Cor. unequal, upper lip trifid, inferior bifid and shorter. Stamens are five, but three of them are without anthers. Caps. five, united into one body, with one cell and one seed.

aromatica. 1. SCIURIS. Guiana. ♄.

67. GLOBBA.

Cor. equal, trifid. Cal. superior, trifid. Caps. 3-celled. Seeds many.

marantina 1. G. East Indies. ♃. The stalk is simple, herbaceous. The leaves alternate on foot-stalks, which are membranaceous, sheathing, the sheaths truncated at the apex.

nutans. 2. G. spike terminating and pendulous, leaves ellipse-lanceolate. East Indies.

japonica. 3. G. raceme terminating and drooping, leaves sword-shaped entire. Japan.

uviformis. 4. G. with a lateral spike. East Indies. ♃.

68. LITHOPHILA.

Cal. three segments. Cor. 3-petaled. Nectary two segments. Seed-vessel 2-celled.

muscoides. 1. LITH. Navaza.

69. LINOCIERA.

Cal. four dented. Cor. four-petaled. Anth. connecting the two opposite petals to the base. Berry 2-celled, cells 2-seeded.

1. LIN. *Thouinia ligustrina* of Swartz. *Privet-like ligustrina.* *Linociera.* Jamaica and Hispaniola. ♄.

70. ANCISTRUM.

Cal. four segments. Cor. none. Stigma many-parted. Drupe juiceless, hispid, 1-celled.

1. A. stems decumbent; leaflets obovate, equally dented, silky, pubescent below; spike globular. New Zealand. ♃. *sanguisorbæ.*

2. A. stalks commonly below water, fruitstalks scapeform, spikes ovate; leaflets oblong, very entire, acute, usually fascicled. Falkland islands. ♃. *lucidum.*

3. A. stems immersed, fruitstalks scapeform, spikes long, leaflets oblong, cut, villous, fruits armed on all sides. C. of G. Hope. ♃. *Ancistrum decumbens* of Thunberg. *latebrosum*

71. ARUNA.

Cal. 5-parted, segments turned back. Cor. none. Berry 1-celled, with one or two seeds.

1. ARU. Guiana. ♄. *divaricata*

ORDER II. DIGYNIA.

72. ANTHOXANTHUM.

Cal. is a glume of two valves, and contains one flower. Cor. a two-valved awned glume. Seed one.

* 1. A. with a spike ovate oblong, the florets on little fruitstalklets longer than the awn. *Sweet-scented vernal grass.* Grows in meadows and pastures, very common. ♃. Flowers in V. *Obs.* This grass gives the fragrance to hay. *odoratum.*

2. A. a linear spike; florets sessile, longer than the awn. India. It approaches nearest to the genus anthoxanthum, though very different in appearance, and the number of stamens do not agree. *indicum.*

3. A. a panicle pressed together, awns very long. New Zealand. A tall smooth grass, the corolline glume awned. *crinitum.*

4. A. spike pointed one way, calyxes hairy, florets with a long twisted awn. Malabar. It has every appearance of an oat stalk except the two stamens. *avenaecum.*

73. CRYPSIS.

Cal. a two-valved glume with one flower. Cor. a two-valved awnless glume.

1. C. *Anthoxanthum aculeatum* of Lin. Suppl. *Phleum schænoides* of Jacquin. *Phalaris vaginiflora* of Forskael. V. 2. *Phleum schænoides*, with spikes ovate obvolute, leaves very short, dagger-pointed, stem-clasping. Siberia, Spain, Sicily. ☉. *aculeata.*

ORDER III. TRIGYNIA.

74. PIPER, *Pepper.*

Cal. none. Cor. none. Berry one seed.

1. P. leaves ovate, about 7-nerved, smooth fruitstalks very simple. India. ♄. *nigrum.*

2. P. leaves ovate oblongish, awl-pointed, 7-nerved, fruitstalks 2-dented. India. ♄. *betle.*

3. P. leaves obliquely ovate or oblong, veined acute, spike solitary on footstalks, opposite to the leaves, fruits on fruitstalks. Java and Guinea. ♄. *cubeba.*

4. P.

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lusiæfolium. 4. P. leaves obovate, blunt, veined; spike single terminating. West Indies. ♄.

capense. 5. P. leaves ovate, nerved, awl-pointed, nerves villous. Cape of Good Hope.

malamiris. 6. P. leaves ovate, somewhat sharp, scabrous beneath, 5 nerves raised beneath. E. and W. Indies.

discolor. 7. P. leaves broad ovate with 5 nerves, very smooth, of different colours behind, spikes flexible, florets remote. Jamaica. ♄.

medium. 8. P. with leaves ovate, awl-pointed oblique, a little heart-shaped at the base, 5-nerved; spikes axillary nodding. ♄.

amalago. 9. P. leaves lanceol-ovate, 5-nerved, wrinkled. Jamaica and Hispaniola. ♄.

siriboa. 10. P. leaves heart-shaped, having about 7 nerves, veined. India. ♄.

excelsum. 11. P. leaves circular heart-shaped, having about 7 nerves; fruitstalks terminating single, 2 cleft; stem woody. New Zealand. ♄.

longum. 12. P. leaves heart-shaped, on footstalks sessile. India. ♄.

methysticum. 13. P. leaves heart-shaped, awl-pointed, many-nerved; spikes axillary, single, very short, on footstalks spreading very much. S. Sea islands. ♄.

latifolium. 14. P. leaves circular-heart-shaped, nine-nerved; spikes axillary, aggregate, on footstalks. S. Sea islands. ♄.

decumanum. 15. P. leaves heart-shaped, 9-nerved, netted. Martinico and Caracoas. ♄. It seems a variety of the *reticulatum*.

reticulatum. 16. P. leaves heart-shaped, seven-nerved, netted. Martinico, Brasil, and Hispaniola. ♄.

aduncum. 17. P. leaves oblong-ovate, awl-pointed, unequal at the base, veined; spikes single, axillary, hooked at the end. Jamaica. ♄.

macrophyllum. 18. P. leaves ellipse-ovate, awl-pointed, smooth, unequal at the base, veined; leafstalks appendiculate, spikes axillary and single. Jamaica and Martinico. ♄.

geniculatum. 19. P. leaves oblong awl-pointed, oblique, many-nerved or veined, smooth; stem and branches kneed. Jamaica. ♄.

verrucosum. 20. P. first herbaceous, then woody; leaves oblong, awl-pointed, oblique, many-nerved or veined, smooth, coriaceous; stem and branches warted. *P. tuberculatum* of Jacquin. Jamaica and Guinea. ♄.

hispidum. 21. P. leaves ovate, awl-pointed, oblique, hirsute, wrinkled; nerves (or veins) alternate, spikes erect. Jamaica. ♄.

nitidum. 22. P. leaves lanceol-ovate, oblique at the base, smooth, glossy. Jamaica. ♄.

pellucidum. 23. P. leaves heart-shaped, on footstalks; stem herbaceous. S. America.

alpinum. 24. P. herbaceous, stem erect, and a little simple; leaves ovate-roundish acute, without veins beneath; spikes axillary. Jamaica. ♄.

hispidulum. 25. P. herbaceous, somewhat erect; leaves roundish, on very slender leaf-stalks, rough-haired above.

tenellum. 26. P. herbaceous, simple, decumbent; leaves 2-ranked, ovate, veinless, ciliated on the margin; spike, ascending. Jamaica. ☉.

acuminatum. 27. P. herbaceous, leaves lanceol-ovate, nerved, fleshy; stem a little erect. S. America. ♃.

bifidum. 28. P. leaves in threes, lanceolate, awl-pointed, nerved, ciliated, dotted below. Caraccas. ♃.

amplexicaule. 29. P. sub-herbaceous; leaves lanceol-ovate, stem-clasping, nerved, fleshy; stem erect, simple. East Indies. ♃.

pallicum. 30. P. leaves alternate, obovate, commonly 3-nerved; spikes single, usually terminating. Society islands.

obtusifolium. 31. P. with leaves obovate and nerveless. South America.

retusum. 32. P. leaves obovate and retuse. Cape of Good Hope.

glabellum. 33. P. herbaceous, with leaves ovate, awl-pointed; stem declining, taking root, much branched. Jamaica.

scandens. 34. P. herbaceous, with leaves ovate, acute; stem taking root, simple, ascending. Jamaica.

serpens. 35. P. herbaceous, with leaves roundish-acute, plane, of different colours; stem creeping. Jamaica.

cordifolium. 36. P. herbaceous, with leaves inversely heart-shaped, plano-convex, fleshy; stem creeping. Jamaica.

nummularifolium. 37. P. herbaceous, with leaves circular, convex-concave; stem threadlike, creeping, taking root. Jamaica.

rotundifolium. 38. P. herbaceous, with leaves roundish, plane, fleshy; stem threadlike and creeping. S. America.

maculosum 39. P. leaves target-shaped ovate. St Domingo.

peltatum. 40. P. leaves target-shaped, circular heart-shaped, blunt-repand; spikes umbelled. St Domingo. ♃.

subpeltatum. 41. P. leaves somewhat target-shaped, circular-heart-shaped, awl-pointed; spikes umbelled. Amboyna. ♃.

distachyon 42. P. leaves ovate, awl-pointed, spikes conjugate, stem taking root. S. America. ♃.

umbellatum. 43. P. leaves circular heart-shaped, awl-pointed, veined, spikes umbelled; stem erect, furrowed, pubescent. E. Indies. ♃.

trifolium. 44. P. leaves in threes and roundish. America.

pereskiæfolium. 45. P. leaves verticilled in threes or fours, elliptical, three-nerved, smooth; spike terminating single, stem spotted. Venezuela. ♃.

polystachion. 46. P. leaves verticilled, rhomb-ovate, very entire, on footstalks, three-nerved, pubescent. Jamaica. ♃.

quadrifolium. 47. P. leaves in fours, wedge-shaped, obovate, emarginate, almost sessile; stem erect. S. America.

verticillatum. 48. P. leaves verticilled in fours, elliptical, blunt, 3-nerved. Jamaica. ☉.

stellatum. 49. P. leaves verticilled, commonly in fours, oblong, awl-pointed, 3-nerved. Jamaica. ♃. *Obs.* This species differs from the *verticillatum* in having leaves awl-pointed, and spikes three times longer.

reflexum. 50. P. leaves in fours, rhombous, fleshy, turned back and spreading; stem creeping. E. Indies. Cape of Good Hope. *Piper tetraphyllum* of Forster.

pulchellum. 51. P. leaves in fours, almost sessile oblong, nerveless, very entire; spikes terminating. Jamaica. ♃.

filiforme. 52. P. herbaceous, with leaves linear blunt, the highest verticilled, the stem threadlike and creeping. Jamaica. *Obs.* It is remarkable that of the 53 species of piper here described, 21 species are natives of Jamaica.

In the class Diandria are,

39 Genera, which include 299 Species; 29 species are found in Britain.

CLASSIS

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CLASSIS III.

TRIANDRIA.

Ordo I. MONOGYNIA.

Sect. I. *Flores superi.*

* 75. Valeriana. Cor. 5-fida basi gibba. Sem. unicum.

84. Melothria. Cor. 5-fida rotata. Bacca trilocularis.

* 92. Crocus. Cor. 6-partita, erecto-petala. Stig. convoluta colorata.

95. Antholyza. Cor. 6-fida tubulosa recurvata: laciniis inæqualibus.

94. Gladiolus. Cor. 6-partita tubulosa: laciniis subæqualibus, superioribus convergentibus.

* 97. Iris. Cor. 6-partita; laciniis alternis reflexis. Stip. petaloideum.

93. Ixia. Cor. 6-partita patens. Stig. tria simplicia.

96. Aristea. Cor. 6-petala. Styl. declinatus. Stig. infundibuliforme, hians.

98. Moræa. Cor. 6-petala; petalis alternis inæqualibus patentibus.

100. Dilatris. Cor. 6-petala hirsuta. Fil. tertium reliquis minus. Stigma simplex.

Sect. II. *Flores inferi.*

101. Witsenia. Cor. 6-partita cylindrica. Stig. emarginatum. Cal. 0.

99. Marcia. Cor. 6-partita: laciniis alternis duplo minoribus. Stigma petaloideum trifidum laciniis indivisis. Cal. 0.

103. Wachendorfia. Cor. 6-petalis inæqualis. Cal. 0.

Hæmodorum. Cor. 6-petala, tria interiora supra medium staminifera. Stigma obtusum. Casp. infera trilocularis.

102. Xiphidium. Cor. 6-petala æqualis. Cal. 0.

104. Commelina. Cor. 6-petala: Petala 3 s. 4 calyciformibus. Nect. cruciata pedicellata.

76. Oxybaphus. Cor. 5-dentata infundibuliformis. Cal. 3-fid. Nux 5-gona calyce alata!

78. Macrolobium. Cor. 5-petala inæqualis. Cal. duplex: exterior 2-phyll. inter. 5-dentatus. Legumen.

79. Rohria. Cor. 5-petala inæqualis. Cal. 5-partitus. Stig. 3, revoluta. Caps.

89. Hippocratea. Cor. 6-petala. Cal. 5-partit. Caps. 3, bivalves.

CLASS III.

TRIANDRIA.

Order I. MONOGYNIA.

Sect. I. *The Flowers inserted above the Germen.*

* 75. V. Cor. 5-cleft, gibbous at the base. Seed 1.

84. M. Cor. 5-cleft, wheel-shaped. Berry 3-celled.

* 92. C. Cor. 6-parted, equal. Stigma convolute.

95. A. Cor. 6-cleft, tubular, arched downwards; the segments unequal.

94. G. Cor. 6-parted and tubular; the segments nearly equal, the higher segments converging.

* 97. I. Cor. 6-parted, petals alternate, turned back. Stigma petaliform.

93. I. Cor. 6-parted and spreading. The stigmas three and simple.

96. A. Cor. 6-petaled. Style declining. Stigma funnel-shaped and gaping.

98. M. Cor. 6-petaled; the petals alternate, unequal and spreading.

100. D. Cor. 6-petaled and hirsute. The third filament less than the rest. Stigma simple.

Plants resembling those belonging to other classes.

I. *Boerhaavia excelsa, repanda chærophylloides, plumbaginea.* VI. *Pentaderia fimosa.*

Sect. II. *The Flowers inserted below the Germen.*

101. W. Cor. 6-parted and cylindrical. Stigma emarginated. Cal. none.

99. M. Cor. 6-parted; the alternate segments half the size of the rest. Stigma petal-shaped, 3-cleft, the segments not divided. Cal. none.

103. W. Cor. 6-petaled, unequal. Cal. 0.

H. Cor. 6-petaled, the three interior petals staminiferous above the middle. Stigma obtuse. Caps. inferior and 3-celled.

102. X. Cor. 6-petaled, equal. Cal. 0.

104. C. Cor. 6-petaled; petals 3 or 4, calyxform. Nect. cruciform and on the fruitstalklet.

76. O. Cor. 5-dented, funnel-shaped. Cal. 5-cleft. Nut 5-angled, winged at the calyx.

78. M. Cor. 5-petaled, unequal. Cal. double, the exterior calyx 2-leaved, the interior one 5-dented. A legume.

79. R. Cor. 5-petaled, unequal. Cal. 5-parted. Stigmas three, rolled back.

89. H. Cor. 5-petaled. Cal. 5-parted. Caps. three, 2-valved.

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90. TONSELLA. Cor. 5-petala. Cal. 5-partit. Nect. urceolatum. Bacca 1-locul. 4-sperma.

87. LOEFLINGIA. Cor. 5-petala. Cal. 5-phyllus. Casp. 1-locularis.

83. WILLICHIA. Cor. 4-fida. Cal. 4-fidus. Caps. 2-locularis.

105. CALLISIA. Cor. 3-petala. Cal. 3-phyllus. Caps. 2-locularis.

106. SYENA. Cor. 3-petala. Cal. 3-phyllus. Caps. 3-valvis unilocularis.

80. RUMPHIA. Cor. 3-petala. Cal. 3-fidus. Drupa nuce 3-loculari.

91. FISSILIA. Cor. 3-petala cohaerens: petalis 2, bifidis. Cal. urceolatus integer. Stam. 8; quorum 5 sterilia. Nux 1-sperma.

81. CNEORUM. Cor. 3-petala. Cal. 3-dentatus. Bacca 3-cocca.

107. XYRIS. Cor. 3-petala. Cal. 2-valvis. Caps. 3-locularis.

82. COMOCLADIA. Cor. 4-partita. Cal. 3-partitus. Stylus 0. Drupa.

77. OLAX. Cor. 3-fida. Cal. integer. Glans.

85. ROTALA. Cor. 0. Cal. 3-dentatus. Caps. 3-locul.

86. ORTEGIA. Cor. 0. Cal. 5-phyll. Caps. 1-locul.

88. POLYCNEMUM. Cor. 0. Cal. 5-phyll. subtus 3-phyll. Sem. 1.

90. T. Cor. 5-petaled. Cal. 5-parted. Nect. pitcher-shaped. Berry 1-celled, and 4-seeded.

87. L. Cor. 5-petaled. Cal. 5-leaved. Caps. 1-celled.

83. W. Cor. 4-cleft. Cal. 4-cleft. Caps. 2-celled.

105. C. Cor. 3-petaled. Cal. 3-leaved. Caps. 2-celled.

106. S. Cor. 3-petaled. Cal. 3-leaved. Caps. 1-celled, 3-valved.

80. R. Cor. 3-petaled. Cal. 3-cleft. Drupe with nut, 3-celled.

91. F. Cor. three petals cohering; two petals 2-cleft. Cal. pitcher-shaped, entire. Stam. eight, of which 5 are barren; the nut 1-seeded.

81. C. Cor. 3-petaled. Cal. 3-dented. Berry 3-grained.

107. X. Cor. 2-petaled. Cal. 2-valved. Caps. 3-celled.

82. C. Cor. 3-parted. Cal. 3-parted. Style none. A drupe.

77. O. Cor. 3-cleft. Cal. entire.

85. R. Cor. none. Cal. 3-dented. Caps. 3-celled.

86. O. Cor. none. Cal. 5-leaved. Caps. 1-celled.

88. P. Cor. none. Cal. 5-leaved. Seed one.

Plants of other classes resembling these are thus classed.

† VI. *Tradescantia multiflora.* V. *Hirtella triandria.* IV. *Fagara spinosa, acuminata.*

Sect. III. *Flores graminei; valvulis glumæ calycinæ.*

* 111. SCHOENUS. Cor. 0. Cal. paleis fasciculatis. Sem. subrotundum.

* 112. CYPERUS. Cor. 0. Cal. paleis distichis. Sem. nudum.

* 113. SCIRPUS. Cor. 0. Cal. paleis imbricatis. Sem nudum.

* 115. ERIOPHORUM. Cor. 0. Cal. paleis imbricatis. Sem. lana cinctum.

110. MAPANIA. Cor. 0. Cal. 6-valvis. Involucre triphyllum.

117. NARDUS. Cor. bivalvis. Cal. 0. Sem. tectum.

114. MIEGIA. Cor. 2-valvis. Cal. 2-valvis. Nect. 1-valve germen involvens.

109. KYLLINGIA. Cor. 2-valvis. Cal. 2-valvis. Ament. imbricatum.

119. CENCHRUS. Cor. 2-valvis. Cal. 2-valvis. Involucr. 3 s. 4-florum laciniatum echinatum.

118. LYGEUM. Cor. 3-valvis. Cal. spatha. Nux 2-locularis.

116. POMMEREULIA. Cor. 3 s. 4-bivalvis aristatæ. Cal. turbinatus bivalvis.

108. FUIRENA. Cor. 3-valvis. Cal. 0. Ament. imbricat. squamis aristatis.

Sect. III. *Grasses. The glumes of the calyx valved.*

* 111. S. Glumes chaffy, crowded, the exterior one barren. Seeds roundish.

* 112. C. Glumes chaffy, tiled in two ranks.

* 113. S. Glumes chaffy, tiled on all sides.

* 115. E. Glumes chaffy, tiled on all sides. Seed surrounded with very long wool.

110. M. Cor. 0. Cal. 6-valved. Involucre 3-leaved.

117. N. Cor. a 2-valved glume.

114. M. Cor. 2-valved. Nect. 1-valved, inclosing the germen.

109. K. Cor. 2-valved. Cal. 2-valved. Ament. imbricated.

119. C. Cor. 2-valved. Cal. 2-valved. Involucre 3 or 4 flowered, laciniated and echinated.

118. L. Cor. 2-valved. Cal. a spathe. Nut 2-celled.

116. P. Cor. 3 or 4 bivalved, awned. Cal. top-shaped bivalve.

108. F. Cor. 3-valved. Cal. 0. Ament. imbricated, the scales awned.

ORDO II. DIGYNIA.

127. PANICUM. Cal. 3-valvis; tertio dorsali minori.

ORDER II. DIGYNIA.

127. P. Cal. 1-valved, the third valve least.

120. CORNUCOPIÆ.

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120. CORNUCOPIÆ. Cal. 2-valvis. Cor. 1-valvis. Involucrum commune 1-phyllum multiflorum.

146. ARISTIDA. Cal. 2-valvis. Cor. 1-valvis, apice aristis tribus.

* 129. ALOPECURUS. Cal. 2-valvis. Cor. 1-valvis, apice simplici.

* 128. PHLEUM. Cal. 2-valvis, truncatus, mucronatus, sessilis.

* 125. PHALARIS. Cal. 2-valvis: valvis carinatis æqualibus, corollam includentibus.

126. PASPALUM. Cal. 2-valvis: valvis subrotundis figura corollæ.

* 130. MILIUM. Cal. 2-valvis: valvis ventricosis corolla majoribus, subæqualibus.

* 131. AGROSTIS. Cal. 2-valvis: valvis acutis corolla brevioribus.

* 137. DACTYLIS. Cal. 2-valvis: valva majore longiore compressa carinata.

* 141. STIPA. Cal. 2-valvis. Cor. arista terminali inarticulata.

143. LAGUROS. Cal. 2-valvis villosus. Cor. aristis 2 terminalibus et 1 dorsali.

122. SACCHARUM. Cal. 2-valvis, lanugine extus vestitus. Cor. 2-valvis.

121. MUHLENBERGIA. Cal. 1-valvis. Cor. 2-valvis.

123. PEROTIS. Cal. 0. Cor. 2-valvis, lanugine extus vestita.

124. LEERSIA. Cal. 0. Cor. 2-valvis clausa.

120. C. Cal. 2-valved. Cor. 1-valved. Common involucre 1-leaved, many-flowered.

146. A. Cal. 2-valved. Cor. 1-valved, 3 awns at the apex.

* 129. A. Cal. 2-valved. Cor. 1-valved, the apex simple.

* 128. P. Cal. 2-valved, truncated, dagger-pointed and sessile.

* 125. P. Cal. 2-valved; the valves keeled, equal, enclosing the corolla.

126. P. Cal. 2-valved; the valves roundish, of the figure of the corolla.

* 130. M. Cal. 2-valved; the valves ventricose, greater than the corolla, nearly equal.

* 131. A. Cal. 2-valved; valves acute, shorter than the corolla. Stigmas feathered.

* 137. D. Cal. 2-valved, flattened; the greater valve keel-shaped.

* 141. S. Cal. 2-valved. Cor. with terminating awn, jointed at the base.

143. L. Cal. 2-valved, awns villous.

122. S. Cal. 2-valved, covered with down on the outside. Cor. 2-valved.

121. M. Cal. 1-valved. Cor. 2-valved.

123. P. Cal. 0. Cor. 2-valved, covered with down on the outside.

124. L. Cal. 0. Cor. 2-valved, shut.

Plants belonging to the third Sect. of this order resembling these.

Arundo epigeios, calamagrostis, arenaria.

Sect. II. *Flores biflori, vagi.*

* 132. AIRA. Cal. bivalvis. Flosculi absque rudimento tertii.

* 133. MELICA. Cal. 2-valvis. Rudimentum tertii inter flosculos.

HOLCUS. Cal. 2-valvis. Cor. aristata.

Sect. II. *Flowers scattered, 2 in each calyx.*

* 132. A. Cal. 2-valved. Florets without the rudiments of a third.

* 133. M. Cal. 2-valved, commonly 2-flowered, with the rudiments of a third.

H. Cal. 2-valved. Cor. awned.

Plant resembling these.

Tripsacum hermaphroditum.

Sect. III. *Flores multiflori, vagi.*

136. UNIOLA. Cal. multivalvis, carinatus.

* 135. BRIZA. Cal. 2-valvis. Cor. cordata: valvis ventricosis.

* 134. POA. Cal. 2-valvis. Cor ovata: valvis acutiusculis.

* 139. FESTUCA. Cal. 2-valvis. Cor. oblonga: valvis mucronatis.

* 140. BROMUS. Cal. 2-valvis. Cor. oblonga: valvis sub apice aristatis.

* 142. AVENA. Cal. 2-valvis. Cor. oblonga: valvis dorso arista contorta.

* 144. ARUNDO. Cal. 2-valvis. Cor. basi lanata, mutica.

145. PAPPOPHORUM. Cal. 2-valvis. Cor. 2-valvis multi-aristata.

Sect. III. *Flowers scattered, many in each calyx.*

136. U. Cal. many-valved, keeled.

* 135. B. Cal. 2-valved. Cor. bellied, valves heart-shaped, blunt. Seed adhering to the corolla.

* 134. P. Cal. 2-valved. Cor. valves ovate, a little sharp, awnless.

* 139. F. Cal. 2-valved. Spikelet oblong, glumes sharp-pointed.

* 140. B. Cal. 2-valved. Spikelet oblong, glumes awned under the apex, the inner one ciliated.

* 142. A. Cal. 2-valved. Cor. a glume, roundish, awned on the back. Awn contorted.

* 144. A. Cal. 2-valved. Florets surrounded by permanent wool. Awnless.

145. P. Cal. 2-valved. Cor. 2-valved with many awns.

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153. LAPPAGO. Cal. subtrivalvis. Cor. 2-valvis resupinata.

153. L.

Dactylis glomerata.

Sect. IV. *Spicati, receptaculo subulato.*

Sect. IV. *Flowers spiked on an awl-shaped receptacle.*

* 148. ROTTBOELLIA. Cal. 1-florus rachi adpressus.

* 148. R. Cal. 1-flowered, pressed to the spine.

* 150. SECALE. Cal. biflorus.

* 150. S. Cal. 2-flowered.

* 152. TRITICUM. Cal. multiflorus.

* 152. T. Cal. 2-valved, solitary, many-flowered. Spine toothed.

* 151. HORDEUM. Involucr. hexaphyllum triflorum. Flos simplex.

* 151. H. Cal. 2-valved, 3-fold, 1-flowered.

* 149. ELYMUS. Involucr. tetraphyllum biflorum. Flos compositus.

* 149. E. Cal. 2-valved, aggregate, many-flowered.

* 147. LOLIUM. Involucr. monophyllum, uniflorum. Flos compositus.

* 147. L. Cal. 1-leaved, fixed, many-flowered.

* 138. CYNOSURUS. Involucr. monophyllum, laterale. Flos compositus.

* 138. C. Cal. 2-valved. Partial receptacle on one side, leafy.

ORDO III. TRIGYNIA.

ORDER III. TRIGYNIA.

Sect. I. *Flores inferi.*

Sect. I. *Flowers inserted below the germen.*

* 157. HOLOSTEUM. Cor. 5-petala. Cal. 5-phyllus. Caps. apice dehiscens.

* 157. H. Cal. 5-leaved. Petals 5-gnawed. Caps. almost cylindrical, opening.

* 159. POLYCARPON. Cor. 5-petala. Cal. 5-phyllus. Caps. 3-valvis.

* 159. P. Cal. 5-leaved. Petals 5. Caps. 3-valved, many-seeded.

164. LECHEA. Cor. 3-petala. Cal. 5-phyllus. Caps. 3-cocca.

164. L. Cal. 5-leaved. Cor. of 3 petals. Caps. 3 celled.

* 154. ERIOCAULON. Cor. 3-petala. Cal. composit. Sem. 1, coronatum.

* 154. E. Cor. of 3 equal petals. Stamens above the germen.

* 155. MONTIA. Cor. 1-petala. Cal. 2-phyllus. Caps. 3-valvis, 3-sperma.

* 155. M. Cal. 2-leaved. Cor. 1-petaled. Caps. 3-valved and 3-sided.

161. MOLLUGO. Cor. nulla. Cal. 5-phyllus. Caps. 3-locularis.

161. M. Cor. none. Cal. 5-leaved. Caps. 3-celled.

162. MINUARTIA. Cor. nulla. Cal. 5-phyllus. Caps. 1-locularis, polysperma.

162. M. Cor. none. Cal. 5-leaved. Caps. 1-celled, many-seeded.

163. QUERIA. Cor. nulla. Cal. 5-phyllus. Caps. 1-celled.

163. Q. Cor. none. Cal. 5-leaved. Caps. 1-celled.

158. KOENIGIA. Cor. nulla. Cal. 3-phyllus. Sem. 1, ovatum.

158. K. Cor. none. Cal. 3-leaved. Seed 1, ovate.

Plant resembling.

Tillæa.

Sect. II. *Flores superi.*

Sect. II. *Flowers inserted above the germen.*

160. DONATIA. Cor. polypetala. Cal. 3-phyllus.

160. D. Cor. many-petaled. Cal. 3-leaved.

156. PROSERPINACA. Cor. nulla. Cal. 3-partitus. Sem. 1, triloculare.

156. P. Cor. none. Cal. 3-parted. Seed 1, 3-celled.

ORDER I. MONOGYNIA.

75. VALERIANA, or *Valerian.*

No calyx. Cor. monopetalous, hence bulging at the base. Superior.

1. V. With tailed flowers; leaves spear-shaped, very entire. ♃.

2. V. tailed flowers; leaves very entire, strap-shaped. S. of Europe. ♃. *angustifolia.*

3. V. monandrous flowers; leaves with winged clefts. Portugal and the East. ☉. *calcitrapa.*

* 4. V. flowers staminiferous and pistilliferous on different plants, with very entire winged leaves. ♃. *dioica.*

5. V. triandrous flowers, with leaves winged, and florets oval-toothed. C. of G. Hope. *capensis.*

6. V.

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officinalis. * 6. V. leaves all winged and toothed.—It is this species which is in so much repute as a medicine. The root has a strong, but not an agreeable smell. Its taste is warm, bitterish, and subacrid. It communicates its properties to wine, water, and spirit; but it is best in substance, and may be taken from half a drachm to two drachms for a dose. There is no doubt of its possessing antispasmodic virtues in an eminent degree. It is often prescribed with advantage in hysterical cases, and instances are not wanting where it appears to have removed some obstinate epilepsies. In habitual costiveness it is an excellent medicine, and frequently loosens the bowels when other stronger purgatives have been tried in vain. Cows eat the leaves. Sheep are not fond of them. Cats are greatly delighted with the roots. Rats are said to be equally fond of them, and that the rat-catchers employ them to draw the rats together.

phu. 7. V. with stem-leaves winged, those issuing from the root undivided. Europe. ♃.

tripteris. 8. V. toothed leaves, those rising from the root undivided; those of the stem in threes, oval-oblong. Alps. ♃.

montana. 9. V. leaves oval-oblong, nearly tooth-shaped with an undivided stem.

cellica. 10. V. leaves oval-oblong, obtuse, very entire. The Alps. ♃.

tuberosa. 11. V. root-leaves spear-shaped, very entire; the rest winged, cleft. South of Europe. ♃.

saxatilis. 12. V. leaves nearly toothed; the root-leaves oval; the stem-leaves strap-spear-shaped. S. of Europe. ♃.

elongata. 13. V. radical leaves oval; stem-leaves heart-shaped sitting, snipt nearly, halbert-shaped. S. of Europe. ♃.

pyrenaica. 14. V. stem-leaves heart-shaped, toothed, having leaf-stalks; the highest in threes. Pyrenees. ♃.

scandens. 15. V. leaves in threes, the stem climbing.

mixta. 16. V. stem 4-cleft, the lowest leaves double-winged cleft, with a feathery down.

supina. 17. V. small involucrums 5-leafed, 3-flowered; the leaves entire. Alps. ♃.

villosa. 18. V. inferior leaves ear-shaped, the superior leaves toothed, woolly. Japan.

polystachya. 19. V. winged leaves, with a compound spike in whirls.

sibirica. 20. V. winged cleft leaves; seeds connected with an oval chaff. Siberia. ☉.

ruthenica. 21. V. leaves oval, fleshy, winged, cleft, toothed; seeds connected with an oval chaff. Siberia. ♃.

carnosa. 22. V. oval, toothed, fleshy, hoary leaves.

cornucopiæ. 23. V. flowers diandrous, leaves oval sitting. S. of Europe. ☉.

echinata. 24. V. toothed leaves, fruit strap-shaped, 3-toothed; the outward larger and bent back. S. of Europe. ☉.

oblitoria. 25. V. forked stem; leaves spear-shaped, very entire; fruit naked. Europe. ☉.

dentata. 26. V. stem forked; leaves spear-shaped, entire; fruit 3-toothed; 2 teeth very short. Europe. ☉.

vesicaria. 27. V. stem forked, leaves spear-shaped, toothed; fruit inflated globular. Crete. ☉.

cornuta. 28. V. stem forked; leaves spear-shaped, toothed; fruit 6-toothed. Portugal. ☉.

discoidea. 29. V. stem forked, leaves spear-shaped, toothed; fruit 12-toothed with hooked teeth.

radiata. 30. V. stem forked, leaves oblong-obtuse, little heads with involucrums.

pumila. 31. V. forked stem, the lower leaves toothed, the highest strap-shaped, many-cleft.

As we have already given to our readers an example of the mode in which the different species of plants are discriminated by botanists, and as such extreme minuteness might seem inconsistent with the nature of our work, we shall avoid pursuing it, unless where the peculiar nature of any species may appear to require such a degree of attention, either as an object of scientific curiosity, or of general utility. At the commencement of the succeeding class, however, we shall give a further example, taken from the extensive genus *Protea*, of the manner in which the species of plants ought to be defined. With this exception, however, we shall confine ourselves to the definition of the more important plants. At the same time, that our work may be as complete as its nature will permit, we shall state the names of all the species included under every genus (excepting the almost boundless class of *Cryptogamiæ*), taking care to distinguish the foreign from the British plants, by affixing to the latter the usual mark (*). Thus there will be exhibited to the reader, nearly a complete enumeration of the objects contained under this extensive and curious branch of science; together with an account of whatever it contains most interesting or useful.

76. Oxybaphus

Contains one species; viz. viscosus.

77. Olax.

One species; viz. zeylanica. Ceylon.

78. Macrolobium.

Three species; viz. pinnatum, hymenæoides, sphærocarpum.

79. Rohria.

One species; viz. petioliflora. Cape, Japan, West Indies.

80. Rumphia.

One species; viz. amboinensis. Amboyna.

81. Cneorum, *Widow-wail.*

One species; viz. tricoccon. S. Europe.

82. Comocladia, or *Maiden-plume.*

Four species; viz. integrifolia, dentata, ilicifolia, angulosa. Jamaica, S. America.

83. Willichia.

One species; viz. repens. Mexico.

84. Melothria, *Small-creeping Cucumber.*

One species; viz. pendula. N. America.

85. Rotala.

One species; viz. verticillaris. E. Indies.

86. Ortegia.

Two species; viz. hispanica, dichotoma. S. Eur.

87. Loeflingia.

Two species; viz. hispanica, indica. India, Spain.

88. Polycnemum.

Five species; viz. monandrum, sclerospermum, arvense, salsum, oppositifolium. S. Europe.

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89. HIPPOCRATEA.

Three species; viz. volubilis, indica, comosa. S. Am.

90. TONSELLA.

Two species; viz. scandens, africana. Guiana.

91. FISSILIA.

One species; viz. psittacorum. Isle Bourbon.

92. CROCUS, or *Saffron*.

Two species; viz. * sativus, * vernus.

sativus. * C. sheath one valve rising from the root; tube of the blossom very long.—The summits of the pistils of the Cr. officinalis carefully collected, and moderately dried, are the saffron of the shops. That collected in England is preferred to all other. It affords a beautiful colour to water, wine, or spirit, and gives out the whole of its virtues to them. It has been held in high repute as a cordial; but modern practice pays no great attention to it, since it has been found to produce no sensible effect, even when given in doses greatly larger than those generally prescribed.

93. IXIA.

47 species; viz. fruticosa, minuta, rosea, chloroleuca, * bulbocodium, cruciata, fragrans, humilis, pilosa, hirta, secunda, villosa, rubrocyanea, pumicea, purpurea, crispa, cinnamomea, corymbosa, heterophylla, anemonæflora, cœlestina, spicata, plantaginea, linearis, incarnata, patens, capillaris, flexuosa, angusta, radiata, virgata, longiflora, scillaris, aristata, pendula, bulbifera, leucantha, erecta, maculata, deusta, crocata, squalida, lancea, pentandra, aulica, falcata, excisa. Alps, Africa, China, Magellan.

94. GLADIOLUS, or *Corn-flag*.

50 species; viz. montanus, parviflorus, flexuosus, recurvus, falcatus, biflorus, tenellus, dichotomus, striatus, crispus, cuspidatus, tristis, albidus, hyalinus, gracilis, carinatus, galeatus, imbricatus, brevifolius, communis, carneus, hirsutus, watsonius, mevanellus, merianus, laccatus, iridifolius, refractus, alatus, bicolor, anceps, sessifolius, silenoides, roseus, junceus, setifolius, marginatus, angustus, undulatus, flavus, securiger, tubiflorus, tubatus, floribundus, blandus, plicatus, strictus, mucronatus, spathaceus, gramineus. Europe, Africa.

95. ANTHOLYZA.

Six species; viz. lucidior, æthiopica, nervosa, cunonia, ringens, plicata. Persia, Africa.

96. ARISTEA.

One species; viz. cyanea. Cape of Good Hope.

97. IRIS

Contains 53 species; viz. the following: ciliata, minuta, pumila, lutescens, cristata, susiana, florentina, flavissima, biflora, aphylla, variegata, squalens, japonica, sambucina, lurida, germanica, pallida, compressa, dichotoma, tripetala, tricuspis, *xyphium, xiphioides, * pseud-acorus, * fœtida, virginica, versicolor, halophilæ, ochroleuca, spathacea, ramosa, sisyrinchium, verna, persica, juncea, augusta, setacea, tenuifolia, ventricosa, graminea, ensata, spuria, orientalis, sibirica, martinicensis, pavionia, crispa, papilionacea, edulis, tristis, polystachya, viscaria, bituminosa, tuberosa. Europe, Barbary, Persia, N. America. Of these the following deserve notice.

pseudacorus. I. Every other segment of the cor. or blossom smaller than the summit.—The juice of the fresh fruit of this species is very acrid, and has been found to produce plentiful evacuations from the bowels, after other powerful means had failed. It may be given for this purpose in doses of 80 drops every hour or two: but the degree of its acrimony is so uncertain that it can hardly ever come into general use. In some cases it proves diuretic. The fresh roots have been mixed with the food of swine bitten by a mad dog; and they escaped the disease when others bitten by the same dog died raving mad. The root loses most of its acrimony by drying. Goats eat the leaves when fresh; but cows, horses, and swine refuse them: cows will eat them when dry. The roots are used in the island of Jura to dye black.

fœtida. I. Stem with one angle. The juice of the root, both of this and the preceding species, is sometimes used to exite sneezing; but it is an unsafe practice. Violent convulsions have sometimes been the consequence. Neither horses, sheep, nor cows eat it. The scarlet seeds displayed by the opening capsules give the hedge banks in England a gay appearance in autumn. The leaves when bruised smell like rancid bacon.

98. MORÆA.

This genus chiefly inhabits the C. of G. Hope, and has 17 species; viz. melaleuca, spiralis, pusilla, magellanica, gladiata, aphylla, filiformis, spathacea, flexuosa, polyanthos, cærulea, plicata, umbellata, crispa, iriopetala, iridioides, chinensis. Africa.

99. MARICA

Has one species; viz. marica paludosa. Guiana.

100. DILATRIS

Has three speces; viz. corymbosa, viscosa, paniculata. C. of G. Hope.

101. WITSENIA

Has one species; viz. witsenia maura. C. of G. Hope.

102. XIPHIDIUM

Has two species; viz. album, cæruleum. Guiana.

103. WACHENDORFIA

Has five species; viz. thyrsiflora, paniculata, hirsuta, tenella, graminea. C. of G. Hope.

104. COMMELINA, or *Day-flower*,

Has 13 species; viz. communis of America, africana, benghalensis, erecta, virginica, longicaulis, mollis, tuberosa, vaginata, nudiflora, cucullata, japonica, spirata; chiefly Indian, unless otherwise denoted by the name.

105. CALLISIA

Has one species; viz. callisia repens. S. America.

106. SYENA

Has one species; viz. syena fluviatilis. Guiana.

107. XYRIS

Has four species; viz. indica, pauciflora of Malabar, americana, capensis.

108. FUIRENA

Has one species; viz. fuirena umbellata. Surinam.

109. KYLLINGIA

Has eight species; viz. monocephala, brevifolia, triceps, panicea, filiformis, umbellata, cyperina, incompleta. Surinam, E. and W. Indies.

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110. MAPANIA

Has one species; viz. mapania sylvatica. Guiana.

111. SCHOENUS, or *Base Cypress*,

Has 39 species; viz. mariscus, junceus, mucronatus, pilosus, filiformis, striatus, capitellum, scariosus, nigricans, ferrugineus, fuscus, tristachyos, cuspidatus, aristatus, compar, flexuosus, capillaceus, ustulatus, spicatus, bobartiæ, stellatus, bulbosus, inanis, cephalotes, cyperoides, cymosus, glomeratus, cladium, effusus, restioides, surinamensis, thermalis, lævis, lanceus, albus, gracilis, setaceus, pusillus, capillaris. Chiefly tropical.

112. CYPERUS, or *Greater Galangale*,

Has 76 species; viz. minimus, setaceus, arenarius, prolifer, effusus, articulatus, marginatus, complanatus, texilis, compactus, monostachyos, distachyos, triflorus, nanus, filiformis, dubius, capitatus, niveus, pannonicus of Austria, mucronatus, laevigatus, squarrosus, nitens, polystachyos, conglomeratus, cruentus, aristatus, luzulæa, confertus, viscosus, ligularis, glomeratus, imbricatus, maderas-patanus, castaneus, elegans, surinamensis, flavidus, flavescens, fuscus, virescens, difformis, jemenicus, strigosus, tenuis, tuberosus, pumilus, stoloniferus, compressus, pulcher, vegetus, albidus, rotundus, glaber, odoratus, esculentus, tenuiflorus, pangorei, denudatus, lanceus, longus, fastigiatus, canaliculatus, monti, iria, santonici, corymbosus, racemosus, haspan, elatus, distans, diphyllus, papyrus, flabelliformis, alternifolius, spathaceus. Chiefly Arabia, C. of G. Hope, S. of Europe, and tropical.

113. SCIRPUS, or *Rush grass*,

Has 70 species; viz. mutatus, spiralis, articulatus, plantagineus, nutans, * palustris, geniculatus, caricis, * cæspitosus, bæthryon, campestris, capitatus, ovatus, astropurpureus, polytrichoides, * acicularis, * fluitans, * lacustris, glomeratus, arvensis, truncatus, laciniatus, membranaceus, pilosus, hystrix, * holoschœnus, australis, * romanus, nodosus, radiatus, * setaceus, supinus, natans, vaginatus, tristachyos, uncinatus, aristatus, autumnalis, diphyllus, fastigiatus, globulosus, globiferus, capillaris, trispicatus, lateralis, * triqueter, mucronatus, dichotomus, echinatus, retrofractus, ferrugineus, spadicens, anomalus, miliaceus, * maritimus, grossus, luzulæ, * sylvaticus, corymbosus, æstivalis, squarrosus, dipsæcus, junciformis, nicheliamus, ciliaris, hottentotus, antarcticus, argenteus, menander, cephalotes. S. Europe, E. and W. Indies, America. Of these *S. lacustris* is worthy of notice. It is thus described: Straw cylindrical, naked; spikes several, egg-shaped, on fruitstalks, terminating; calyx fringed, 3-cleft, middle segment awl-shaped. When fodder is exhausted, cattle will live upon this species. Cottages are sometimes thatched, and pack-saddles stuffed with it. Bottoms of chairs are very commonly made of this rush. If cut at one year old it makes the fine bottoms. Coarse bottoms are made of it at two years old; and such as are still older, mixed with the leaves of the iris pseudacorus, make the coarsest bottoms of all. Mats are likewise made either of the scirpus lacustris alone, or mixed with the aforesaid leaves. Goats and swine eat it, cows and sheep refuse it.

114. MIEGIA

Has one species; viz. miegia maritima. Cayenne.

115. ERIOPHORUM, or *Cotton Grass*,

Has six species; viz. vaginatum, polystachyon, angustifolium, virginicum, cyparinum, lypinum. European, except the species called *virginicum*.

116. POMMEREULIA

Has one species; viz. pommereulia cornucopiæ. India.

117. NARDUS, or *Matt-grass*,

Has four species; viz. stricta, aristata, indica, ciliaris. Two first, Europe; two last, India.

118. LYGEUM

Has one species; viz. lygeum spartum. Spain.

119. CENCHRUS, or *Hedgehog-grass*,

Has ten species, viz. lappaceus, capitatus, echinatus, tribuloides, ciliaris, setosus, geniculatus, hordeiformis, purpurescens, frutescens. Generally hot climates.

ORDER II. DIGYNIA.

It is highly worthy of being remarked, that under this second order of the class of triandria in the Linnæan system are included a considerable number of the plants that are very valuable in agriculture, especially the grasses. This branch of botany, therefore, deserves the attention of those engaged in the culture of artificial grasses, and even of all persons in any way engaged in the cultivation of the soil. Several advantages result from being able to discriminate the particular grasses that naturally rise upon a field, and the name which they bear. A farmer or other cultivator of lands may thus, in the first place, be enabled to derive greater benefit from the perusal of publications upon the art on which he is engaged. In the next place, it is to be remarked, that some grasses rising spontaneously upon a soil indicate that it is of bad quality, or that it has been impoverished by severe cropping; whereas there are other grasses, which demonstrate, by their spontaneous growth, that the land is in excellent condition. It is of obvious utility to be able to discriminate such plants. It is also of importance, when artificial grasses have sprung up, to be able to discern the kinds to which they belong, and consequently to know whether the proper sorts of seed have been sown, and which of the sorts may have failed to spring up. For these and other reasons we shall give the botanical description, in as concise terms as possible, of a considerable number of the species of this order.

120. CORNUCOPIÆ, or *Horn-of-plenty grass*,

Includes two species; *cucullatum, with an awnless spike, and a scolloped cone; and * alopecuroides, with an awned spike received in a hemispherical cone.

121. MUHLENBERGIA

Has one species, viz diffusa.

122. SACCHARUM, or the *Sugar Cane*,

Contains eleven species, vis. teneriffiæ, spontaneum, japonicum, officinarum, polystachyon, arundinaceum, benghalense, repens, ravennæ, cylindricum, thunbergii. Tropical.

123. PEROTIS

Has two species; viz. latifolia, and polystachyle. Tropical.

124. LEERSIA.

Four species; viz. orizoides, virginica, monandra, hexandra. Tropical.

125.

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125. PHALARIS, or *Canary-grass.*

Cal. 2; valves heeled, equal in length, including the corolla.

canariensis. * 1. P. an awnless panicle nearly oval; spiked, boat-shaped, entire. Cor. 4-valved; the exterior valves spear-shaped and smooth; the interior woolly. Cultivated for its seeds, with which canary birds are fed. ⊙.

aquatica. 2. P. panicle awnless, cylindrical, spike-formed; chaff boat-shaped, slightly toothed. Cor. 3; valves, the interior woolly, the exterior small, awl shaped. Egypt and Italy.

capensis. 3. P. panicle spiked, oval, husks entire; the straw knee-jointed, decumbent. C. of G. Hope. ⊙.

bulbosa. * 4. P. panicle awnless, cylindrical, spike-formed; husks boat-shaped, toothed. Cor. 2, valves smooth; roots bulbous. ♃. Spain.

nodosa. * 5. P. panicle oblong; leaves rigid.

dentata. 6. P. spike panicled, cylindrical; husks serrated; straw knee-jointed. ⊙. C. of G. Hope.

phleoides. * 7. P. panicle awnless, cylindrical, spike-formed; husks heeled, entire, rough like a file. Cor. 2, valves smoothish. ⊙.

arenaria. * 8. P. panicle awnless, cylindrical, spike-formed; husks heeled, entire, fringed; stem branched. ⊙.

aspera. 9. P. panicle awnless, cylindrical, spike-formed; husks heeled, bulging above. Cor. 2, valves smooth. ⊙.

utriculata. 10. P. panicle oval, spike-formed; husks boat-shaped, the back dilated; the awn longer than the chaff. Italy. ⊙.

paradoxa. 11. P. panicle awnless, oblong, spike-formed; husk boat-shaped, one-toothed. Cor. 2, valves smooth, small flowers as if bitten off below. India. ⊙.

hispida. 12. P. spikes finger-like; chaff rough like a file; leaves oval. Japan.

126. PASPALUM.

Fifteen species, viz. dissectum, scrobiculatum, villosum, virgatum, paniculatum, stoloniferum, repens, hirsutum, kora, longiflorum, distichum, conjugatum, vaginatum, filiforme, decumbens. S. America, and E. Indies.

127. PANICUM, or *Panic grass.*

Cor. with 3 valves; the third valve very small. It is thus defined by *Withering*. Cal. 2-valved, 2-flowered.

polystachyon. 1. P. with tapering spikes, small envelopes of one flower, in fascicules bristly; the straw erect above, branchy. India. ♂.

sericeum. 2. P. a tapering spike, covering bristly, hairy, single flowers; leaves plain. W. Indies. ⊙.

verticillatum. * 3. P. spike cylindrical, rough when stroked downwards; partial involucrums with 2 bristles, and 1 floret.

helvolum. 4. P. spike tapering, small involucrums, single flowers, in bristly bunches. Seeds fibrous. ⊙.

glaucum. 5. P. spike tapering, small involucrums, double flowers, with hairy fascicules. Seeds with undulated wrinkles. ⊙.

viride. * 6. P. spike cylindrical, soft to the touch; partial involucrums, with 3 bristles and 1 floret.

germanicum. 7. P. a compressed compound spike, spicule congregated, small involucrums bristle-shaped, longer than the flower; spike-stalk shaggy. ⊙.

italicum. 8. P. a compound spike with an interrupted nodding base. Small spikes congregated. Small involucrums much longer than the flower. Cottony spike-stalk. ⊙.

crus galli. * 9. P. spikes alternate and in pairs; little spikes subdivided; husks awned and rough strong hairs. Spike stalked, with five angles.

sanguinale * 10. P. spikes finger-like, knotty on the inside of the base; flowers in pairs, without awns; sheath of the leaves dotted.

dactylon. * 11. P. spikes fingered, expanding soft hairs on insides of the base, flowers solitary, roots with creeping runners.

To these are to be added the following species; setosum, * lanceolatum, staguinum, crus corvi, setigerum, colonum, fluitans, flavidum, dimidiatum, burmanni, hirtellum, pilosum, molle, fasciculatum, carthaginense, conglomeratum, interruptum, umbrosum, filiforme, ægyptiacum, ciliare, lineare, cimicinum, distachyon, squarrosum, hispidulum, compositum, elatius, dichotomum, ramosum, deustum, coloratum, repens, ischæmoides, remotum, aristatum, miliaceum, antidotale, notatum, muricatum, capillare, flexuosum, grossarium, acuminatum, rigens, fuscum, laxum, latifolium, flavescens, diffusum, oryzoides, clandestinum, arborescens, curvatum, virgatum, patens, trigonum, pallens, lanatus, arundinaceum, polygamum, glutinosum, brevifolium, radicans, tricoides, and divaricatum. Chiefly hot climates.

128. PHLEUM, or *Cat's-tail grass.*

Cal. 2-valved, sitting, strap shaped, lopped, ending in 2 dagger points, enclosing the cor.

1. P. spike egg-shaped, fringed; straw branched. *arenarium*

2. P. panicle cylindrical, spike-like; husks naked; straw sometimes branched. *paniculatum.*

3. P. spike cylindrical, very long; calyx fringed, and awned; straw upright.—This grass is represented by all travellers in America as the great support of cattle, &c. wherever meadows are found. It is there called *timothy-grass*. It is best adapted to clayey soils, moist loam, and especially peat. The seeds are to be had very clean dressed, at about one guinea a bushel. *pratense.*

4. P. spike cylindrical; straw ascending; leaves slanting; root bulbous. *nodosum.*

5. P. spike egg-cylindrical. *alpinum.*

129. ALOPECURUS, or *Foxtail-grass.*

Cal. 2-valved. Cor. 1 valve. Nect. none. Some kinds of this grass are very valuable.

1. P. spiked; straw upright. Cal. hairy. Cor. awned. This grass (meadow foxtail) has scarcely a superior for the use of the farmer. It is very early, and abides on the farm, when sown, for many years. It produces few seed-stalks. It is difficult to procure the seed in any degree of plenty, on account of an insect that feeds upon it and destroys it. *pratensis.*

2. P. spiked; straw upright; calyx not hairy; its husks united at the base. *agrestis.*

3. P. straw upright; spike cylindrical; root bulbous. *bulbosus.*

4. P. spiked; straw knee-jointed. *geniculatus*

5. P. panicle spike-like. Cal. rough. Cor. awned. *monspeliensis.*

6. P. panicle spike-like. Cal. set with soft hairs. Cor. awned. To these may be added the following species, viz. indicus, capensis, and echinatus, being all foreign plants. *paniceus.*

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130. MILIUM, or *Millet*.

Cal. 2-valved, 1-flowered; valves nearly equal. Cor. very short: summits pencil-shaped.

lendigerum 1. M. panicle spike-like; flowers with awns.

effusum. 2. M. flowers in panicles scattered; awnless. The foreign species are, capense, punctuatum, compressum, digitatum, panicum, confertum, globosum, paradoxum, villosum, and ramosum. Globosum is found in Japan. The rest tropical.

131. AGROSTIS, or *Bent-grass*.

Cal. 2-valved, 1-flowered, rather smaller than the cor.; outer petal smooth; summits set lengthways, with stiffish hairs.

It is otherwise described thus: Cal. 1-flowered, 2-valved, spear-shaped, acute, generally rough on the heel; longer than the cor. Cor. 2-valved; summits hairy.

Of the British species the following have awns:

spicaventi. * 1. A. cal. husks nearly equal; cor. valves equal; awn twice the length of the cal. fixed just beneath its point.

palustris. * 2. A. cal. husks equal. Cor. outer valve twice the length and breadth of the inner awn, shorter than the cor. fixed just beneath its point.

canina. * 3. A. cal. husks nearly equal; cor. valves very unequal. Awn twice as long as the cor. fixed just beneath its middle.

vinealis. * 4. A. cal. husks equal; cor. valves nearly equal; awn as long as the cor. fixed just beneath its middle.

pallida. * 5. A. cal. husks unequal; cor. inner valve hair-like, very short; awn rather longer than the cor. fixed beneath its middle.

alpina. * 6. A cal. husks unequal; cor. without hairs at the base; awn twice the length of the blossom, fixed near its base.

littoralis. * 7. A. panicle spike-like; cal. awned.

The following British plants have no awns:

alba. * 8. A. panicle large spreading; cal. both valves serrulated on the heel.

nigra. * 9. A. panicle scattered, branches bare at the base; florets few; cal. inner valve smooth.

stolonifera. * 10. A. panicle compact; branches short, stiff, densely crowded with florets at the base; cal. inner valve smooth; outer one serrated upwards.—This is a water grass, and a very noxious plant. It grows upon poor wet loams and clay. When it is found in meadows or pasture lands, it is proof that the soil is either naturally poor, or has been rendered so by scourging crops.

maritima. * 11. A. panicle large, rather spreading; longer branches naked at the base, shorter crowded with florets; cal. inner valve smooth, outer serrulated upwards.

vulgaris. * 12. A. panicle spreading; branches bare at the base; florets numerous; cal. inner valve smooth, outer serrulated upwards; cor. inner valve but half the size of the outer; deciduous.

minima. * 13. A. cal. husks equal, blunt, smooth. To those are to be added the following foreign species; viz. interrupta, spicæformis, and hirsuta, panicea, miliacea, tenuiflora, bromoides, arundinacea, calamagrostis, seratina, rubra, stricta, ovata, matrella, rupestris, compressa, capillaris, hispida, scabra, anomala, diandra, sylvatica, pumila, ciliata, capensis, tremula, virginica, pungens, spicata, mexicana, verticillata, coromandelina, tenacissima, purpurescens, indica, procera, linearis, lenta, stellata. Chiefly of Japan, India, America, and S. of Europe.

132. AIRA, or *Hair-grass*.

Cal. 2-valved, 2-flowered, without any intervening substance between the florets.

* 1. A. florets awnless; panicle expanding, smooth, longer than the calyx; leaves flat. *aquatica.*

* 2. A. leaves flat; panicle expanding; petals woolly and awned at the base; awn straight, short. *cæspitosa.*

* 3. A. leaves like bristles; straws almost naked; panicles diverging; fruitstalks zigzag. *flexuosa.*

* 4. A. leaves like bristles; panicle slender and compact; florets hairy and awned at the base; awn twisted and longer. *montana.*

* 5. A. leaves like bristles; sheaths rough; flowers in a panicle; awn not longer than the cal. *canescens.*

* 6. A. leaves like bristles; sheaths smooth, angular, with furrows; panicle spike-like; awn taller than the cal. *præcox.*

* 7. A. leaves like bristles; sheaths smoothish, furrowed; panicle wide spreading when ripe; awns taller than the cal. *caryophyllea.*

To these add the species called arundinacea, minuta, involucrata, pubescens, of N. of Europe: subspicata and alpina, of the Alps: antarctica of N. Zealand: chinensis, of China: setacea.

133. MELICA, or *Melic*, or *Rope-grass*.

Cal. 2-valved, 2-flowered, with a little substance on a pedicle betwixt the florets; nect. 1 leaf; stamens dilated at the base.

* 1. M. petals not fringed; panicle drooping, undivided. *nutans.*

* 2. M. panicle compact; flowers cylindrical; straw without knots. *cærulea.*

* 3. M. panicle thinly set; cal. with 2 florets, 1 hermaphrodite, the other neutral. *uniflora.*

Add to these ciliata, gigantea, geniculata, decumbens, racemosa, ramosa, capensis, minuta, papilionacea, altissima. Chiefly of Cape of Good Hope.

134. POA, or *Meadow-grass*.

Cal. 2-valved, many-flowered; spikets egg-shaped; valves shining at the edge, rather acute.

* 1. P. panicles spreading; spikets strap-shaped, 6-flowered. *aquatica.*

* 2. P. panicles with subdivided branches; spikets 5-flowered; florets distant, blunt; cal. valve very unequal. *distans.*

* 3. P. panicle spreading; spikets 5-flowered, smooth; straw cylindrical; upright sheath; scale short and blunt. This is an excellent grass, when sown upon rich loams. *pratensis.*

* 4. P. panicle spreading, very much branched; spikets 6-flowered, heart-shaped. *alpina.*

* 5. P. panicle spreading; spikets 4-flowered, pubescent; straw cylindrical, upright; root-leaves doubled together, very slender; sheaths smooth; sheath-scale short, lopped. *angustifolia.*

* 6. P. little spikes egg-shaped; florets smoothish; acute; straw upright, bulbous at bottom. *bulbosa.*

* 7. P. panicle spreading horizontally; branches in pairs; *annua.*

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pairs; spikets mostly 4-flowered; leaves flat; sheaths smooth.

trivialis. * 8. P. panicle spreading; spikets flowered, woody at the base; straw upright, rough; sheath-scale tapering to a point.—It is said that Mr Boys of Betshanger in Kent has been the largest cultivator of this species in the kingdom, and sold large quantities of the seed; but gave it up for want of a demand. It is an excellent grass on good and sound and moist loams. It is accounted in Lombardy "the queen of meadow plants" (*la regina dell erbe*), whether for dry pastures or water meadows; multiplying itself much by seed and little by the root; so that if attention be not paid to permit some seed to fall, its quantity will sensibly diminish. Excellent for all sorts of cattle.

cristata. * 9. P. panicle spike-like. Cal. husks rather hairy, 2 or 3 (rarely) 4-flowered, longer than the little fruitstalk; petals awned, awn pointed.

nemoralis. * 10. P. panicle slender, open when in flower; spikets mostly 2-flowered, pointed, rough; straw feeble.

minima. * 11. P. cal. 1-flowered.

rigida. * 12. P. panicle spear-shaped, somewhat branched; branches alternate, pointing one way; fruitstalk bordered.

rupestris. * 13. P. panicle spear-shaped, branches alternate; cal. ribbed, 3 or 4-flowered; straw knee-jointed.

maritima. * 14. P. panicle compact, branched; branches in pairs; spikes oblong; florets blunt; leaves sharp, edges rolled in; straw cylindrical, slanting.

compressa. * 15. P. panicle compact; straw slanting, compressed.

decumbens * 16. P. panicle close; outer petal hairy at the edge; straw lying down.

glauca. * 17. P. panicle open; spikets mostly 3-flowered; florets tapering to a point, woolly at the base; leaves awl-shaped.

To these add the species called laxa of Europe; biflora, of India; hirta and ferruginea, of Japan; cilianensis, nervata, trinervata, sudetica, rubens, anceps, flava, barbata, pilosa, palustris, glutinosa, prolifera, amabilis, eragrostis, badensis, cynosuroides, unioloides, racemosa, cyperoides, verticillata, abyssinica, capillaris, japonica, malabarica, chinensis, punctata, nutans, tenella, spinosa, sarmentosa, striata, amboynensis, viscosa, contracta, filiformis, disticha, bifaria, bromoides, spicata, divaricata, peruviana, glomerata, ciliaris, silumosa. Chiefly of the warmer climates.

135. Briza, or *Quaking-grass.*

Cal. 2-valved, many-flowered; spikets 2-rowed; valve heart-shaped, blunt; the inner minute.

minor. * 1. B. spikets triangular; cal. longer than the florets.

media. * 2. B. spikets egg-shaped, forming a bunch.

Add virens, of S. Europe; geniculata and capensis, of C. of Good Hope; and eragrostis, of S. Europe.

136. Uniola, or *Sea-side Oats of Carolina.*

Has three species, viz. paniculata, mucronata, spicata, of America or India.

137. Dactylis, or *Cock's-foot grass.*

Cal. 2-valved, many-flowered; valves broader on one side. Cor. 2-valved, inclosing the seed. Nectaries 2.

stricta. * 1. D. spikes terminating sometimes in pairs; florets not expanding; straw and leaves stiff and straight.

* 2. D. panicle crowded, pointing one way.—This grass is cultivated to advantage on wet loams on a clayey marl bottom, upon which the finer grasses are apt to give way to the indigenous produce. If suffered to rise high, it is very coarse; but, when fed close, is a very valuable sheep-pasture. Women and children are said to make good earnings in gathering the seed at 4s. a bushel. Upon an English acre two bushels may be sown, with ten pounds of common red clover. When the clover wears out, the grass covers the land, and abides well in it. It grows well in winter. *glomerata.*

Add the species cynosuroides, cespitosa, littoralis, lævis, villosa, serrata, ciliaris, hispida, geniculata, brevifolia, lagopoides, pungens, of America, India, and Africa.

138. Cynosurus, or *Dogs-tail Grass.*

Cal. 2-valved, many-flowered, equal; cor. 2-valved; 1 valve concave, longer. Nect. 2-leaved.

* 1. C. floral leaves, with winged clefts.—The crested dogs-tail is highly spoken of in the Milanese. The Rev. Arthur Young speaks thus of it: "To judge from the appearance of the bents of this grass, in poor upland but moist pastures, a man would think it a very unpromising plant; but the rich marshes of Bridgewater and Boston; the famous pasturages of Paniton in Devonshire, and those close to Mr Buller's castle near Leskeard in Cornwall; Mr Thorne's bullock ground, on Dunstone bottom, near Tavistock; Mrs Williams's at Little Malvern in Worcestershire, (which are among the richest pastures in the kingdom) all abound very greatly in this grass; in some of them it is the predominant herbage. Mr Marshall places it as the most prevailing plant in the best grass meadows of the vale of Pickering; some of which will feed a large cow from Mayday to Michaelmas. Very fortunately it abounds much with seed; so that I have had many bushels gathered in a season by poor women and children, at 1s. a pound, and laid down many acres of it successfully. Attention should be paid to its being ripe; for I once ordered eight bushels to be sown on eight acres, and it failed from deficiency in ripeness." *cristatus.* *Communication to the Board of Agriculture*, vol. iii.

2. C. floral leaves winged, segments awned. *echinatus.*

3. C. floral leaves entire; spike nearly egg-shaped. *cæruleus.*

The remaining species are the following: calcatus, of Cape of Good Hope; crucæformis of Europe; paniculatus, of C. of G. Hope; lima of Spain; olurus, of Europe; retroflexus, sphærocephalus, uniolæ, filiformis, monostachyos, coracanus, floccifolius, penicillatus, paspaloides, ægyptius, indicus, virgatus, aureus.

139. Festuca, or *Fescue grass.*

Cal. 2-valved; spikes oblong, roundish; husks tapering to a point, or terminating in an awn.

* 1. H. spikes upright, smooth. Cal. valves, one entire, the other tapering to an awn-like point. *bromoides*

* 2. H. panicle spike-like, drooping. Cal. smaller, valve very minute; florets rough, awns very long. *myurus.*

* 3. H. panicle compact, awned; straw four-cornered, almost naked; leaves bristle-shaped.—It flourishes best in a dry sandy soil. Cows, horses, and goats will eat it; but it is the favourite food of sheep: they prefer it before all other grass, and are said soonest to grow fat upon it; for, though small, it is succulent. The Tartars, who lead a wandering life, tending their flocks *rubra.*

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flocks and herds, always choose those spots where this grass abounds. Such may be its just character in the uncultivated wilds of nature; and as it prefers a dry soil, its growth is an indubitable indication of the salubrity of such places for flocks of sheep; but in a more rich and cultivated country, it is said to be of little value as a pasture grass, being extremely diminutive; nor will it remain long in the ground if sown, but will soon give place to more luxuriant grasses.

rubra. * 4. F. panicle rough; spikets 6-flowered, awned; floret at the end awnless; straw semi-cylindrical.

duriuscula * 5. F. panicle oblong; spikes oblong, smooth; leaves bristle-shaped.—A very excellent grass for the agriculturist, as springing very early, being productive, and grateful to all kinds of cattle, and is found in most good meadows and pastures.

dimidorum. * 6. F. panicle spike-like, pubescent; leaves thread-shaped.

glabra. * 7. F. panicle branched, upright, compact; spikets awl-shaped, 3-flowered, awned, smooth.

cambrica. * 8. F. panicle oblong, upright, branched, spikets awned, smooth; leaves flat, naked.

tenuifolia. * 9. F. leaves like bristles, rather long, upright; straw naked, spikets rough.

elatior. * 10. F. panicle upright; spikets scarcely awned, the outer ones cylindrical. It makes an excellent pasture, but requires a rich soil. Horses, cows, sheep, and goats eat it.

fluitans. * 11. F. panicle branched, upright; spikets nearly sitting, cylindrical, awnless.—The seeds are small, but very sweet and nourishing. They are collected in several parts of Germany and Poland, under the name of *manna seeds*; and are esteemed a delicacy in soups and gruels, on account of their nutritious quality and excellent flavour. When ground to meal, they make bread very little inferior to that in common use from wheat. The bran, separated in preparing the meal, is given to horses that have the worms; but they must be kept from water for some hours afterwards. Geese are very fond of the seeds, and well know where to look for them. The plant affords nourishment to the *phalæna festucæ*. Horses and swine will run risks to get at it.

loliacea. * 12. F. spiked; spikets alternate, sitting, compressed, awnless.

decumbens * 13. F. panicle upright; spikets nearly egg-shapped, awnless; cal. larger than the florets; straw lying down.

pinnata. * 14. F. spikets sitting; straw undivided; awn shorter than the blossoms.

sylvatica. 15. F. spikets sitting; straw undivided; awn as long as the blossom. To these add the following species; viz. tenella, pumila, amethystina, reptatrix, heterophylla, sciuroides, mioglumis, spadicea, scabra, fusca, pauciflora, cristata, misera, indica, calycina, pungens. Mild climates.

140. BROMUS, or *Brome-grass.*

Cal. 2-valved; spikets oblong, cylindrical, 2-rowed; awn beneath the point. This genus includes 33 species; viz. secalinus, multiflorus, mollis, pectinatus, lanceolatus, alopecurus, squarrosus, japonicus, bifidus, purgans, catharticus, inermis, asper, littoreus, ciliatus, sterilis, arvensis, geniculatus, tectorum, giganteus, rubens, scoparius, rigens, racemosus, triflorus, madritensis, rigidus, ramosus, gracilis, pinnatus, cristatus, distachyos, stipoides. Chiefly European. The following are thus described.

* B. panicle expanding; spikets egg-shaped; awn straight.—Its merit or demerit in an agricultural view does not seem sufficiently ascertained. It is said to be disliked by farmers, as being in corn fields a troublesome weed, and in pastures and mowing grounds of little value, since it has generally shed its seed by the time of mowing, and produces very few root leaves. *polymorphus.*

* B. panicle drooping; spikets egg-shaped; awns straddling; panicle imbranched. *squarrosus.*

* B. panicle upright, ending abruptly; spikets oblong, hairy, awned, about 5 florets in each; straws upright; leaves hard. A coarse grass, disliked by cattle, as are all the bromes. Properly a fescue, but has the habit of a brome. *erectus.*

* B. panicle diffuse, upright but open; spikets strap-shaped, the middlemost in pairs; pedicles thickest at the top. *madritensis.*

* B. panicle drooping, rough; spikets hairy; awned; leaves rough. *asper.*

* B panicle spreading; spikets oblong; florets two-rowed; cal. taper-pointed; awns very long. *sterilis.*

* B. panicle drooping; spikets egg-oblong. *arvensis.*

* B. panicle drooping; spikets four-flowered, shorter than the awns. *giganteus.*

* B. straw undivided; spikets alternate, nearly sitting; cylindrical, somewhat awned. *pinnatus.*

141. STIPA, or *Feather-grass.*

Cal. 2-valved, 1-flowered. Cor. outer valve ending in an awn; awn jointed at the base. This genus includes 11 species; viz. pennata, juncea, capillata, aristella, paleacea, tenacissima, capensis, spicata, bicolor, avenacea, membranacea. Europe, and Cape of Good Hope. The following is thus described.

* S. awns woolly. *pennata.*

142. AVENA, or *Oats.*

Cal. 2-valved, many-flowered. Awn from the back of the cor. twisted. The genus includes 34 species; viz. sibirica, elatior, stipiformis, aristidoides, tristata, pallida, pensylvanica, loeflingiana, brevis, alba, strigosa, orientalis, sativa, forskaeli, nuda, fatua, elephantina, sequitertia, lutea, tenuis, pubescens, sterilis, hispida, pratensis, versicolor, distichophylla, filiformis, spica, bromoides. Chiefly C. of Good Hope and mild climates. The following are thus described.

A. panicled; cal. 3-flowered; male floret awned; hermaphrodite floret somewhat awnless. Cows, sheep, and goats eat it. The roots are sometimes very troublesome to the farmers in arable lands, producing a kind of squitch. It produces a large crop, but is unpalatable to cattle, especially to horses, as are the *avenæ* in general. *elatior.*

* A. panicled; cal. 3-flowered, shorter than the receptacle; petals awned upon the back; the third floret awnless. This is nearly as good as the cultivated oat; it will make gruel or oat cake, and feed cattle, as well as that. Ray says it sells in Cornwall at the price of wheat. *nuda.*

* A. panicled; cal. 3-flowered, all the florets awned and hairy at the base. Horse, sheep, and goats eat it. The awns are used for hygrometers. Sometimes so prevalent amongst barley as almost entirely to choke it. It may be extirpated by repeated fallowing, or laying down the land in grass. *fatua.*

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pubescens. * A. panicle spike-like; cal. 3-flowered; cor. bearded at the base; leaves flat, downy.

flavescens. * A. panicle loose; cal. 3-flowered, short, all the florets awned.

pratensis. * A. panicle spike-like; cal. 5-flowered.

strigosa. * A. panicle oblong, compact, pointing one way; florets in pairs, with 2 awns at the end, and a jointed awn on the back.

143. LAGURUS, or *Hare's-tail Grass.*

Cal. 2-valved, awn woolly. Cor. entire, petal with 2 awns at the end, and a twisted awn at the back. This genus includes one species; viz.

ovatus. * L. spike egg-shaped, awned.

144. ARUNDO, or *Reed.*

Cal. 2-valved. Cor. awnless, surrounded with down at the base. This genus includes 11 species; viz. donax, phragmites, bifaria, benghalensis, tenax, karka, conspicua, epigejos, calamagrostis, colorata, arenaria. Chiefly of warm climates, except the following, which are thus described.

phragmites. * A. cal. 5-flowered; panicle spreading.—The panicles are said to be used by the country people in Sweden to dye woollen green. The reeds are much more durable than straw for thatching: Screens to keep off the cold winds in gardens are made of them; and they are laid across the frame of wood-work as the foundation for plaster floors.

epigejos. * A. cal. 1-flowered; panicle upright; leaves smooth underneath.

calamagrostis. * A. cal. 1-flowered, smooth; blossoms woolly; straw branched.

arenaria. * A. cal. 1-flowered; leaves rolled in at the edges, sharp-pointed.

145. PAPPAPHORUM

Has one species; viz. alopecuroideum.

146. ARISTIDA, or *Oat-grass,*

Includes ten species; viz. adscensionis, americana, gigantea, hystrix, vestita, plumosa, capensis, setacea, depressa, arundinacea. Cape, and milder climates.

147. LOLIUM, *Darnel* or *Rye-grass.*

Cal. 1. leaf fixed, many-flowered; spikets alternate. This genus includes five species; viz. perenne, tenue, temulentum, masimum, distachyon. The following are thus described:

perenne. * L. spike awnless; spikets compressed, many-flowered, longer than the calyx.—It makes an excellent hay upon dry chalk or sandy soils. It is cultivated with advantage along with clover, and springs earlier than the other grasses, thereby supplying food for cattle at a season when it is most difficult to be obtained. Cows, horses, and sheep eat it. Goats are not fond of it. Though it succeeds best upon light soils, it will flourish on any land except stiff clay, and will grow even on that; but upon rich sands and loams it becomes not only a good spring grass, but if properly managed by due mixtures, turns out well as permanent pasture land; always, however, most valuable by being sheep fed, for which it is singularly adapted. It is worthy of remark, however, that there is reason to think that the common cultivated rye-grass has degenerated from its natural qualities; and that it is inferior in many respects, particularly in its duration, to the rye-grass which grows naturally in the best British meadows and pastures.

temulentum. * L. spikes awned, compressed, many-flowered, not longer than the calyx; straw rough.—The seeds mixed with bread corn produce but little effect, unless the bread be eaten hot; but if malted with barley, the ale soon occasions drunkenness.

arvense. * L. spikets awnless, rather shorter than the calyx; cal. 2-valved; straw smooth.—It is very injurious to a wheat crop, but may readily be avoided as it is sown along with the seed.

bromoides. * L. panicle undivided, pointing one way; spikets awned.

148. ROTTBOELLIA, or *Sea hard-grass.*

Cal. of 1 or 2 valves, egg-spear-shaped, flat. Florets alternate, on a zigzag spike-stalk. Cor. 2-valved, awnless. This genus includes 16 species; viz. incurvata, filiformis, cylindrica, thomaca, repens, lævis, pilosa, compressa, hirsuta, cymbachne, cœlorachis, dimidiata, exaltata, corymbosa, muricata, sanguinea. Chiefly of Europe and India. The following is thus described.

incurvata. * R. spike cylindrical, awl-shaped; cal. husk awl-shaped, contiguous, divided into two.

149. ELYMUS, or *Lime-grass.*

Cal. lateral, 2-valved, several together, many-flowered. This genus contains 12 species; viz. arenarius, giganteus, sibiricus, tener, philadelphicus, canadensis, caninus, virginicus, striatus, europæus, caput medusæ, hystrix. Chiefly of Europe and America. The following are thus described.

arenarius. * E. spike upright, compact; cal. woolly, longer than the floret.—It resists the spreading of the loose sand on the sea shore. It is not capable of being formed into ropes as the stipa tenacissima is in Spain. Cows, horses, and goats eat it; sheep refuse it.

caninus. * E. spike compact, leaning; spikets upright without an involucrum, the lowermost in pairs.

europeus. * E. spike upright; spikets 2 florets in each, as long as the calyx.

150. SECALE, or *Rye,*

Contains four species; viz. cereale, villosum, orientale, creticum.

151. HORDEUM, or *Barley.*

Cal. lateral, 2-valved, 1-flowered; three together. This genus includes ten species; viz. vulgare, hexastichon, distichon, zeocriton, bulbosum, nodosum, murinum, secalinum, maritimum, jubatum. The following are thus described.

murinum. * H. lateral florets male, awned, smooth on the heel; involucrum of the intermediate florets fringed. Sheep and horses eat it. It feeds the brown moth (*phalæna granella*), and the barley fly (*musca frit*).

pratense. * H. lateral florets male, awnless; involucrum bristle-shaped, rough. In moist meadows it produces a considerable quantity of hay, but is not to be recommended as one of the best grasses for the farmer.

maritimum. * H. lateral florets male, awnless; middle floret hermaphrodite, with a long awn.

sylvaticum * H. all the florets hermaphrodite, awned: cal. growing together at the base, shorter than the awns.

152. TRITICUM, or *Wheat.*

Cal. 2-valved, solitary, mostly 3-flowered; floret bluntish.

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bluntish. This genus includes 18 species; viz. æstivum, hybernum, compositum, turgidum, polonicum, spelta, monococcum, hispanicum, prostratum, pumilum, junceum, distichum, repens, maritimum, tenellum, unioloides, loliaceum, unilaterale. Of mild climates. The following are thus described:

junceum. * T. Cal. 5-flowered, lopped; leaves edges rolled in.

repens. * T. Cal. 4-flowered, awl-shaped, tapering to a point; leaves flat.—It is a most troublesome weed in arable lands, and can only be destroyed by fallowing in a dry summer. At Naples the roots are collected in large quantities, and sold in the market to feed horses; they have a sweet taste, something approaching to that of liquorice; when dried, and ground to meal, they have been made into bread in years of scarcity. The juice of them drank liberally is recommended by Boerhaave in obstructions of the viscera; particularly in cases of scirrhous liver and jaundice. Cattle are frequently found to have scirrhous livers in the winter, and they soon get cured when turned out to grass in the spring. Dogs eat the leaves to excite vomiting; horses eat them when young, but leave them when fully grown; cows, sheep, and goats eat them.

caninum. * T. cal. pointed, mostly 4-flowered; awns longer than the cor.; spikets upright.

loliaceum. * T. spike simple, compressed; spikets egg-shaped, but pointed; cal. many-flowered.

153. LAPPAGO

Has one species, called racemosa. Europe, India, and Arabia.

ORDER III. TRIGYNIA.

154. ERIOCAULON, or *Net-work*,

Has eight species; viz. triangulare, quinquangulare, sexangulare, setaceum, decangulare, repens, fasciculatum, umbellatum. India, and S. America.

155. MONTIA, or *Small Water Chick-weed.*

Cal. 2 leaves. Cor. 1 petal, irregular. Caps. 1-celled, 2-valved. It has only one species, called * fontana.

156. PROSERPINACA.

One species, called palustris. Virginia.

157. HOLOSTEUM

Has five species; viz. cordatum, diandrum, succulentum, hirsutum, * umbellatum. Chiefly hot climates.

158. KOENIGIA.

One species, called islandica. Iceland.

159. POLYCARPON.

One species, called tetraphyllum. Europe.

160. DONATIA.

One species, called fascicularis. Ter. del Fuego.

161. MOLLUGO, or *African Chick-weed*,

Has five species; viz. oppositifolia, stricta, hirta, pentaphylla, verticillata. Hot climates.

162. MINUARTIA

Has three species; viz. dichotoma, campestris, montana. Spain.

163. QUERIA

Has three species; viz. hispanica, canadensis, trichotoma. The last of Japan.

164. LECHEA

Has three species; viz. minor and major, of Candia; verticillata of E. Indies.

In the class Triandria are

90 Genera, including 920 Species, of which 14 are found in Britain.

CLASSIS IV.

TETRANDRIA.

ORDO I. MONOGYNIA.

Sect. I. *Flores monopetali, monospermi, inferi.*

169. GLOBULARIA. Cor. 1-petalæ, irregulares. Sem. pappo nudis.

Sect. II. *Flores monopetali, monospermi, superi, aggregatæ.*

* 171. DIPSACUS. Cal. communis foliaceus. Recept. conicum, paleaceum. Sem. columnaria.

* 172. SCABIOSA. Cal. communis. Recept. elevatum, subpaleaceum. Sem. coronata, involuta.

173. KNAUTIA. Cal. communis oblongus. Recept. planum, nudum. Sem. apice villosa.

CLASS IV.

TETRANDRIA.

ORDER I. MONOGYNIA.

Sect. I. *Flowers with one petal, 1-seeded, inferior.*

G. or *Blue Daisy.* Cor. 1 petal, irregular; seed without down.

Sect. II. *Flowers monopetalous, 1-seeded, incorporated.*

* D. or *Teazel.* Cal. common, leafy. Receptacle conical, chaffy. The seeds columnar.

* S. or *Scabious.* The cal. common. The receptacle elevated, somewhat chaffy. The seed crowned, rolled inwards.

K. Cal. common, oblong. Receptacle flat, naked. Seeds with a woolly top.

174. ALLIONIA.

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174. ALLIONIA. Cal. comm. triphyllus, 3-florus, proprius superus o. Sem. nuda.

A. Cal. common, 3-leafed; 3-flowered; the proper superior wanting. Seed naked.

† *Valeriana Sibirica. Boerhaavia tetrandra.*

Sect. III. *Flores monopetali, tetraspermi.*

Sect. III. *Flowers monopetalous, 4-seeded.*

188. MATTUSCHKEA. Cor. 4-fida hypocrateriformis. Cal. 4-partitus.

M. Cor. 4-cleft, salver-shaped. Cal. quadripartite.

Sect. IV. *Flores monopetali, monocarpi, inferi.*

Sect. IV. *Flowers monopetalous, one fruit-vessel, inferior.*

203. PYROSTRIA. Cor. campanulata. Cal. 4-dent. Drupa nucibus 8-fœta.

P. Cor. bell-shaped. Cal. 4-toothed. A drupe 8-seeded with nuts.

202. MYONIMA. Cor. tubulosa. Cal. integerrimus. Drupa nuce 4-locul. 4-sperma.

M. Cor. tubular. Cal. entire. A drupe with a nut, and 4 cells and 4 seeds.

201. PETITIA. Cor. tubulosa. Cal. 4-dentat. Drupa nuce 2-locul.

P. Cor. tubulous. Cal. 4-toothed. A drupe with a 2-celled nut.

210. AQUARTIA. Cor. rotata. Cal. subquadrifidus. Bacca polysperma.

A. Cor. wheel-shaped. Cal. nearly 4-cleft. A berry many-seeded.

190. ROUSSEA. Cor. campanulata. Cal. 4-phyll. Bacca 4-angul. polysperma.

R. Cor. bell-shaped. Cal. 4-leafed. A berry 4-angular, many-seeded.

209. CALLICARPA. Cor. tubulosa. Cal. 4-fidus. Bacca 4-sperma.

C. or *Tonsonia.* Cor. tubulous. Cal. 4-cleft. Berry 4-seeded.

208. WALLENIA. Cor. tubulosa. Cal. 4-fid. Bacca 1-sperma.

W. Cor. tubulous. Cal. 4-cleft. Berry 1 seed.

211. WITHERINGIA. Cor. subcampanulata. Cal. obsoletè 4-dentat. Pericarp. 2-locul.

W. Cor. nearly bell-shaped. Cal. obscure, 4-toothed. Seed-vessel 2-celled.

205. AEGIPHILA. Cor. hypocraterif. Cal. 4-dentatus. Bacca 2-locul. Stylus semibifidus.

A. Cor. salver-shaped. Cal. 4-toothed. Berry 2-celled. Style half-cleft.

170. CEPHALANTHUS. Cor. infundibuliformis. Cal. 4-fidus. Caps. 4-locul. non dehiscens.

C. or *Button-wood.* Cor. funnel-shaped. Cal. 4-cleft. Caps. 4-celled; not wide.

215. LASIOSTOMA. Cor. infundibuliformis, fauce villosa. Cal. 5-fid. Caps. 1-locul. 2-sperma.

L. Cor. funnel-shaped, with a woolly mouth. Cal. 5-cleft. Caps. 1-celled, 2-seeded.

223. SCOPARIA. Cor. rotata. Cal. 4-partitus. Caps. 1-locularis, 2-valvis.

S. Cor. wheel-shaped. Cal. 4-parted. Caps. 1-celled, 2-valved.

224. CENTUNCULUS. Cor. rotata. Cal. 4-partitus. 1-locularis, circumscissa.

C. or *Base Pimpernel.* Cor. wheel-shaped. Cal. 4-cleft. Caps. 1-cell, cut round.

* 222. PLANTAGO. Cor. refracta. Cal. 4-partitus. Caps. 2-locularis, circumscissa.

* P. or *Plantain.* Cor. bent back. Cal. 4-cleft. Caps. 2-celled, cut round.

213. POLYPREMUM. Cor. rotata. Cal. 4-phyllus. Caps. bilocularis, emarginata.

P. or *Carolina Flax.* Cor. wheel-shaped. Cal. 4-leaved. Caps. 2-cells, notched.

220. BUDDLEIA. Cor. campanulata. Cal. 4-fidus. Caps. 2-locularis bisulca.

B. Cor. bell-shaped. Cal. 4-cleft. Caps. 2-celled, 2-furrowed.

221. EXACUM. Cor. subcampanulata. Cal. 4-phyllus. Caps. 2-locularis compressa.

E. Cor. nearly bell-shaped. Cal. 4-leaved. Caps. 2-celled, compressed.

212. MYRMECIA. Cor. tubulosa. Cal. 5-dentatus. Caps. 2-locul. polysperma.

M. Cor. tubulous. Cal. 5-toothed. Caps. 2-celled, many-seeded.

214. LABATIA. Cor. subcampanulata. Cal. 4-phyll. Caps. 4-locularis.

L. Cor. nearly bell-shaped. Cal. 4-leaved. Caps. 4-celled.

218. PENÆA. Cor. campanulata. Cal. 2-phyllus. Caps. 4-locularis, 4-valvis.

P. Cor. bell-shaped. Cal. 2-leaved. Caps. 4-celled, 4-valved.

219. BLÆRIA. Cor. subcampanulata. Cal. 4-partitus. Caps. 4-locularis, angulis dehiscens.

B. Cor. nearly bell-shaped. Cal. 4-partite. Caps. 4-celled, with open angles.

† *Justicia pulcherrima, lycium tetrandrum, cordia tetrandra.*

Sect. V. *Flores monopetali, monocarpi, superi.*

Sect. V. *Flowers monopetalous, 1 seed-vessel, superior,*

200. CHOMELIA. Cor. tubulosa. Cal. 4-fidus. Drupa nuce 2-locul.

C. Cor. tubulous. Cal. 4-cleft. A drupe with a 2-celled nut.

204. CUNNINGHAMIA. Cor. infundibuliformis. Cal. 4-dentat. Drupa nuce 2-locul.

C. Cor. funnel-shaped. Cal. 4-cleft. A drupe with a 2-celled nut.

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182. SCOLOSANTHUS. Cor. tubulosa, limbo revoluto. Cal. 4-fid. Drupa 1-sperma.

195. PAVETTA. Cor. tubulosa. Cal. 4-dentatus. Bacca 1-sperma.

194. IXORA. Cor. tubulosa. Cal. 4-partitus. Bacca 2-locularis. Sem. 2.

188. PETESIA. Cor. tubulosa. Cal. 4-dentatus. Bacca 2-locularis, polysperma.

193. CATESBÆA. Cor. tubulosa. Cal. 4-dentatus. Bacca 1-locularis, polysperma.

191. FROELICHIA. Cor. tubulosa. Cal. 4-partit. Bacca 1-sperma exsucca. Sem. arillatum.

199. HOFFMANNIA. Cor. tubulosa. Cal. 4-dentatus. Filamenta 0. Bacca 2-locul. polysperma.

196. ERNODEA. Cor. tubulosa. Cal. 4-partitus. Bacca 2-locul. Sem. solitaria.

197. SIDERODENDRUM. Cor. tubulosa. Cal. 4-dentatus. Bacca 2-locul. Sem. solitaria.

207. COCCOPOYSILUM. Cor. infundibulif. Cal. 4-fid. Bacca inflata 2-locul. polysperma.

206. MITCHELLA. Cor. 2, tubulosæ. Cal. 4-dentatus. Bacca 4-sperma, biflora, bifida.

176. HEDYOTIS. Cor. tubulosa. Cal. 4-partitus. Caps. didyma, polysperma, apice dehiscens.

240. OLDENLANDIA, Cor. tubulosa. Cal. 4-partitus. Caps. didyma, polysperma, dehiscens inter dentes.

181. HYDROPHYLAX. Cor. infundibulif. Cal. 4-partit. Caps. angulata, 2-locul. dissepimentis contrariis. Sem. solitar.

216. MANETTIA. Cor. tubulosa. Cal. 8-phyllus. Caps. 1-locularis.

183. CARPHALEA. Cor. tubulosa, intus hirta. Cal. 4-fid. Caps. 2-locul. polysperma.

217. BELLARDIA. Cor. 4-fida. Cal. 4-fid. Caps. 2-locul. 2-partibil. polysperma.

* 225. SANGUISORBA. Cor. plana supera. Cal. 2-phyllus inferus. Caps. 4-gona inter calycem et corollam.

S. Cor. tubulous, with a border rolled back. Cal. 4-cleft. A drupe with 1 seed.

P. Cor. tubulous. Cal. 4-toothed. A berry with 1 seed.

I. or *American Jessamine.* Cor. tubulous. Cal. 4-partite. A 2-celled berry; 2 seeds.

P. Cor. tubulous. Cal. 4-toothed. A 2-celled berry, many-seeded.

C. or *Lily Thorn.* Cor. tubulous. Cal. 4-toothed. A berry with 1 cell, many seeds.

F. Cor. tubulous. Cal. 4-partite. Berry 1 dry seed. Seed coated.

H. Cor. tubulous. Cal. 4-cleft; no filaments. A berry with two cells and many seeds.

E. Cor. tubulous. Cal. 4 cleft. A 2-celled berry, 1 seed.

S. Cor. tubulous. Cal. 4-toothed. A berry with 2 cells; 1 seed in each.

C. Cor. funnel-shaped. Cal. 4-cleft. A berry inflated, with 2 cells and many seeds.

M. Cor. double, tubulous. Cal. 4-toothed. A berry 4-seeded, double-flowered, cleft.

H. Cor. tubulous. Cal. 4-partite. Caps. double; many seeds; with an open top.

O. Cor. tubulous. Cal. 4-partite. Caps. double; many seeds; opening between the teeth.

H. Cor. funnel-shaped. Cal. 4-partite. Caps. angular, 2-celled, with opposite partitions. The seeds solitary.

M. Cor. tubulous. Cal. 8-leaved. Caps. 1 cell.

C. Cor. tubulous, rough-haired within. Cal. 4-cleft. Caps. 2 cells, many seeds.

B. Cor. 4-cleft. Cal. 4-cleft. Caps. 2-celled, divisible into two. Many seeds.

* S. or *Greater Wild Burnet.* Cor. flat above. Cal. 2-leaved; bent downwards. Caps. 4-gonous between the cal. and the cor.

† *Coffea occidentalis. Bondeletia pilosa, virgata. Hillia tetrandra. Guettarda elliptica, membranacea. Portlandia tetrandra.*

Sect. VI. *Flores monopetali, dicocci, inferi.*

184. HOUSTONIA. Cor. tubulosa. Cal. 4-dentatus. Caps. 2-locularis, 2-valvis.

Sect. VI. *Flowers monopetalous, 2 capsules united, each with one cell, inferior.*

H. Cor. tubulous. Cal. 4-toothed. Caps. 2-celled; 2-valved.

Sect. VII. *Flores monopetali, dicocci, superi. Stellatæ.*

* 187. RUBIA. Cor. campanulata. Fructus baccati.

* 185. GALIUM. Cor. plana. Fructus subglobosi.

* 179. ASPERULA. Cor. tubulosa. Fructus subglobosi.

* 178. SHERARDIA. Cor. tubulosa. Fructus coronatus. Sem. 3-dentatis.

177. SPERMACOCE. Cor. tubulosa. Fructus coronatus. Sem. 2-dentatis.

182. KNOXIA. Cor. tubulosa. Fructus bipartibilis sulcatus.

Sect. VII. *Flowers monopetalous, 2 capsules united, each with one cell, superior. Starlike.*

* R. or *Madder.* Cor. bell-shaped. Fruit a berry.

* G. or *Ladies Bed-straw.* Cor. flat. Fruit nearly round.

* A. or *Wood-roof.* Cor. tubulous. Fruit nearly round.

* S. or *Little Field-madder.* Cor. tubulous. Fruit crowned. Seed 3-toothed.

S. or *Butter-weed.* Cor. tubulous. Fruit crowned. Seed 2-toothed.

K. Cor. tubulous. Fruit divisible; furrowed.

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180. DIODIA. Cor. tubulosa. Fructus tetragonus, connatus, 2-valvis.

186. CRUCIANELLA. Cor. tubulosa, aristata. Fructus nudus. Sem. linearia.

Sect. VIII. *Flores monopetali, tetracocci, inferi.*

189. SIPHONANTHUS. Cor. tubulosa. Cal. 5-partitus. Baccæ 4, 1-spermæ.

Sect. IX. *Flores tetrapetali, inferi.*

227. EPIMEDIUM. Petala nectar. 4 incumbentia. Cal. 4-phyllus. Siliqua 1-locularis.

235. PTELEA. Pet. coriacea. Cal. 4-partitus. Stigmata 2. Samara monosperma.

234. BLACKBURNIA. Petala oblonga. Cal. 4-dentat. Stigma simplex. Bacca 1-sperma.

236. SKIMMIA. Pet. concava. Cal. 4-partit. Bacca 4-sperma.

233. MONETIA. Pet. linearia. Cal. 4-fid. Bacca 2-locul.

230. SAMARA. Pet. basi lacuna. Cal. 4-partitus. Drupa subrotunda. Stigma infundibuliforme.

232. HARTOGIA. Pet. patentia. Cal. 5-fid. Drupa nuce 2-sperma.

247. CURTISIA. Pet. obtusa. Cal. 4-part. Drupa nuce 4 s. 5-locul.

231. FAGARA. Pet. staminibus breviora. Cal. 4-fidus. Caps. 4-valvis, 1-sperma.

237. OTHERA. Pet. lanceolata. Cal. 4-part. Stigma sessile. Caps.

238. ORIXA. Pet. lanceolata. Cal. 4-part. Stigma capitat. Caps.

241. AMANNIA. Pet. rarissime presentia. Cal. tubulosus, 8-dentatus. Caps. 4-locularis.

† *Evonymus europæus, japonicus. Portulaca meridiana. Melastoma tetrandra. Cardamine hirsuta.*

Sect. X. *Flores tetrapetali, superi.*

243. TRAPA. Cal. 4-partitus. Nux armata spinis conicis oppositis.

226. CISSUS. Cal. cingens germen. Bacca 1-sperma.

229. GLOSSOMA. Cal. 4-dentat. Drupa nuce 1-sperma.

* 228. CORNUS. Cal. 4-dentatus, deciduus. Drupa nuce 2-loculari.

239. LUDWIGIA. Cal. 4-partitus. Caps. 4-locularis, tetragona.

251. SANTALUM. Cor. 4-petala calyci innata. Bacca 1-sperma.

Sect. XI. *Flores incompleti, inferi.*

252. STRUTHIOLA. Cor. 4-fida. Bacca 1-sperma sicca. Nectar. 8 glandulis.

175. OPERCULARIA. Cor. 4 s. 5-fida. Stam. receptaculo inserta. Semina solitaria receptaculo immersa.

D. Cor. tubulous. Fruit 4-cornered, united at the base, 2-valved.

C. or *Petty Madder*. Cor. tubulous, awned. Fruit naked. Seed strap-shaped.

Sect. VIII. *Flowers monopetalous, with 4 capsules united, each with 1 cell, inferior.*

S. Cor. tubulous. Cal. 5-partite; 4 berries, one seed in each.

Sect. IX. *Flowers four-petaled, inferior.*

E. 4 honied petals, incumbent. Cal. 4-leaved. A pod with 1 cell.

P. or *Shrub Trefoil*. The petals leather-like. Cal. 4-partite. Two stigmas. Seed-vessel 1-seeded.

B. Petals oblong. Cal. 4-toothed. Stigma single. A 1-seeded berry.

S. Petals concave. Cal. 4-partite. A berry, 4-seeded.

M. Petals strap-shaped. Cal. 4-cleft. Berry 2-celled.

S. Petals with a pitted base. Cal. 4-partite. A roundish drupe. Stigma funnel-shaped.

H. Pet. expanding. Cal. 5-cleft. A drupe with a nut and 2 seeds.

C. or *Hassagay-tree*. Pet. obtuse. Cal. 4-partite. A drupe, and 4 or 5 cells.

F. The petals shorter than the stamens. Cal. 4-cleft. Caps. 4-valved, 1 seed.

O. Pet. spear-shaped. Cal. 4-partite. Stigma sitting. Caps.

O. Pet. spear-shaped. Cal. 4-partite. The stigma with a head. Caps.

A. Pet. rarely present. Cal. tubulous, 8-toothed. Caps. 4-celled.

Sect. X. *Flowers four-petaled, inferior.*

T. or *Floating Water Caltraps*. Cal. 4-partite. A nut armed with opposite conical thorns.

C. Cal. surrounding the seed-bud. A berry with 1 seed.

G. Cal. 4-toothed. A drupe with a nut, and 1 seed.

* C. or *Dogwood*, or *Cornel-cherry*. Cal. 4-toothed, deciduous. A drupe with a 2-celled nut.

L. or *Base Virginian Loosestrife*. Cal. 4-partite. Caps. 4-celled, 4-cornered.

S. or *Sanders*. Cor. 4. Pet. fixed in the cal. A berry with 1 seed.

Sect. XI. *Flowers incomplete, inferior.*

S. Cor. 4-cleft. A berry with 1 seed, dry. Nectary with 8 glands.

O. Cor. 4 or 5-cleft. The stamens inserted in the receptacle. The seed solitary, sunk in the receptacle.

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165. PROTEA. Cor. 4-fida. Antheræ infra apices corollæ insertæ. Nux 1-sperma.

167. RUPALA. Cor. 4-petala. Stamina medio petalorum inserta. Bacca 1-sperma.

166. BANSKIA. Cor. 4-petala. Stamina limbo inserta. Caps. 2-valvis, 2-sperma. Semina alata.

168. EMBOTHRIUM. Cor. 4-petala. Stam. limbo inserta. Folliculus polyspermus. Sem. alata.

245. POTHOS. Cor. 4-petala. Spatha 1-phylla. Bacca 2-locul.

253. KRAMERIA. Cor. 4-petal. Bacca sicca 1-sperma echinata.

255. RIVINA. Cor. 4-petala. Bacca 1-sperma. Sem. scabrum.

248. CHLORANTHUS. Petalum 3-lobum. Bacca 1-sperma.

256. SALVADORA. Cal. 4-fidus. Bacca 1-sperma. Sem. arillatum.

257. CAMPHOROSMA. Cal. 4-fidus. Caps. 1-sperma.

258. ALCHEMILLA. Cal. 4-fidus. Sem. 1, calyce inclusum.

244. DORSTENIA. Cal. recept. planum, carnosum, commune.

246. CORNETES. Umbella 4-phylla, 3-flora. Caps. 3-cocca.

† *Corchorus coreta. Convallaria bifolia. Ammannia.*

P. or *Silver-tree.* Cor. 4-cleft. The anthers inserted below the points of the cor. A nut, 1 seed.

R. Cor. with 4 petals. The stamens inserted in the middle of the petals. A berry with 1 seed.

B. Cor. with 4 petals. The stamens inserted in the border. Caps. 2-valved, 2-seeded; the seeds winged.

E. Cor. with 4 petals. The stamens inserted in the border. An air-bag, many-seeded; seeds winged.

P. or *Scunkweed.* Cor. with 4 petals. Sheath 1-leaved. A berry with 2 cells.

K. Cor. 4-petaled. A dry berry, 1 seed, prickly.

R. Cor. 4-petaled. A berry with one seed. Seed rough.

C. or *Tea-leaved Chu-las.* Pet. 3-lobed. A berry with 1 seed.

S. Cal. 4-cleft. A berry with one seed. Seed coated.

C. Cal. 4-cleft. Caps. 1 seed.

A. or *Ladies Mantle.* Cal. 4-cleft. Seed 1, in the calyx.

D. or *Contrayerva.* Cal. and receptacle flat, fleshy, common.

C. an umbel 4-leaved, 3-flowered. Caps. 3-celled.

Sect. XII. *Flores incompleti superi.*

Sect. XII. *Flowers incomplete, superior.*

250. GONATOCARPUS. Cor. 4-fida. Drupa nuce 1-sperma.

254. ACÆNA. Cal. 4-phyllus. Bacca echinata 1-sperma.

242. ISNARDIA. Cal. campanulatus, persistens. Caps. 4-locularis.

249. ELÆAGNUS. Cal. campanulatus, deciduus. Drupa.

G. Cor. 4-cleft. A drupe with a 1-seeded nut.

A. Cal. 4-leaved. A prickled 1-seeded berry.

I. Cal. bell-shaped, permanent. Caps. 4-cleft.

E. or *Oleaster*, or *Wild-olive.* Cal. bell-shaped, deciduous. A drupe.

† *Thesium Alpinum.*

ORDO II. DIGYNIA.

ORDER II. DIGYNIA.

260. BUFONIA. Cor. 4-petala. Cal. tetraphyllus. Caps. 1-locularis, 2-valvis, 2-sperma.

263. HYPECOUM. Cor. 4-petala, inæqualis. Cal. 2-phyllus. Siliqua.

261. HAMAMELIS. Cor. 4-petala longissima. Cal. duplex. Nux 2-locularis bicornis.

* 262. CUSCUTA. Cor. 4-fida, ovata. Cal. 4-fidus. Caps. 2-locularis circumscissa.

264. NERTERIA. Cor. campanulata. Cal. 0. Bacca 2-locul.

265. GALOPINA. Cor. campanulata. Cal. 0. Sem. 2 muricata.

259. CRUZITA. Cor. 0. Cal. 4-phyllus, exterior 3-phyllus. Sem. 1.

B. or *Toadgrass.* Cor. 4-petaled. Cal. 4-leaved. Caps. 1 cell, 2 valves, 2 seeds.

H. Cor. 4-petaled unequal. Cal. 4-leaved. A pod.

H. or *Witch-hazel.* Cor. 4-petaled, very long. Cal. double. A nut, 2-celled, 2-horned.

* C. or *Dodder.* Cor. 4-cleft, oval. Cal. 4-cleft. Caps. 2-celled, cut round.

N. Cor. bell-shaped. No cal. A berry with 2 cells.

G. Cor. bell-shaped. No cal. A seed, thorny on two sides.

C. No cor. Cal. 4-leaved. On the outside 3-leaved. Seed 1.

† *Herniaria fruticosa. Gentenæ quadrifidæ. Swertia corniculata dichotoma.*

ORDO

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Ordo III. TRIGYNIA.

266. Boscia. Cor. 4-petala. Cal. 4-dentatus. Caps. 4-locularis.

Ordo IV. TETRAGYNIA.

267. Ilex. Cor. 1-petala. Cal. 4-dentatus. Bacca 4-sperma.

268. Coldenia. Cor. 1-petala. Cal. 4-phyllus. Sem. 2, bilocularia.

271. Sagina. Cor. 4-petala. Cal. 4-phyllus. Caps. 4-locularis, polysperma.

272. Tillæa. Cor. 3 s. 4-petala. Cal. 3 s. 4-phyllus. Caps. 3 s. 4, polyspermæ.

273. Myginda. Cor. 4-petala. Cal. 4-partitus. Drupa 1-sperma.

269. Potamogeton. Cor. 0. Cal. 4-phyllus. Sem. 4, sessilia.

270. Ruppia. Cor. 0. Cal. 0. Sem. 4, pedicellata.

Order III. TRIGYNIA.

B. Cor. 4-petaled. Cal. 4-toothed. Caps. 4-celled.

Order IV. TETRAGYNIA.

I. or *Holly*. Cor. 1-petaled. Cal. 4-toothed. A berry, 4-seeded.

C. Cor. 1-petaled. Cal. 4-leaved. Two seeds, 2-celled.

S. or *Pearlwort*. Cor. 4-petaled. Cal. 4-leaved. Caps. 4-celled, many seeds.

T. or *Small Annual Houseleek*. Cor. 3 or 4-petaled. Cal. 3 or 4-leaved. Caps. 3, or 4, many seeds.

M. Cor. 4-petaled. Cal. 4-partite. A drupe with 1 seed.

P. No cor. Cal. 4-leaved. Seeds 4, sitting.

R. or *Sea* or *Tassel-grass*. No cor. No cal. Seeds 4, on a pedicle.

Order I. MONOGYNIA.

165. Protea, or *Silver-tree*.

Cor. 4-cleft. The anthers strap-shaped, inserted in the petals beneath the apex. No proper calyx. A nut. One seed.

decumbens 1. P. with leaves 3-cleft, thread-shaped; the stem decumbent. C. of G. Hope. ♄.

florida. 2. P. with leaves 3-cleft, winged, thread-shaped; stem erect, with solitary little heads, surrounded by leaves. C. of G. Hope. ♄.

cyanoides. 3. P. with leaves 3-cleft, winged, thread-shaped; stem erect, naked, solitary, little heads. C. of G. Hope. ♄.

patula. 4. P. with leaves 3-cleft, thread-shaped; erect stem, little heads incorporated. C. of G. Hope. ♄.

pulchella. 5. P. with leaves double-winged, smooth, thread-shaped, with terminal heads, club-shaped, without floral leaves. New Holland. ♄.

sphaerocephala. 6. P. with double-winged thread-shaped leaves; fruitstalks shorter than the tops, with the scales of the cal. oval, woolly at the base. C. of G. Hope. ♄.

serraria. 7. P. with double-winged, thread-shaped, hairy leaves; fruitstalks longer than the tops; with the scales of the cal. egg-spear-shaped and hairy. C. of G. Hope. ♄.

triternata. 8. P. with double-winged, thread-shaped, smooth leaves. The fruit-stalks longer than the head, with the scales of the cal. spear-shaped and hairy. C. of Good Hope. ♄.

glomerata. 9. P. with double-winged thread-shaped leaves; and naked, common, elongated fruitstalk; the pedicles longer than the knobs. C. of G. Hope. ♄.

phylicoides 10. P. with double-winged thread-shaped leaves; and terminal knobs, solitary, and cottony. C. of G. Hope. ♄.

11. P. with double-winged thread-shaped leaves; *lagopus.* and aggregate knobs in spikes. C. of G. Hope. ♄.

12. P. with double-winged thread-shaped leaves; *spicata.* and heads spiked and distinct. C. of G. Hope. ♄.

13. P. with double-winged inferior leaves; the su- *sceptrum.* perior being 3-cleft and entire. C. of G. Hope. ♄.

14. P. with smooth 5-cleft leaves; stem erect; and *crinita.* terminal heads by three's. C. of G. Hope. ♄.

15. P. with 5-toothed smooth leaves; stem erect, and *conocarpa.* a terminal head. C. of G. Hope. ♄.

16. P. with 3-toothed, smooth, elliptical leaves; *elliptica.* erect stem and terminating heads. C. of G. Hope. ♄.

17. P. with 3-toothed smooth leaves, a decumbent *hypophylla* stem and terminal head. C. of G. Hope. ♄.

18. P. with 3-toothed smooth leaves and lateral heads. *cucullata.* C. of G. Hope. ♄.

19. P. with 3-toothed cottony leaves. C. of Good *tomentosa.* Hope. ♄.

20. P. with 4-toothed entire leaves, and stem decum- *heterobent.* C. of G. Hope. ♄. *phylla.*

21. P. with thread-shaped leaves, and flowers bunchy *pinifolia.* and smooth; cal. not double. C. of G. Hope. ♄.

22. P. with leaves thread-shaped; flowers cottony, *racemosa.* in bunches with a double cal. C. of G. Hope. ♄.

23. P. with leaves thread-shaped, bent inwards, and *incurva.* smooth, and bunchy spiked cottony knobs. C. of G. Hope. ♄.

24. P. with hairy thread-shaped leaves, and sitting *caudata.* spiked heads or knobs. C. of G. Hope. ♄.

25. P. with thread-shaped channelled leaves, a ter- *bracteata.* minal knob, and many-cleft floral leaves. C. of G. Hope. ♄.

26. P. with inferior thread-shaped leaves, the supe- *comosa.* rior spear-shaped, and a terminal or terminating knob. C. of G. Hope. ♄.

27. P. with strap-shaped, bent-back leaves, crooked *purpurea.* terminal

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terminal knobs, and decumbent stem. ♄. C. of G. Hope.

prolifera. 28. P. with awl-shaped compressed leaves, and a flower-bearing stem. ♄. C. of G. Hope.

corymbosa. 29. P. with-strap-awl-shaped contiguous leaves, and little flat-topped branches in whirls. ♄. C. of G. Hope.

nana. 30. P. with strap-awl-shaped leaves, a terminal knob and coloured calyx. ♄. C. of G. Hope.

lanata. 31. P. with contiguous 3-square leaves, and a woolly terminal knob. ♄. C. of G. Hope.

torta. 32. P. with oblique, strap-shaped, obtuse leaves. ♄. C. of G. Hope.

alba. 33. P. with strap-shaped, silky, cottony leaves. ♄. C. of G. Hope.

aulacea. 34. P. with strap-battledore-shaped, smooth leaves; flowers in bunches; single calyx. ♄. C. of G. Hope.

umbellata. 35. P. with strap-battledore-shaped, smooth leaves; terminal knobs, many-cleft; floral leaves. ♄. C. of G. Hope.

linearis. 36. P. with strap-battledore-shaped smooth leaves; a cottony terminal knob. ♄. C. of G. Hope.

cinerea. 37. P. with strap-wedge-shaped silky leaves, and a silky terminal knob. ♄. C. of G. Hope.

scolymus. 38. P. with sharp spear-shaped leaves, and a round terminal knob or head. ♄. C. of G. Hope.

abyssinica. 39. P. with spear-shaped leaves, obtuse and slender at the base, and a hemispherical terminal knob. ♄. Abyssinia.

mellifera. 40. P. with strap-elliptical-shaped leaves, and an oblong terminal knob. ♄. C. of G. Hope.

repens. 41. P. with spear-elliptical-shaped smooth leaves, an oval knob, and short decumbent stem. ♄. C. of G. Hope.

plumosa. 42. P. with spear-wedge-shaped hoary leaves, an oblong terminal knob, petals smooth beneath, and hairy above. ♄. C. of G. Hope.

obliqua. 43. P. with strap-spear-shaped, callous, smooth, oblique leaves, and a terminal knob belonging to the stem. ♄. C. of G. Hope.

parviflora 44. P. with elliptical obtuse, callous, oblique leaves, and smooth terminal heads of little branches. ♄. C. of G. Hope.

pallens. 45. P. with leaves spear-shaped, slender at the base, smooth, sharp, callous; and a terminal knob fenced with a pale cover. ♄. C. of G. Hope.

conifera. 46. P. with leaves spear-shaped, attenuate at the base, smooth, sharp, callous, and a terminal head, fenced with a long sharp cover of the same colour. ♄. C. of G. Hope.

levisanus. 47. P. with leaves inversely egg-shaped, obtusely tapering, tiled smooth, a hairy stem, and a head with an obtuse long covering. ♄. C. of G. Hope.

strobilina. 48. P. with elliptical leaves, blunt, callous, smooth, and a terminal knob. ♄. C. of G. Hope.

imbricata. 49. P. with leaves spear-shaped, smooth, scored, tiled, and a terminal knob. ♄. C. of G. Hope.

sericea. 50. P. with leaves spear-shaped; silky, thread-shaped branches; stem decumbent. ♄. C. of G. Hope.

saligna. 51. P. with spear-shaped silky leaves; a shrubby stem; and oblong enveloped knobs. ♄. C. of G. Hope.

argentea. 52. P. with leaves spear-shaped, silver-cottony, fringed, with woody stem and globular knobs. ♄. C. of G. Hope.

acaulis. 53. P. with leaves oblong and smooth; a globular knob or head; and a short decumbent stem. ♄. C. of G. Hope.

myrtifolia. 54. P. with oblong smooth leaves; and aggregate terminal knobs. ♄. C. of G. Hope.

glabra. 56. P. with smooth oblong leaves without veins, a hemispherical knob, and a shrub-like stem. ♄. C. of G. Hope.

speciosa. 57. P. with oblong smooth leaves, an oblong knob, the scales of the calyx barbed at the point. ♄. C. of G. Hope.

totta. 58. P. with oval, smooth, callous leaves; cor. hairy, and cylindrical. ♄. C. of G. Hope.

hirta. 59. P. with smooth, oval leaves; and lateral flowers. ♄. C. of G. Hope.

pubera. 60. P. with oval leaves; and cottony terminal knobs. ♄. C. of G. Hope.

divaricata 61. P. with hairy oval leaves, terminal knobs, and stradling branches. ♄. C. of G. Hope.

spathulata 62. P. with smooth, battledore conical leaves. ♄. C. of G. Hope.

cyanaroides. 63. P. with leaves nearly round; and smooth leaf-stalks. ♄. C. of G. Hope.

cordata. 64. P. with heart-shaped leaves. ♄. C. of G. Hope.

166. Banksia.

Recept. common, elongated, scaly. Cor. 4 petals. The stamens inserted in the border. The caps. 2-valved, 2-seeded. A moveable partition between the seeds, which are winged.

Of this genus there are 8 species, viz. serrata, grandis, integrifolia, pyriformis, dentata, spinulosa, ericæfolia, gibbosa. N. Holland.

167. Rupala.

This genus has two species; viz. montana, and sessifolia.

168. Embothrium.

Eight species; viz. speciosissimum, coccineum, grandiflorum, umbellatum, hirsutum, buxifolium, sericeum, silaifolium.

169. Globularia, or *Blue Daisy.*

Four species; viz. longifolia, nana, nudicaulis, orientalis. S. Eur.

170. Cephalanthus, or *Button-wood,*

Has one species; viz. occidentalis. N. America.

171. Dipsacus, or *Teazel,*

Has four species; viz. *fullonum, *sylvestris, laciniatus, and *pilosus.

fullonum. * D. leaves sitting, serrated; chaff bent backwards. It is cultivated for the use of the clothiers, who employ the heads with crooked awns, to raise the knap upon woollen cloths. For this purpose they are fixed round the circumference of a large broad wheel, which is made to turn round, and the cloth is held against them. The plant flowers in June and July, and the heads are collected in August. It is sometimes sown along with caraway and coriander; by which means three crops are on the soil at once, without inconvenience, as they ripen at different periods.

172. Scabiosa, or *Scabious.*

Has 41 species; viz. alpina, ustulata, rigida, attenuata, scabra, transylvanica, syriaca, leucanthia, *succisa, integrifolia, amplexicaulis, humilis, decurrens, tatarica,

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tatarica, * arvensis, uralensis, sylvatica, granuntia, * columbaria, pyrenaica, sicula, rutæfolia, * maritima, stellata, prolifera, atropurpurea, argentea, indurata, africana, monspeliensis, pumila, cretica, limonifolia, graminifolia, lyrata, palestina, isetensis, ucranica, ochroleuca, papposa, pterocephala. S. Eur. Ind. Afr.

succisa. * S. blossoms 4-cleft, equal; stem undivided; branches approaching; leaves spear-eggshaped.—The dried leaves are used to dye wool yellow or green. (Linn). A strong decoction of it continued for a considerable length of time, is an empirical secret for gonorrhœas.

arvensis. * S. blossoms 4-cleft, radiating; leaves wing-cleft, and jagged; stem rough with strong hairs. Sheep and goats eat this species. Horses and cows are not fond of it. It is slightly astringent, bitter and saponaceous.

173. KNAUTIA,

Has four species; viz. orientalis, propontica, palæstina, and plumosa. Levant, Archipelago.

174. ALLIONIA,

Has two species; viz. violacea, and incarnata. Am.

175. OPERCULARIA,

Has three species; viz. umbellata, aspera, diphylla. N. Holland.

176. HEDYOTIS,

Has 11 species; viz. fruticosa, racemosa, auricularia, hyspida, maritima, pumila, diffusa, herbacea, graminifolia, virgata, rupestris. E. and W. Ind. S. Amer.

177. SPERMACOCE, or *Button-weed*,

Has 20 species; viz. tenuior, latifolia, cœrulescens, alata, hexagona, prostrata, radicans, longifolia, verticillata, sumatrensis, aspera, hirta, villosa, hipsida, scabra, articularis, stricta, linifolia, procumbens, spinosa. E. Ind. Afr. Amer.

178. SHERARDIA, or *Little Field-madder*,

Contains three species; viz. arvensis, muralis, fruticosa. Eur. Isle of Ascension.

179. ASPERULA, or *Woodroof*,

Has seven species; viz. odorata, hexaphylla, arvensis, taurina, crassifolia, calabrica, aristata, tinctoria, pyrenaica, cynanchica, lævigata. Eur.

odorata. A. leaves 8 in a whirl, spear-shaped; flowers in bundles on fruitstalks. The scent of it is said to drive away ticks and other insects. (Linn.) It gives a grateful flavour to wine. Cows, horses, sheep, and goats eat it.

180. DIODIA,

Has 6 species; viz. virginica, simplex, verticillata, prostrata, scandens, sarmentosa. Amer. Jamaica.

181. HYDROPHYLAX,

Contains only one species; viz. maritima.

182. KNOXIA,

Has under it two species; viz. zeylanica, and corymbosa. Ceylon.

183. CARPHALEA,

Has one species; viz. corymbosa. Madagascar.

184. HOUSTONIA,

Has three species; viz. cœrulea, longifolia, and purpurea. N. America.

185. GALIUM, or *Ladies Bed-straw*,

Includes 50 species; viz. rubioides, * palustre, trifidum, fruticosum, * montanum, tinctorium, capense, mucronatum, expansum, asperum, glabrum, austriacum, boccoui, viscosum, saxatile, tenue, jussiei, pyrenaicum, minutum, * pusillum, * scabrum, * verum, mollugo, sylvaticum, linifolium, rigidum, aristatum, hierosolymitanum, paschale, glaucum, purpureum, rubrum, megalospermum, spurium, harcynicum, * uliginosum, * boreale, rotundifolium, bermudianum, ericoides, hirtum, ruthenicum, aparine, * aparine, album, microcarpum, parisiense, pilosum, maritimum, græcum. Eur. Arab. N. Amer. Of these the following deserve notice.

verum. * G. leaves 8 in a whirl, strap-shaped, furrowed; flowering branches short.—The flowers will coagulate boiling-milk; and their juice changes blue infusions to a red colour, thereby discovering marks of acidity. The French prescribe them in hysteric and epileptic cases. Boiled in alum-water, they tinge wool yellow. The roots dye a very fine red, not inferior to madder, and are used for this purpose in the island of Jura. (Pennant 1772. p. 212). Sheep and goats eat it. Horses and swine refuse it. Cows are not fond of it. It is subject to a disease, in which the stem and leaves are set with fleshy balls, about the size of a pea, hollow within and covered with a purplish skin.

boreale. * G. leaves 4 in a whirl, spear-shaped, smooth, 3-fibred; stem upright.—The roots afford a red dye for woollens.

aparine. * G. leaves 8 in a whirl, spear-shaped; keel rough with prickles pointing backwards; joints woolly.—The branches are used by the Swedes instead of a sci to strain milk. Young geese are very fond of them. The seeds may be used instead of coffee. The plant is eaten by horses, cows, sheep, and goats. Swine refuse it. (Linn.) The expressed juice of the stem and leaves, taken to the amount of four ounces night and morning, is very efficacious in removing many of those cutaneous eruptions, which are called, although improperly, scorbutic. It must be continued for several weeks.

186. CRUCIANELLA, or *Petty madder*.

Nine species; viz. angustifolia, latifolia, ægyptiaca, patula, ciliata, pubescens, maritima, capita, monspeliaca. S. Eur. Arab.

187. RUBIA, or *Madder*.

Seven species; tinctorum, or *dyers madder*, with annual leaves and a prickly stem, ♃; chilensis, peregrina, lucida, fruticosa, angustifolia, cordifolia. Siber. S. Eur. Canar.

188. MATTUSCHKÆA.

One species; viz. hirsuta. Carolina.

189. SIPHONANTHUS.

Two species; viz. indica, and angustifolia. India.

190. ROUSSEA.

One species; viz. simplex. Mauritius.

191. FROELICHIA.

One species; viz. paniculata.

192. SCOLOSANTHUS.

One species; viz. versicolor.

193. CATESBÆA, or *Lily Thorn*.

Two species; viz. spinosa, and parviflora. Jamaica, Isle of Providence.

194. IXORA, or *American Jessamine*.

Six species; viz. coccinea, parviflora, alba, americana, fasciculata, and multiflora. E. Ind. Jam. S. Am.

195. PAVETTA.

Five species; viz. indica, villosa, longiflora, caffra, pentandra. C. of G. Hope.

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196. Ernodea.
One species; viz. littoralis. Jamaica.

197. Siderodendrum.
One species; viz. triflorum. S. Amer.

198. Petesia.
Three species; viz. stipularis, carnea, tomentosa.

199. Hoffmannia.
One species; viz. pedunculata. Jamaica.

200. Chomelia.
One species; viz. spinosa.

201. Petitia.
One species; viz; domingensis. St Domingo.

202. Myonima.
Two species; viz. obarata, lanceolata. Isle of Bourb.

203. Pyrostria.
One species; viz. salicifolia.

204. Cunninghamia.
Two species; viz. sarmentosa, verticillata. Guiana, Isle of Bourbon.

205. Ægiphila.
Eight species; viz. martinicensis, elata, mixia, villosa, arborescens, lævis, fœtida, trifida. W. Indies.

206. Mitchella.
One species; viz. repens. N. America.

207. Coccocypsilum.
Three species; viz. repens, uniflorum, biflorum. Jam.

208. Wallenia.
One species; viz. laurifolia. Jamaica.

209. Callicarpa, or *Johnsonia*.
Ten species; viz. americana, cana, lanata, macrophylla, ferruginea, reticulata, longifolia, integrifolia, villosa, japonica. N. Amer. Jap. Jamaica.

210. Aquartia.
Two species; viz. aculeata, microphylla. S. Am.

211. Witheringia.
One species; viz. solanacea. S. Am.

212. Myrmecia.
One species; viz. scandens. Guiana.

213. Polyphremum, or *Carolina Flax*.
One species; viz. procumbens. N. Amer.

214. Labatia.
Two species; viz. sessiliflora, pedunculata. Hispan.

215. Lasiostoma.
One species; viz. cirrhosa. Guiana.

216. Manettia.
Five species; viz. reclinata, lygistum, coccinea, picta, lanceolata. S. Amer. Jam.

217. Bellardia.
One species; viz. repens. Guiana.

218. Penæa.
Nine species; viz. sarcocolla, mucronata, marginata, lateriflora, tomentosa, sucata, squamosa, fruticulosa, myrtoides. C. of G. Hope.

219. Blæria.
Nine species; viz. cricoides, scabra, fascicula, articulata, purpurea, muscosa, pusilla, glabella, ciliaris. Cape.

220. Buddleia.
Nine species; viz. americana, occidentalis, globosa, salvifolia, madagascariensis, salicifolia, diversifolia, virgata, incompta. Cape, S. Amer. W. Indies.

221. Exacum.
18 species; viz. viscosum, pedunculatum, albens, aureum, sessile, cordatum, punctatum, quadrangulare, gujanense, diffusum, tenuifolium, * filiforme, aphyllum, heteroclitum, spicatum, ramosum, verticillatum, hyssopifolium. Asia, Africa.

222. Plantago, or *Plantain*.
33 species; viz. * major, crassa, asiatica, maxima, * media, virginica, altissima, * lanceolata, capensis, lagopus, lusitanica, patagonica, albicans, hirsuta, alpina, bellardi, cretica, barbata, * maritima, subulata, recurvata, macrorhiza, serraria, * coronopus, loeflingii, cornuti, amplexicaulis, psyllium, squarrosa, indica, pumila, cynops, afra. Eur. Egypt, China, N. Amer.

* *lanceolata* P. leaves spear-shaped; spike nearly egg-shaped, naked; stalk angular.—It is usually called rib-wort or rib-grass. Linnæus says it is eaten by horses, sheep, and goats, and that cows refuse it; but Haller attributes the richness of the milk in the famous Alpine dairies to this plant, and to the alchemilla vulgaris. The total absence of this plant in marshy lands, is a certain criterion of the wretched quality thereof: in proportion as such soils are meliorated by draining, this plant will flourish and abound. When sown for pasturage upon rich sands and loams, this plant gives a considerable herbage; and on poorer and drier soils, it does well for sheep, but is inferior to some others. Mr Marshall observes that it has stood the test of 20 years established practice, in Yorkshire, and is in good estimation, though not well affected by horses, and bad for hay from retaining its sap. The plantago major or great plantain, is called *septinervia*, from its having 7 large nerves or ribs running along each leaf; the narrow-leaved sort, above described, has only five ribs, and hence it is called *quinquenervia*. The leaves are lightly astringent, and the seeds are said to be so; and hence they stand recommended in hæmorrhagies and other cases of this kind, where medicines of this kind are proper. The leaves bruised a little are the common application of the common people to slight flesh wounds.

Plantain has been alleged to be a cure for the bite of the rattlesnake; but for this there is probably little foundation, although it is one of the principal ingredients in the remedy of the negro Cæsar, for the discovery of which he received a considerable reward from the assembly of S. Carolina.

223. Scoparia.
Three species; viz. dulcis, procumbens, arborea. Egypt, N. America.

224. Centunculus, or *Base Pimpernel*.
One species; called minimus. Germ. S. Eur.

225. Sanguisorba, or *Great Wild Burnet*.
Three species; viz. * officinalis, media, canadensis. Europe, N. America.

226. Cissus.
18 species; vitiginea, capensis, repanda, latifolia, cordifolia, rotundifolia, sicyoides, quadrangularis, acida, cirrhosa, trifoliata, microcarpa, crenata, carnosa, obovata, japonica, pentaphylla, pedata. Arabia, Ind. Jam.

227. Epimedium, *Barren-wort*.
One species; viz. * alpinum.

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228. CORNUS, or *Dogwood, Cornel Cherry.*

12 species; viz. * suecica, canadensis, florida, mascula, japonica, * sanguinea, alba, sericea, circinata, striata, paniculata, alternifolia. Asia, Amer.

sanguinea * C. branches straight; leaves egg-shaped, green on both sides; tuft flatted.—The wood is very hard and smooth, fit for the purposes of the turner. The leaves change to a blood-red in autumn: the berries are bitter and styptic; they dye purple. Horses, sheep, and goats eat it. Swine and cows refuse it.

229. GLOSSOMA.

One species; viz. arborescens. Guiana.

230. SAMARA.

Four species; viz. læta, coriacea, pentandra, floribunda. Cape, E. Ind. Jam. Guiana.

231. FAGARA.

12 species; viz. triphylla, evodia, pterota, piperita, tragodes, zanthoxyloides, horrida, capensis, armata, avicennæ, octandra, elaphrium. W. Ind. Japan.

232. HARTOGIA.

One species; viz. capensis. C. of G. Hope.

233. MONETIA.

Two species; viz. barlerioides, diacantha. E. Ind.

234. BLACKBURNIA.

One species; viz. pinnata.

235. PTELEA, or *Shrub Trefoil.*

One species; viz. trifoliata. N. Amer. S. sea isles.

236. SKIMMIA.

One species; viz. japonica. Japan.

237. OTHERA.

One species; viz. japonica. Japan.

238. ORIXA.

One species; viz. japonica.

239. LUDWIGIA, or *Base Virginian Loose-strife.*

Five species; viz. alternifolia, hirsuta, jussiaceides, oppositifolia, erigata. India, Amer. Jam.

240. OLDENLANDIA.

13 species; viz. verticillata, digynia, trinervia, depressa, capensis, uniflora, biflora, pentandra, umbellata, corymbosa, hirsuta, debilis, fœtida.

241. AMMANIA.

Seven species; viz. latifolia, ramosior, debilis, sanguinolenta, octandra, baccifera, pinnatifida. Ind. Virginia.

242. ISNARDIA.

One species; viz. palustris. Eur. China, N. Amer. W. Ind.

243. TRAPA, or *Floating Water-caltrops.*

Two species; viz. natans, bicornis. Eur. China.

244. DORSTENIA, or *Contrayerva.*

Ten species; viz. cordifolia, brasiliensis, arifolia, houstoni, contrajerva, drakena, caulescens, lucida, pubescens. Arab. S. Amer.

245. POTHOS, or *Skunk-weed.*

12 species; viz. scandens, acaulis, lanceolata, crenata, violacea, crassinervia, cordata, macrophylla, pinnata, palmata, digitata, pentaphylla. Ind. Amer.

246. COMETES.

One species; viz. alterniflora. E. Ind. Surat.

247. CURTISIA, or *Hassagay-tree.*

One species; faginea. C. of G. Hope.

248. CHLORANTHUS, or *Tea-leaved Chu-lan.*

One species; viz. inconspicuus. Cape, China, Jap.

249. ELEAGNUS, or *Oleaster* or *Wild Olive.*

Ten species; viz. angustifolia, orientalis, spinosa, pungens, latifolia, crispa, multiflora, umbellata, glabra, macrophylla. S. Eur. China, Japan.

250. GONATOCARPUS.

One species; viz. micranthus. Japan.

251. SANTALUM, or *Sanders.*

One species; viz. album.—What is usually called *White Sanders wood*, is brought from the East Indies, in billets about the size of a man's leg, of a pale whitish colour. It constitutes the outer part of the timber, or that part of the tree which is nearest the bark. This white part has little sensible smell or taste. The inner part of the timber, which usually receives the appellation of *Yellow Sanders wood*, is of a pale yellowish colour, of a pleasant smell and a bitterish aromatic taste, accompanied with an agreeable sort of pungency. Distilled with water it yields a fragrant essential oil, which thickens in the cold to the consistence of a balsam. Digested in pure spirit it imparts a rich yellow tincture, which being committed to distillation, the spirit arises without bringing over any thing considerable of the virtues of the sanders. The residuum contains the virtues of six times its weight of the wood. Hoffman looks upon this extract as a medicine of similar virtues to ambergris, and recommends it as an excellent restorative in great debilities.

252. STRUTHIOLA.

Five species; viz. virgata, nana, juniperina, erecta, ovata. C. of G. Hope.

253. KRAMERIA.

One species; viz. ixina. S. Amer.

254. ACÆNA.

One species; viz. elongata. Mexico.

255. RIVINA.

Four species; viz. humilis, lævis, brasiliensis, octandra. W. Indies.

256. SALVADORA.

One species; viz. persica. Persia, India.

257. CAMPHOROSMA.

Five species; viz. paleacea, monspeliaca, acuta, glabra, pteranthus. S. Eur. Cape.

258. ALCHEMILLA, or *Ladies-mantle.*

Six species; viz. capensis, * vulgaris, * alpina, pentaphylla, aphanoides, aphanes. Alps of Eur.

vulgaris * A. leaves gashed.—The whole of this plant is astringent. In the province of Smolandia in Gothland, they make a tincture of the leaves, and give it in spasmodic or convulsive diseases. Horses, sheep, and goats eat it. Swine refuse it. Cows are not fond of it.

ORDER II. DIGYNIA.

259. CRUZITA.

One species; viz. hispanica.

260. BUFONIA, or *Toad-grass.*

One species; viz. * tenuifolia.

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261. HAMAMELIS, or *Witch Hazel.*

One species; virginica. Carolina, Virginia.

262. CUSCUTA, or *Dodder.*

Five species; viz. europea, americana, africana, monogynia, chinensis.

europæa. * C. flowers sitting, mostly 4-cleft.—The seeds of this species sown in a pot produce plants, but which soon die, unless they can attach themselves to some other plant. As soon as the shoots have twined about an adjoining plant, they send out from their inner surface a number of little vesicles or papillæ, which attach themselves to the bark or rind of the plant. By degrees the longitudinal vessels of the stalk, which appear to have accompanied the vesicles, shoot forth from their extremities and make their way to the foster plant, by dividing the vessels and insinuating themselves into the tenderest part of the stalk; and so intimately are they united with it, that it is easier to break than to disengage them from it.

263. HYPECOUM.

Four species, viz. procumbens, littorale, pendulum, erectum.

264. NERTERIA.

One species, viz. depressa. S. America.

265. GALOPINA.

One species; viz. circæoides. C. of G. Hope.

ORDER III. TRIGYNIA.

266. BOSCIA.

One species; viz. undulata.

ORDER IV. TETRAGYNIA.

267. ILEX, or *Holly.*

19 species; viz. * aquifolium, japonica, opaca, crocea, serrata, latifolia, perado, prinoides, cassine, vomitoria, crenata, emarginata, salicifolia, asiatica, integra, rotunda, obcordata, acuminata, cuneifolia. Asia, N. America.

aquifolium. * I. leaves egg-shaped, acute, thorny, on leaf-stalks; flowers in a kind of umbel, axillary.—All the varieties which gardeners reckon, to the amount of 40 or 50, are derived from this one species, and depend upon the variegation of the leaves or thorns, and the colour of the berries. Sheep are fed in the winter with the croppings, as are also deer. Birds eat the berries. The bark fermented, and afterwards washed from the woody fibres, makes the common bird-lime. It makes an impenetrable fence, and bears cropping; nor is its verdure, or the beauties of its scarlet berries, ever observed to suffer from the severest of our winters. The wood is used in veneering, and is sometimes stained black to imitate ebony. Handles for knives and cogs for mill-wheels are made of it.—It is said to have been observed by Linnæus, that the lower branches within reach of cattle bear thorny leaves, whilst the upper ones which stand in no need of such defence are without thorns.

268. COLDENIA.

One species; viz. procumbens. E. Indies.

269. POTAMOGETON, or *Pond-weed.*

14 species; viz. natans, fluitans, heterophyllum, perfoliatum, densum, * lucens, * crispum, serratum, * compressum, * pectinatum, * setaceum, * gramineum, * marinum, * pusillum. Europe, N. America.

natans. * P. leaves oblong egg-shaped, on leafstalks, floating.—The leaves of this plant floating upon the surface of water, afford an agreeable shade to fish, and are the habitation and food of the phalæna potamogeton. The roots are a favourite food of the swan.

270. RUPPIA.

One species; viz. * maritima.

271. SAGINA, or *Pearl-wort.*

Five species; viz. * cerastoides, * procumbens, * apetala, * erecta, and virginica of Virginia.

272. TILLÆA, or *Small Annual House-leek.*

Five species; viz. aquatica, prostrata, vaillantii, capensis, perfoliata, umbellata, decumbens, muscosa. Eur. C. of G. Hope.

273. MYGINDA.

Five species; viz. vragoga, rhacoma, latifolia. N. America, W. Indies.

In the class Tetrandria are

117 Genera, which include 638 Species. Of these 56 species are found in Britain.

CLASSIS V.
PENTANDRIA.

ORDO I. MONOGYNIA.

Sect. I. *Flores monopetali, inferi, monospermi.*

373. MIRABILIS. Nux infra corollam. Cor. infundibulif. Stigma globosum papillosum.

295. TRICRATUS. Nux 5-angularis. Cor. infundibulif. laciniis bilobis. Cal. 0.

CLASS V.
PENTANDRIA.

ORDER I. MONOGYNIA.

Sect. I. *Flowers monopetalous, inferior, one-seeded.*

M. Nut beneath the cor. The cor. funnel-shaped. Stigma globular pimpled.

T. Nut 5-angular. Cor. funnel-shaped with 2-lobed segments. No calyx.

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318. PLUMBAGO. Sem. 1. Stam. valvis inserta. Cor. infundibulif. Stigma 5-fidum.

317. WEIGELIA. Sem. 1. Cor. infundibulif. Stylus à latere germinis.

470. QUINCHAMALA. Sem. 1. Cor. tubulosa. Antheræ sessiles.

408. CORYMBUM. Sem. 1, lana involut. Cor. infundibulif. Cor. 2-phyll. Anth. connatæ.

Sect. II. *Flores monopetali, inferi, dispermi. Asperifoliæ.*

281. CERINTHE. Cor. fauce nuda ventricosa. Nuc. 2, osseæ, 2-loculares.

287. MESSERSCHMIDIA. Cor. fauce nuda, infundib. Nuc. 2, suberosæ.

Sect. III. *Flores monopetali, inferi, tetraspermi. Asperifoliæ.*

286. ECHIUM. Cor. fauce nuda, irregularis, campanulata.

274. HELIOTROPIUM. Cor. fauce nuda, hypocraterif. lobis dente interjectis. Sem. 4.

279. PULMONARIA. Cor. fauce nuda, infundib. Cal. prismaticus.

276. LITHOSPERMUM. Cor. fauce nuda, infundib. Cal. 5-partitus.

282. ONOSMA. Cor. fauce nuda, ventricosa. Sem. 4.

280. SYMPHYTUM. Cor. fauce dentata, ventricosa.

283. BORAGO. Cor. fauce dentata, rotata.

285. LYCOPSIS. Cor. fauce fornicata, infundib. tubo curvato.

284. ASPERUGO. Cor. fauce fornicata, infundib. Fructus compressus.

278. CYNOGLOSSUM. Cor. fauce fornicata, infundib. Sem. depressa, latere affixa.

277. ANCHUSA. Cor fauce fornicata, infundib. tubo basi prismatico.

275. MYOSOTIS. Cor. fauce fornicata, hypocraterif. lobis emarginatis.

Sect. IV. *Flores monopetali, inferi, pentaspermi.*

289. NOLANA. Cor. monopetala. Nuces 5, 2 s. 4-loculares.

Sect. V. *Flores monopetali, inferi. Angiospermi.*

374. CORIS. Caps. 1-locularis, 5-valvis. Cor. irregularis. Stigma capitatum.

303. HYDROPHYLLUM. Caps. 1-locularis, 2-valvis. Cor. nectariis 5, exarata. Stigma bifidum.

434. GALAX. Caps. 1-locularis, 2-valvis. Cor. hypocrat. Stigma subrotundum.

432. BARRERIA. Caps.? Cor. rotata. Anth. cohærentes. Stigmata 3.

294. CORTUSA. Caps. 1-locularis, oblonga. Cor. rotata. Stigma subcapitatum.

306. ANAGALLIS. Caps. 1-locularis, circumscis. Cor. rotata. Stigma capitatum.

P. Seed 1. Stamen inserted in the valves. Cor. funnel-shaped. Stigma 5-cleft.

W. 1 Seed. Cor. funnel-shaped. Style with lateral seed-buds.

Q. 1 Seed. Cor. tubular. Anther sitting.

C. 1 Seed, covered with wool. Cor. funnel-shaped. Cal. 2-leaved. Anthers united at the base.

Sect. II. *Flowers monopetalous, inferior, 2-seeded. Rough leaves.*

C. Cor. with a naked mouth, distended. Nuts 2, hard as bone, 2-celled.

M. Cor. with a naked mouth, funnel-shaped. Nuts 2, eroded beneath, 2-seeded.

Sect. III. *Flowers monopetalous, inferior, 4-seeded. Rough leaves.*

E. Cor. with a naked mouth, irregular, bell-shaped.

H. Cor. with a naked mouth, and lobes divided by a salver-shaped tooth. Seeds 4.

P. Cor. with a naked mouth, funnel-shaped. Cal. prism-shaped, i. e. differing from cylindrical in the cup being angular.

L. Cor. with a naked mouth, funnel-shaped. Cal. 5-partite.

O. Cor. with a naked mouth, distended. Seeds 4.

S. Cor. with a toothed mouth, distended.

B. Cor. with a toothed mouth, wheel-shaped.

L. Cor. with a vaulted mouth, funnel-shaped; tube curved.

A. Cor. with a vaulted mouth, funnel-shaped; fruit compressed.

C. Cor. with a vaulted mouth, funnel-shaped. Seed depressed, fixed in the side.

A. Cor. with a vaulted mouth, funnel-shaped; the tube prismatic at the base.

M. Cor. with a vaulted mouth, salver-shaped; lobes notched at the end.

Sect. IV. *Flowers monopetalous, inferior, 5-seeded.*

N. Cor. monopetalous. 5 Nuts, 2 or 4-celled.

Sect. V. *Flowers monopetalous, inferior. Seeds in a capsule.*

C. Caps. 1-celled, 5-valved. Cor. irregular. The stigmas growing in heads.

H. Caps. 1-celled, 2-valved. Cor. furrowed with 5 nectaries. Stigma 2-cleft.

G. Caps. 1-celled. 2-valved. Cor. salver-shaped. Stigma nearly round.

B. Caps.? Cor. wheel-shaped. Anthers cohering. Stigmas 3.

C. Caps. 1-celled, oblong. Cor. wheel-shaped. Stigma nearly growing in heads.

A. Caps. 1-celled, cut round. Cor. wheel-shaped. Stigma growing in a head.

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305. LYSIMACHIA. Caps. 1-locularis, 10-valvis. Cor. rotata. Stigma obtusum.

300. DOROENA. Caps. 1-locul. 1-valv. polysperma. Cor. 5-fida. Stigma emarginatum.

298. CYCLAMEN. Caps. 1-locularis, intus pulposa. Cor. reflexa. Stigma acutum.

297. DODECATHEON. Caps. 1-locul. oblonga. Cor. reflexa. Stigma obtusum.

296. SOLDANELLA. Caps. 1. locularis. Cor. lacera. Stigma simplex.

295. LITA. Caps. 1-locul. 2-valv. Cor. hypocraterif. Anth. in tubo sessiles. Stigma truncatum.

293. PRIMULA. Cap. 1-locularis. Cor. infundib. fauce pervia. Stigma globosum.

291. ARETIA. Caps. 1-locul. Cor. hypocraterif. Stigma depresso capitatum.

302. BACOPA. Caps. 1-locul. Cor. hypocraterif. Cal. inæqual. Stigma capitatum.

301. HOTTONIA. Cor. fauce fornicata, infundib. Sem. depressa, latere affixa.

313. SHEFFIELDIA. Caps. 1-locul. 5-valv. Cor. campanulata. Stam. alterna sterilia.

299. MENYANTHES. Caps. 1-locularis. Cor. villosa. Stigma bifidum.

479. ALLAMANDA. Caps. 1-locularis, lentiformis, bivalvis, valvulis cymbiformibus. Sem. imbricata.

507. THEOPHRASTA. Caps. 1-locularis, maxima. Cor. campanulata. Stigma acutum.

371. GENIOSTOMA. Caps. 2-locul. Cor. infundibulif. fauce villosa.

308. SPIGELIA. Caps. 2-locularis, didyma. Cor. infundib. Stigma simplex.

334. SPHENOCLEA. Caps. 2-locularis, circumscissa. Cor. 5-fid. calyce minor. Stigma capitatum.

309. OPHIORHIZA. Caps. 2-locul. 2-partita. Cor. infundib. Stigma 2-fidum.

321. RETZIA. Caps. 2-locul. Cor. cylindrica, extus villosa. Stigm. 2-fidum.

323. CONVOLVULUS. Caps. 2-locularis, 2-sperma. Cor. campanulata. Stigm. 2-fidum.

310. LISIANTHUS. Caps. 2-locularis, polysperma. Cor. infundib. ventricosa. Styl. persistens.

377. DATURA. Caps. 2-locul. 4-valvis. Cor. infundib. Cal. deciduus.

378. HYOSCIAMUS. Caps. 2-locularis operculata. Cor. infundib. Stigma capitatum.

379. NICOTIANA. Caps. 2-locularis. Cor. infundib. Stigm. emarginatum.

376. VERBASCUM. Caps. 2-locular. Cor. rotata. Stigma obtusum. Stam. declinata.

394. CHIRONIA. Caps. 2-locular. Cor. tubo urceolato. Antheræ deflorate spirales.

322. PORANA. Fructus bivalvis. Calyx in fructu grandifactus. Stylus elongatus semibifidus.

290. DIAPENSIA. Caps. 3-locularis. Cor. hypocrat. Cal. 8-phyllus.

320. PHLOX. Caps. 3-locularis. Cor. hypocrater. tubo curvo. Stigm. trifidum.

326. POLEMONIUM. Caps. 3-locularis. Cor. 5-partita. Stam. valvis imposita.

324. CANTUA. Caps. 3-locul. 3-valv. Sem. alata. Cor. infundibulif. Stigm. 3-fid.

325. IPOMOEA. Caps. 3-locularis. Cor. infundib. Stigma capitatum.

L. Caps. 1-celled, with 10 valves. Cor. wheel-shaped. Stigma blunt.

D. Caps. 1-celled, 1-valved, many-seeded. Cor. 5-cleft. Stigma notched at the end.

C. Caps. 1-celled, pulpy within. Cor. bent back. Stigma sharp.

D. Caps. 1-celled, oblong. Cor. bent back. Stigma blunt.

S. Caps. 1-celled. Cor. ragged. Stigma undivided.

L. Caps. 1-celled, 2-valved. Cor. salver-shaped. Anthers sitting in the tube. Stigma lopped.

P. Caps. 1-celled. Cor. funnel-shaped with a pervious mouth. Stigma globular.

A. Caps. 1-celled. Cor. salver-shaped, flat-headed.

B. Caps. 1-celled. Cor. salver-shaped. Cal. unequal. Stigma headed.

H. Cor. with a vaulted mouth, funnel-shaped. Seed sunk, fixed in the side.

S. Caps. 1-celled, 5-valved. Cor. bell-shaped. Alternate stamens barren.

M. Caps. 1-celled. Cor. woolly. Stigma 2-cleft.

A. Caps. 1-celled, globular, but compressed, 2-valved, with boat-shaped valves. Seed tiled.

T. Caps. 1-celled, very large. Cor. bell-shaped. Stigma acute.

G. Caps. 2-celled. Cor. funnel-shaped, with woolly mouth.

S. Caps. 2-celled, double. Cor. funnel-shaped. Stigma undivided.

S. Caps. 2-celled, cut round. Cor. 5-cleft, less than the calyx. Stigma headed.

O. Caps. 2-celled, 2-partite. Cor. funnel-shaped. Stigma 2-cleft.

R. Caps. 2-celled. Cor. cylindrical, outside woolly. Stigma 2-cleft.

C. Caps. 2-celled, 2-seeded. Cor. bell-shaped. Stigma 2-cleft.

L. Caps. 2-celled, many-seeded. Cor. funnel-shaped. distended. Style permanent.

D. Caps. 2-celled, 4-valved. Cor. funnel-shaped. Cal. deciduous.

H. Caps. 2-celled, covered with a lid. Cor. funnel-shaped. Stigma headed.

N. Caps. 2-celled. Cor. funnel-shaped. Stigma notched at the end.

V. Caps. 2-celled. Cor. wheel-shaped. Stigma obtuse. Stamens bent.

C. Caps. 2-celled. Cor. with a pitcher-shaped tube. Anthers twisted after having shed their pollen.

P. Fruit 2-valved. Calyx swelling with the fruit. Style elongated, half-cleft.

D. Caps. 3-celled. Cor. salver-shaped. Cal. 8-leaved.

P. Caps. 3-celled. Cor. salver-shaped, with a crooked tube. Stigma 3-cleft.

P. Caps. 3-celled. Cor. 5-partite. Stamens placed on valves.

C. Caps. 3-celled, 3-valved. Seeds winged. Cor. funnel-shaped. Stigma 3-cleft.

I. Caps. 3-celled. Cor. funnel-shaped. Stigma with a little head.

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375. Brossæa. Caps. 5-locul. Cor. truncata. Cal. carnosus.

312. Azalea. Caps. 3-locul. Cor. campanulata. Stigm. obtusum.

315. Epæris. Caps. 5-locul. Cor. infundibulif. villosa. Squama nectarif.

481. Nerium. Follic. 2, erecti. Cor. fauce coronata. Sem. papposa.

482. Echites. Follic. 2, erecti. Cor. infundib. fauce nuda. Sem. papposa.

483. Plumieria. Follic. 2, retracti. Cor. infundib. Sem. alata.

484. Cameraria. Follic. 2, lobati. Cor. hypocrat. Sem. alata.

485. Tabernæmontana. Follic. 2, pulposi. Cor. hypocrat. Sem. simplicia.

480. Vinea. Follic. 2, erecti. Cor. hypocrat. Sem. simplicia.

475. Cerbera. Drupæ 2, nuces submonospermæ. Cor. infundibulif.

339. Thouinia. Drupa. Cor. campanulata, extus hispida. Cal. 5-phyll.

402. Tectona. Drupa sicca, nuce 3-locul. Cor. infundibulif.

391. Ardisia. Drupa 1-sperma. Cor. hypocraterif. limbo reflexo.

401. Bumelia. Drupa 1-sperma. Cor. hypocraterif. limbo dentibus interjecto. Nect. 5-phyll.

474. Gynopogon. Drupa nuce semibilocul. Cor. hypocraterif. Stigma globosum villosum.

399. Laugeria. Drupa 1-sperma. Nux 5-locular. Stigm. capitatum.

398. Varronia. Drupa 1-sperma. Nux 4-locul. Stigm. 4-plex.

396. Cordia. Drupa 1-sperma. Nux 4-locularis. Stigma dichotomum. Cal. baccæ accretus.

386. Ignatia. Drupa polysperma. Cor. infundibulif. tubo longissimo.

397. Ehretia. Drupa 4-sperma. Nux 2-locular. Stigm. emarginatum.

316. Styphelia. Drupa 5-locularis. Cor. tubulosa.

478. Willughbeja. Cor. hypocraterif. Stigm. capitatum.

473. Carissa. Baccæ 2, polyspermæ.

392. Jaquinia. Bacca 1-sperma. Cor. 10-fida. Nect. 5-phyll.

421. Myrsine. Bacca 1-sperma. Cor. campanulat. Stigm. villosum.

422. Bladhia. Bacca 1-sperma. Sem. arillatum. Cor. rotata.

472. Pæderia. Bacca 2-sperma, inflata, fragilis.

471. Rauwolfia. Bacca 2-sperma. Sem. cordata.

415. Arduina. Bacca 2-sperma. Sem. oblonga. Cor. curvata. Stigm. 2-fidum.

387. Cestrum. Bacca 1-locularis. Filamenta dente notata.

311. Fragæa. Bacca 2-locul. carnos. Cor. infundibulif. tubo longo. Stigm. capitatum.

288. Tournefortia. Bacca 2-locul. loculis 2-spermis, apice perforata.

385. Strychnos. Bacca 2-locularis corticosa. Stigma capitatum.

B. Caps. 5-celled. Cor. lopped. Cal. fleshy.

A. Caps. 5-celled. Cor. bell-shaped. Stigma blunt.

E. Caps. 5-celled. Cor. funnel-shaped, woolly. A scale honey-bearing.

N. Air-bags 2, erect. Cor. with a crowned mouth. Seeds downy.

E. Air-bags 2, erect. Cor. funnel-shaped, with a naked mouth. Seeds downy.

P. Air-bags 2, drawn back. Cor. funnel-shaped. Seeds winged.

C. Air-bags 2, gashed. Cor. salver-shaped. Seeds winged.

T. Air-bags 2, pulpy. Cor. salver-shaped. Seeds undivided.

V. Air-bags 2, erect. Cor. salver-shaped. Seeds undivided.

C. Drupes 2, nuts nearly 1-seeded. Cor. funnel-shaped.

T. A drupe. Cor. bell-shaped, rough without, with stiff bristly hairs. Cal. 5-leaved.

T. A drupe, dry, with a 3-celled nut. Cor. funnel-shaped.

A. A drupe 1-seeded. Cor. salver-shaped, border turned back.

B. A drupe with 1 seed. Cor. salver-shaped, border notched with teeth. Nect. 5-leaved.

G. A drupe with a nut half 2-celled. Cor. salver-shaped. Stigma globular, woolly.

L. A drupe with 1 seed. A nut 5-celled. Stigma with a knob.

V. A drupe 1-seeded. Nut 4-celled. Stigma 4-fold.

C. A drupe 1-seeded. Nut 4-celled. Stigma forked. Cal. growing to the berry.

I. A drupe. Many seeds. Cor. funnel-shaped, with a very long tube.

E. A drupe, 4-seeded. Nut 2-celled. Stigma notched at the end.

S. A drupe, 5-celled. Cor. tubular.

W. Cor. salver-shaped. Stigma with a little head or knob.

C. Berries 2, many-seeded.

J. Berry 1-seeded. Cor. 10-cleft. Nectary 5-leaved.

M. Berry 1 seed. Cor. bell-shaped. Stigma woolly.

B. Berry 1 seed. Seed coated. Cor. wheel-shaped.

P. Berry 2-seeded, inflated, brittle.

R. Berry 2-seeded. Seeds heart-shaped.

A. Berry 2-seeded. Seeds oblong. Cor. crooked. Stigma 2-cleft.

C. Berry 1-celled. Filaments toothed.

F. Berry 2-celled, fleshy. Cor. funnel-shaped, with a long tube. Stigma with a knob.

T. Berry 2-celled, with 2-seeded cells perforated at the point.

S. Berry 2-celled, bark-like. Stigma with a knob.

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384. CAPSICUM. Bacca 2-locul. exsucca. Antheræ conniventes.

* 383. SOLANUM. Bacca 2-locularis. Antheræ biperforatæ.

382. PHYSALIS. Bacca 2-locul. Calyce inflato. Antheræ approximatæ.

380. JABAROSA. Bacca? Cor. tubulosa longissima.

* 381. ATROPA. Bacca 2-locul. Stam. distantia, incurvata.

304. ELLISIA. Bacca 2-locul. Sem. 2, altero superiore.

388. LICIUM. Bacca 2-locular. Sem. basi villosa claudentia.

390. CRYPTOSTOMUM. Bacca 3-locul. Cor. infundibulif. calyci inserta. Nect. 1-phyllum, corollam claudens.

416. CAMAX. Bacca 4-locul. villos. polysp. Cor. rotata. Cal. 5-part.

319. TRIGUERA. Bacca 4-locul.; locul. 2 sperm. Cor. campanulata. Cal. 5-dent.

341. SOLANDRA. Bacca 4-locul. polysperma. Cor. infundibulif. Cal. ringens.

369. MENAIS. Bacca 4-locular. Cal. 3-phyllus. Stigm. duo.

449. LEEA. Bacca 5-sperma. Cor. rotata. Nect. urceolat. 5-fid. staminiferum.

403. SIDEROXYLON. Bacca 5-sperma. Cor. 10-fida, laciniis interioribus conniventibus.

400. CHRYSOPHYLLUM. Bacca 10-sperma. Cor. 10-fida, laciniis exterioribus patentissimis.

393. BASSONIA. Bacca polysperma nodulosa. Cor. rotata.

364. BÆOBOTRUS. Bacca polysperma. Cor. tubulos. Cal. duplex.

C. Berry 2-celled, dry. Anthers converging.

* S. Berry 2-celled. Anthers double perforated.

P. Berry 2-celled. Calyx bellied. Anthers approaching.

J. Berry? Cor. very long, tubular.

* A. Berry 2-celled. Stamens distant, bowed inwards.

E. Berry 2-celled. Seeds 2, one superior.

L. Berry 2-celled. Stamens closing with a hairy base.

C. Berry 2-celled. Cor. funnel-shaped, inserted in the calyx. Nectary 1-leaved, closing the corolla.

C. Berry 4-celled, woolly, many-seeded. Cor. wheel-shaped. Cal. 5-partite.

T. Berry 4-celled, cells 2-seeded. Cor. bell-shaped. Cal. 5-toothed.

S. Berry 4-celled, many-seeded. Cor. funnel-shaped. Cal. gaping.

M. Berry 4-celled. Cal. 3-leaved. Stigmas 2.

L. Berry 5-seeded. Cor. wheel-shaped. Nectary pitcher-shaped, 5-cleft, bearing the stamens.

S. Berry 5-seeded. Cor. 10-cleft, the inner segments converging.

C. Berry 10-seeded. Cor. 10-cleft, the outer segments very open.

B. Berry many-seeded, knotted. Cor. wheel-shaped.

B. Berry many-seeded. Cor. tubular. Cal. double.

Sect. VI. *Flores monopetali, superi.*

* 233. SAMOLUS. Caps. 1-locularis, apice 5-valvis, Cor. hypocrat. Stigm. capitatum.

352. VIRECTA. Caps. 1-locul. Cor. infundibulif. Cal. 5-dent. dentibus interjectis.

338. BELLONIA. Caps. 1-locul. umbilico rostrato. Cor. rotata, stigm. acutum.

337. MACROCNEMUM. Caps. 2-locul. turbinata. Cor. camp. Stigm. bilobum. Sem. imbricata.

351. DENTELLA. Caps. 2-locul. Cor. infundibulif. laciniis 3-dentat.

350. CHIMARRHIS. Caps. 2-locul.; locul. 1-sperm. Cor. infundibulif. Stigm. 2-part.

336. RONDELETIA. Caps. 2-locular. subglobosa. Cor. infund. Stigm. obtusum.

346. CINCHONA. Caps. 2-locular. intus dehiscens. Cor. hirsuta. Stigm. simplex.

340. PORTLANDIA. Caps. 2-locul. coronata. Cor. ventricosa. Stigm. simplex. Sem. imbricata.

330. ROELLA. Caps. 2-locul. coronata. Cor. rotata. Stigm. 2-fidum.

344. GOODENIA. Caps. 2-locul. Cor. 1-petal. longitudinaliter fissa.

* 331. PHYTEUMA. Caps. 2 s. 3-locul. perforata. Cor. 5-partita. Stigm. 2 s. 3-fidum.

332. TRACHELIUM. Caps. 3-locul. perforata. Cor. infundibulif. Stigm. capitatum.

* 329. CAMPANULA. Caps. 2 s. 3-locul. Cor. 1, perforata. Cor. campanul. Stigm. 3-fidum.

Sect. VI. *Flowers monopetalous, superior.*

* S. Caps. 1-celled, with 5 valves at the top. Cor. salver-shaped. Stigma with a knob.

V. Caps. 1-celled. Cor. funnel-shaped. Cal. 5-toothed, the teeth interjected.

B. Caps. 1-celled, dimple-beaked. Cor. wheel-shaped. Stigma sharp.

M. Caps. 2-celled, turban-shaped. Cor. bell-shaped. Stigma 2-lobed. Seeds tiled.

D. Caps. 2-celled. Cor. funnel-shaped, with segments 3-toothed.

C. Caps. 2-celled; cell 1-seeded. Cor. funnel-shaped. Stigma 2-partite.

R. Caps. 1-celled, nearly globular. Cor. funnel-shaped. Stigma obtuse.

C. Caps. 2-celled, gaping within. Cor. shaggy. Stigma undivided.

P. Caps. 2-celled, crowned. Cor. bellied. Stigma undivided. Seeds tiled.

R. Caps. 2-celled, crowned. Cor. wheel-shaped. Stigma 2-cleft.

G. Caps. 2-celled. Cor. 1 petal, cleft lengthwise.

* P. Caps. 2 or 3-celled, perforated. Cor. 5-partite. Stigma 2 or 3-cleft.

T. Caps. 3-celled, perforated. Cor. funnel-shaped. Stigma with a knob.

C. Caps. 2 or 3-celled, perforated. Cor. bell-shaped. Stigma 3-cleft.

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* 342. Lobelia. Caps. 2 s. 3-locul. Cor. 1 petal. irregul. Anth. connatæ.

345. Scævola. Drupa 1-sperma. Cor. irregularis flabelliformis, fissura longitudinali.

367. Schoepfia. Drupa 1-sperma. Cor. campanulata. Cal. duplex, alter inferus, alter superus.

372. Matthiola. Bacca 1-sperma. Cor. infundibulif. indivisa. Stigm. obtusum.

363. Morinda. Bacca 1-sperma, aggregata. Cor. infundib. Stigma 2-fidum.

349. Psychotria. Bacca 2-sperma. Sem. sulcata. Cor. infundib. Stigm. emarginatum.

353. Coffea. Bacca 2-sperma. Sem. arillata. Cor. hypocrat. Stigm. 2-partitum.

354. Chiococca. Bacca 2-sperma. Cor. infundib. Stigm. simplex.

389. Serissa. Bacca 2-sperma. Cor. infundibulif. fauce ciliata, laciniis limbi subtrilobis.

357. Cephælis. Bacca 2-sperma. Cor. tubulosa. Involucr. subtetraphyll. Recept. paleaceum.

355. Vangueria. Bacca 4 s. 5-sperma. Cor. hypocraterif. tubo globoso, fauce pilosa.

347. Solena. Bacca 1-locul. Cor. hypocraterif. tubo longissimo. Stigm. 3-fid.

356. Canephora. Fruct. 2-locul. Cor. campanulata. Cal. communis tubulosus multifloris.

358. Bertiera. Bacca 2-locul. Cor. hypocraterif. Stigm. 2-lamellat. Stam. tubo inserta.

* 361. Lonicera. Bacca 2-locularis subrotunda. Cor. inæqualis. Stigm. capitatum.

476. Webera. Bacca 2-locul.; locul. 1-sperm. Cor. infundibulif.

477. Gardenia. Bacca 2-locularis polysperma. Cor. infundibulif.

348. Ucriana. Bacca 2-locul. Cor. hypocraterif. tubo longissimo. Stigm. 2-lamellat. Stam. fauci inserta.

362. Triosteum. Bacca 3-locul. coriacea. Cor. inæqualis. Stigm. oblongum.

467. Plocama. Bacca 3-locul.; locul. 1-spermis. Corolla campanulata.

370. Mussænda. Bacca 4-locularis, oblonga. Cor. infundib. Stigm. 2-part.

360. Schwenkfeldia. Bacca 5-locul. polysperm. Cor. hypocraterif. Stigm. 5-part.

359. Hamellia. Bacca 5-locular. polysperma. Cor. tubo longo. Stigm. lineare.

368. Erithalis. Bacca 10-locul. subglobosa. Cor. rotata. Stigm. acutum.

† *Ixia pentandra, pavetta pentandra, oldenlandia, digyna pentandra, rubiæ et crucianellæ nonnullæ, prinos.*

Sect. VII. *Flores tetrapetali.*

365. Stroemia. Bacca corticosa 2-valv. Cal. 4-phyll. Nect. ligulat.

Sect. VIII. *Flores pentapetali, inferi.*

442. Hirtella. Bacca 1-sperma. Stylus lateralis. Stam. persistentia, spiralia.

* 405. Rhamnus. Bacca 3-locularis, rotunda. Cal. tubul. Corollifer. petala 5 convergentia.

* L. Caps. 2 or 3-celled. Cor. 1 petal, irregular. Anthers twins, that is, united at the base.

S. A drupe 1-seeded. Cor. irregular, fan-shaped, with a longitudinal fissure.

S. A drupe 1-seeded. Cor. bell-shaped. Cal. double, one inferior, the other superior.

M. Berry 1-seeded. Cor. funnel-shaped undivided. Stigma obtuse.

M. Berry 1-seeded, incorporated. Cor. funnel-shaped. Stigma 2-cleft.

P. Berry 2-seeded. Seeds furrowed. Cor. funnel-shaped. Stigma notched at the end.

C. Berry 2-seeded. Seeds coated. Cor. salver-shaped. Stigma 2-partite.

C. Berry 2-seeded. Cor. funnel-shaped. Stigma undivided.

S. Berry 2-seeded. Cor. funnel-shaped, with a fringed mouth, the segments of the border nearly 3-lobed.

C. Berry 2-seeded. Cor. tubular. Involucrum nearly 4-leaved. Receptacle chaffy.

V. Berry 4 or 5-seeded. Cor. salver-shaped, with a globular tube and hairy mouth.

S. Berry 1-celled. Cor. salver-shaped, with a very long tube. Stigma 3-cleft.

C. Fruit 2-celled. Cor. bell-shaped. Cal. common, tubular, many-flowered.

B. Berry 2-celled. Cor. salver-shaped. Stigma 2-gilled. The stamens inserted in a tube.

* L. Berry 2-celled, nearly round. Cor. unequal. Stigma with a knob.

W. Berry 2-celled, cell 1-seeded. Cor. funnel-shaped.

G. Berry 2-celled, many-seeded. Cor. funnel-shaped.

U. Berry 2-celled. Cor. salver-shaped, with a very long tube. Stigma 2-gilled. The stamens inserted in the mouth.

T. Berry 3-celled, leather-like. Cor. unequal. Stigma oblong.

P. Berry 3-celled, cells 1-seeded. Corolla bell-shaped.

M. Berry 4-celled, oblong. Cor. funnel-shaped. Stigma 2-partite.

S. Berry 5-celled, many-seeded. Cor. salver-shaped. Stigma 5-cleft.

H. Berry 5-celled, many-seeded. Cor. with a long tube. Stigma strap-shaped.

E. Berry 10-celled, nearly globular. Cor. wheel-shaped. Stigma acute.

Sect. VII. *Flowers 4-petaled.*

S. Bark-like berry with 2 valves. Cal. 4-leaved. Nectary strap-shaped.

Sect. VIII. *Flowers 5-petaled, inferior.*

H. Berry 1-seeded. Style lateral. Stamens permanent, twisted.

* R. Berry 3-celled, round. Cal. tubular. Cor. bearing 5 converging petals.

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412. CEANOTHUS. Bacca 3-cocca. Cal. tubul. Corollifer petala fornicata.

* 424. EVONYMUS. Bacca capsularis, lobata. Cal. patens. Sem. baccato-arillata.

423. CELASTRUS. Bacca 3-cocca. Cal. planus. Sem. arillata.

429. STAAVIA. Bacca 5-sperma corticata. Recept. paleaceo-villosum. Stam. calyci inserta.

454. EUPAREA. Bacca exsucca 1-locul. polysp. Petal. 5-12.

440. BILLARDIERA. Bacca polysperma. Stigm. simpl.

414. RUYSCHIA. Bacca polysperma. Styl. 0. Cor. reflexa.

453. VITIS. Bacca 5-sperma. Cor. sæpe connata. Stylus nullus.

439. ESCALONIA. Bacca 2-locularis. Stigma capitat.

441. MANGIFERA. Drupa reniformis. Cor. petalis lanceolat. Nux lanuginosa.

406. ZIZIPHUS. Drupa nuce 2-locul. Cal. tubul. corollifer. Petala oris 5, convergentia.

404. SCHREBERA. Drupa sicca nuce 2-locul. Nect. margo elevat.

438. ELÆODENDRUM. Drupa nuce 2-locul. Petal. subrotund. Glandula sub germine.

430. WALKERA. Drupæ 5, monospermæ. Cal. 5-part.

451. CORYNOCARPUS. Nux clavata. Nect. 5, petaliformia basi glandulosa.

435. HUMBOLDTIA. Legumen. Petal. 5, lanceolata. Cal. 4-part.

425. PILOCARPUS. Caps. 2-5, infernè coalitæ. Stam. infra germen inserta.

436. CEDRELA. Caps. 5-locularis, basi dehiscens. Cor. receptaculo unita. Sem. alata.

437. CALODENDRUM. Caps. 6-locul. 5-angulat. petal. lanceolat. Germen pedicellat. Nect. 5-phyll.

413. SCOPOLIA. Caps. baccata 5-locul.; locul. 1-sperm. Stigm. capitat.

420. POLYCARDIA. Caps. 5-locul. Sem. arillata. Petala rotundata. Stigm. lobatum.

431. PITTOSPORUM. Caps. 2-5-locul. 5-valv. Sem. tecta pulpa. Petala conniventia in tubum.

417. BUTTNERIA. Caps. 5-cocca. Cal. petalis auriculatus. Stam. nectario annexa.

418. AYENIA. Caps. 5-locul. Petala in stellulam connata. Nect. urceolus pistillum tegens staminiferum.

419. GLUTA. Capsula? Petala pedicello germinis inserta. Cal. campanulat. deciduus.

426. DIOSMA. Caps. 5-plex. Nectar. germ. coronans. Sem. arillata.

314. SPRENGELIA. Caps. 5-locul. 5-valv. polysperma. Anth. connatæ.

427. HOVENIA. Caps. 3-locul. 3-valv. Petala obovata. Stigm. 3.

335. NAUCLEA. Caps. 2-locul. polysperm. Recept. commun. pilosum.

447. IMPATIENS. Caps. 1-locul. 5-valv. Cor. irregul. calcarat. Cal. 2-phyll. Anth. cohærentes.

* 446. VIOLA. Caps. 1-locul. 3-valv. Cor. irregul. calcarata. Cal. 5-phyll. Anth. cohærentes.

459. CLAYTONIA. Caps. 1-locul. 3-valvis. Cal. 2-valvis. Stigm. 3-fidum.

C. Berry 3-celled. Cal. tubular. Cor. bearing vaulted petals.

* E. Berry capsular, lobed. Cal. extending. Seeds berried-coated.

C. Berry 3-celled. Cal. flat. Seeds coated.

S. Berry 5-seeded, barked. Receptacle chaffy-woolly. Stamens inserted in the calyx.

E. Berry dry, 1-celled, many-seeded. Petals 5-12.

B. Berry many-seeded. Stigma undivided.

R. Berry many-seeded. No style. Cor. bent back.

V. Berry 5-seeded. Cor. often united at the base. No style.

E. Berry-celled. Stigma with a little head.

M. A drupe kidney-shaped. Cor. with spear-shaped petals. Woolly nut.

Z. A drupe with a 2-celled nut. Cal. tubular, bearing the cor. Petals of the mouth 5, converging.

S. A dry drupe, with a 2-celled nut. The margin of the nectary elevated.

E. A drupe, with a 2-celled nut. Petals nearly round. A gland beneath the germen.

W. 5 drupes, 1-seeded. Cal. 5-partite.

C. Club-shaped nut. Nectaries 5, petal-shaped, with a glandular base.

H. A leguminous plant. Petals 5, spear-shaped. Cal. 4-partite.

P. Caps. 2-5 uniting beneath. Stamens inserted beneath the germen.

C. Caps. 5-celled, gaping at the base. Cor. united to the receptacle. Seeds winged.

C. Caps. 6-celled, 5-angled. Petals spear-shaped. Germen on a pedicle. Nectary 5-leaved.

S. Caps. berried, 5-celled. Cells 1-seeded. Stigma with a little head.

P. Caps. 5-celled. Seeds coated. Petals rounded. Stigma lobed.

P. Caps. 2-5-celled, 5-valved. Seeds covered with pulp. Petals converging into a tube.

B. Caps. 5-celled. Cal. ear-shaped with petals. Stamens annexed to the nectary.

A. Caps. 5-celled. Petals united at the base into a star. A pitcher-shaped nectary covering the pistil which bears the stamens.

G. Capsule? Petals inserted in the pedicle of the germen. Cal. bell-shaped, deciduous.

D. Caps. 5-fold. Nectary crowning the germen. Seeds coated.

S. Caps. 5-celled, 5-valved, many-seeded. Anthers united at the base.

H. Caps. 3-celled, 3-valved. Petals egg-shaped with the small end downwards. Stigm. 3.

N. Caps. 2-celled, many-seeded. The common receptacle hairy.

I. Caps. 1-celled, 5-valved. Cor. irregular, having a spur. Cal. 2-leaved. Anthers cohering.

* V. Caps. 1-celled, 3-valved. Cor. irregular, spurred. Cal. 5-leaved. Anthers cohering.

C. Caps. 1-celled, 3-valved. Cal. 2-valved. Stigma 3-cleft.

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457. Roridula. Caps. 1-locul. 3-valvis. Nectarium scrotiforme.

433. Itea. Caps. 1-locul. 2-valvis. Cal. corollifer. Stigm. obtusum.

455. Ægiceras. Caps. 1-locul. arcuata, 1-valv. 1-sperma. Cal. 5-fid.

458. Sauvagesia. Caps. 1-locul. Nectarium 5-phyllum. Petala imbricata.

407. Ventilago. Samara 1-sperma, apice alata. Cal. 5-fid. corollifer.

428. Brunia. Sem. 1, villosum. Recept. commune villosum. Stam. unguibus petal. inserta.

† *Cæsalpinia pentandra. Bombax pentandrum. Cassia nictitans.*

R. Caps. 1-celled, 3-valved. Nectary purse-shaped.

I. Caps. 1-celled, 2-valved. Cal. bearing the corolla. Stigm. obtuse.

Æ. Caps. 1-celled, bowed, with 1 valve, 1 seed. Cal. 5-cleft.

S. Caps. 1-celled. Nectary 5-leaved. Petals tiled.

V. Close seed-vessel, 1-seeded, winged at the point. Cal. 5-cleft, bearing the corolla.

B. Seed 1, woolly. Common receptacle woolly. The stamens inserted in the claws of the petals.

Sect. IX. *Flores pentapetali, superi.*

* 445. Ribes. Bacca polysperma. Cal. corollif. Sty. 2-fidus.

* 452. Hedera. Bacca 5-sperma. Cal. cingens fruct. Stigm. simplex.

444. Plectronia. Bacca 2-sperma. Cal. unguibus clausus. Antheræ inclusæ geminatæ.

443. Strumpfia. Bacca 1-sperma. Cal. 5-dent. Anth. in corpus ovatum coalitæ.

409. Phylica. Bacca 3-cocca. Cal. tubulosus, corollifer, squamis 5 convergentibus.

410. Carpodetus. Bacca sicca, 5-locul. petala calycis margini inserta.

448. Gronovia. Caps. 1-sperma, colorata. Cal. coloratus. Petala minuta.

* 328. Jasione. Caps. 2-locul. Involuc. 10-fid. Cal. 5-part. Anth. basi cohærentes.

343. Cyphia. Capsula ? Petala æqualia linearia. Filamenta pilosa, basi cohærentia. Stigm. cavum, gibbum.

450. Argophyllum. Caps. 3-locul. Petala lanceolata. Nect. 5-angul. pyramidatum.

327. Lightfootia. Caps. 3-5-locul. Cor. fundo clausa, valvis staminiferis. Cal. 5-phyll.

458. Lagœcia. Sem. 2, nuda. Cal. pinnato-pectinatus. Pet. bicornia.

366. Conocarpus. Sem. 1, depressum. Recept. aggregens. Petala connivantia.

Sect. IX. *Flowers 5-petaled, superior.*

* R. Many-seeded berry. Cal. bearing the corolla. Style 2-cleft.

* H. Berry 5-seeded. Cal. surrounding the fruit. Stigma undivided.

P. Berry 2-seeded. Cal. ending in claws. Anthers in pairs, shut up.

S. Berry 1-seeded. Cal. 5-toothed. Anthers uniting into an egg-shaped body.

P. Berry 3-celled. Cal. tubular, bearing the corolla with 5 converging scales.

C. Berry dry, 5-celled. Petals inserted in the extremity of the calyx.

G. Caps. 1-seeded, coloured. Cal. coloured. Petals minute.

* J. Caps. 2-celled. Involucrum 10-cleft. Cal. 5-partite. Anthers cohering at the base.

C. Capsule ? Petals equal, strap-shaped. Filaments hairy, cohering at the base. Stigma hollow, bulging.

Sect. X. *Flores incompleti, inferi.*

462. Achyranthes. Sem 1, oblongum. Cal. exterior, 3-phyllus, nudus.

464. Chenolia. Utriculus depressus, 1-spermus.

463. Celosia. Caps. 3-sperma. Cal. exterior, 3-phyllus; coloratus.

* 465. Illecebrum. Caps. 1-sperma, 5-valvis. Cal. simplex, rudis.

* 466. Glaux. Caps. 5-sperma, 5-valvis. Cal. simplex, rudior, campanulatus.

411. Colletia. Fruct. 3-coccus. Cor. campanulata, 5-fida, plicis 5 squamiformibus instructa. Cal. 0.

‡ *Polygonum amphibium, lapathifolium. Polycnemum oppositifolium. Samara pentandra, floribunda. Cevatonia.*

Sect. X. *Flowers incomplete, inferior.*

A. Seed 1, oblong. Cal. exterior, 3-leaved, naked.

C. A little bag, depressed, 1-seeded.

C. Caps. 3-seeded. Cal. exterior, 3-leaved, coloured.

* I. Caps. 1-seeded, with 5 valves. Cal. undivided, rough.

* G. Caps. 5-seeded, 5-valved. Cal. undivided, considerably rough, bell-shaped.

C. Fruit 4-celled. Cor. bell-shaped; 5-cleft, with 5 scaly plaits. No cal.

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Sect. XI. *Flores incompleti, superi.*

* 469. THESIUM. Sem. 1, coronatum. Cal. staminifer.

460. HELICONIA. Caps. 3-cocca, locul. 1-sperm. Cor. 3-petala. Nect. 2-phyll.

461. STRELITZIA. Caps. 3-cocca, locul. polysperm. Col. 3-petal. Nect. 3-phyll.

ORDO II. DIGYNIA.

Sect. I. *Flores monopetali, inferi.*

494. STAPELIA. Folliculi 2. Cor. rotata, nectariis stellatis.

488. CYNANCHUM. Folliculi 2. Cor. rotata. Nectario cylindrico.

487. PERIPLOCA. Folliculi 2. Cor. rotata. Nectariis 5 filiformibus.

491. HOSTEA. Folliculi 5, angulares. Cor. rotata.

489. APOCYNUM. Folliculi 2. Cor. campan. Nectariis glandulosis 5. Setis 5.

486. PERGULARIA. Folliculi 2. Cor. hypocraterif. Nect. 5, semi-sagittata.

490. ASCLEPIAS. Folliculi 2. Cor. reflexa. Nectariis 5, auriformibus unguiculatis.

493. CEROPEGIA. Folliculi 2. Cor. limbus connivens.

492. MELODINUS. Bacca 2-locul. polysperma. Faux corollæ coronatus.

* 511. SWERTIA. Caps. 1-locul. 2-valvis. Cor. rotata, poris 5 nectariferis.

* 512. GENTIANA. Caps. 1-locul. 2-valvis. Cor. tubulosa indeterminata.

502. CRESSA. Caps. 1-sperma, 3-valvis. Cor. hypocrater. Limbo reflexo.

506. NAMA. Caps. 1-locul. 4-gona, 2-valvis. Cor. longitudine calycis tubulosa.

507. HYDROLEA. Caps. 2-locul. 2-valvis. Cor. rotata.

508. ROCHEFORTIA. Fruct. 2-locul. polysperm. Cor. infundibuliform.

513. DICHONDRA. Capsulæ 2. Cor. campanulata.

† *Cuscutæ nonnullæ.*

Sect. II. *Flores pentapetali, inferi.*

510. VELZIA. Caps. 1-locul. 1-valvis. Cor. 5-petala. Cal. tubulosus.

495. LINCONIA. Caps. 2-locul. Petalis lacuna. Cal. 4-phyllus.

515. BUMALDA. Caps. 2-locul. 2-rostris. Cor. 5-petal. germini inserta. Styli villosi.

509. HEUCHERA. Caps. 2-locul. 2-rostrata. Cor. 5-petala, calyci inserta.

501. ANABASIS. Bacca 1-sperma. Cor. 5-petala, minima.

† *Staphylea pinnata.*

Sect. III. *Flores incompleti.*

* 500 SALSOLA. Sem. 1, cochleatum, tectum. Cal. 5-phyllus.

Sect. XI. *Flowers incomplete, superior.*

* T. Seed 1, crowned. Cal. bearing the stamens.

H. Caps. 3-celled, cells 1-seeded. Cor. 3-petaled. Nectary 2-leaved.

S. Caps. 3-celled, cells many-seeded. Cor. 3-petaled. Nectary 3-leaved.

ORDER II. DIGYNIA.

Sect. I. *Flowers monopetalous, inferior.*

S. Air-bags 2. Cor. wheel-shaped; with star-like nectaries.

C. Air-bags 2. Cor. wheel-shaped. A cylindrical nectary.

P. Air-bags 2. Cor. wheel-shaped, with 5-thread-shaped nectaries.

H. Air-bags 5, angular. Cor. wheel-shaped.

A. Air-bags 2. Cor. bell-shaped, with 5 glandular nectaries. Bristles 5.

P. Air-bags 2. Cor. salver-shaped. Nectaries 5, half-arrow-shaped.

A. Air-bags 2. Cor. bent back, with 5 nectaries ear-shaped, with claws.

C. Air-bags 2. Cor. the border converging.

M. Berry 2-celled, many-seeded. The mouth of the cor. crowned.

* S. Caps. 1-celled, 2-valved. Cor. wheel-shaped, with 5-honey-bearing little holes.

* G. Caps. 1-celled, 2-valved. Cor. tubular, not bordered.

C. Caps. 1-seeded, with 2 valves. Cor. salver-shaped; the border bent back.

N. Caps. 1-celled, 4-gon. 2-valved. Cor. tubular, of the length of the calyx.

H. Caps. 2-celled, 2-valved. Cor. wheel-shaped.

R. Fruit 2-celled, many-seeded. Cor. funnel-shaped.

D. Capsules 2. Cor. bell-shaped.

Sect. II. *Flowers 5-leaved, inferior.*

V. Caps. 1-celled, 1-valved. Cor. 5-petaled. Cal. tubular.

L. Caps. 2-celled, with a pit in the petals. Cal. 4-leaved.

B. Caps. 2-celled, with 2 beaks. Cor. with 5 petals inserted in the germen. Styles woolly.

H. Caps. 2-celled, 2-beaked. Cor. 5 petals inserted in the calyx.

A. Berry 1-seeded. Very small 5-petaled cor.

Sect. III. *Flowers incomplete.*

* S. Seed 1, shell-like, covered. Cal. 5-leaved.

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* 497. CHENOPODIUM. Sem. 1, orbiculare. Cal. 5-phyllus, foliolis concavis.
* 498. BETA. Sem. 1, reniforme. Cal. 5-phyllus, basi semen fovens.
* 496. HERNIARIA. Sem. 1, ovatum, tectum. Cal. 5-partitus. Filam. 5, sterilia.
503. GOMPHRENA. Casp. 1-sperma, circumscissa. Cal. diphyllus, compressus, coloratus.
504. BOSEA. Bacca 1-sperma. Cal. 5-phyllus.
* 505. ULMUS. Samara compressa. Cal. 1-phyllus, emarcescens.
499. MICROTEA. Drupa sicca echinata. Cal. 5-phyll. patens.

* *Polygonum virginianum. Ziziphi nonnullæ species. Trianthema pentandra.*

* C. 1. round and flat seed. Cal. 5-leaved, with concave leaflets.
* B. 1 seed, kidney-shaped. Cal. 5-leaved, seed adhering to the base.
* H. 1 oval covered seed. Cal. 5-partite. 5 barren filaments.
G. Caps. 1-seeded, cut round. Cal. 2-leaved, compressed, coloured.
B. A berry 1-seeded. Cal. 5-leaved.
* U. Seed-vessel compressed. Cal. 1 leaf, fading.

M. A drupe, dry, prickly. Cal. 5-leaved, expanding.

Sect. IV. *Flores pentapetali, superi, capsulares.*

514. VAHLIA. Caps. truncata, 1-locul. 2-valv. Petal. ovata. Cal. 5-phyll.

Sect. IV. *Flowers 5-petaled, superior, capsular.*

V. Caps. lopped, 1-celled, 2-valved. Petals oval. Cal. 5-leaved.

Sect. V. *Flores pentapetali, superi, dispermi, umbellatæ.*

A. *Involucro universali partialique.*

516. PHYLLIS. Flor. dispersi.
* 518. ERYNGIUM. Fl. capitati. Recept. paleaceum.
* 519. HYDROCOTYLE. Fl. subumbellati, fertiles. Sem. compressa.
520. AZORELLA. Fl. subumbellati, fertiles. Sem. subgloboza, tridentata, sulcata.
517. CUSSONIA. Fl. subumbellati. Margo receptaculi in calicem 5-dentatum dilatus.
* 521. SANICULA. Flor. subumbellati, abortivi. Sem. muricata.
522. ASTRANTIA. Flor. umbellati, abortivi. Involl. coloratum. Sem. rugosa.
* 541. HERACLEUM. Fl. radiati, abortivi. Involl. deciduum. Sem. membranacea.
* 548. OENANTHE. Fl. radiati, abortivi radio. Involl. simplex. Sem. coronata, sessilia.
* 525. ECHINOPHORA. Fl. radiati, abortivi. Involl. simplex. Sem. sessilia.
* 528. CAUCALIS. Fl. radiati, abortivi. Involl. simplex. Sem. muricata.
529. ARTEDIA. Fl. radiati, abortivi. Involl. pinnatum. Sem. margine crenis foliaceis.
* 530. DAUCUS. Fl. radiati, abortivi. Involl. pinnatum. Sem. hispida.
* 527. TORDYLIUM. Fl. radiati, fertiles. Involl. simplex. Sem. margine crenata.
540. LASERPITIUM. Fl. flosculosi, abortivi. Pet. cordata. Sem. 4-alata.
* 536. PEUCEDANUM. Fl. flosculosi, abortivi. Involl. simplex. Sem. depressa, striata.
531. AMMI. Fl. flosculosi, fertiles. Involl. pinnatum. Sem. gibba, lævia.
526. HASSELQUISTIA. Fl. floscul. fertiles. Petala cordata. Sem. radii plana; disci urceolata.

Sect. V. *Flowers with 5 petals, superior, 2-seeded, umbellated.*

A. *With an universal and partial involucrum.*

P. Flowers dispersed.
* E. Flowers with little heads. Receptacle chaffy.

* H. Flowers nearly umbellated, fertile. Seeds compressed.
A. Flowers nearly umbellated, fertile. Seeds nearly globular, 3-toothed, furrowed.
C. Flowers nearly umbellated. The extremity of the receptacle dilated into a 5-toothed calyx.
* S. Flowers nearly umbellated, barren. Seeds covered with sharp points.
A. Flowers umbellated, barren. Involucrum coloured. Seeds wrinkled.
* H. Flowers radiated, barren. Involucrum deciduous. Seeds membranaceous.
* O. Flowers radiated, outer florets barren. Involucrum undivided. Seeds crowned, sitting.
* E. Flowers radiated, barren. Involucrum undivided. Seeds sitting.
* C. Flowers radiated, barren. Involucrum undivided. Seeds covered with sharp points.
A. Flowers radiated, barren. Involucrums winged. Seeds in the border with scolloped leaves.
* D. Flowers radiated, barren. Involucrum winged. Seeds rough, with bristly hairs.
* T. Flowers radiated, fertile. Involucrum undivided. Seeds scolloped at the border.
L. Flowers with tubular florets, barren. Petals heart-shaped. Seeds 4-winged.
* P. Fl. tubular florets, barren. Involucrum undivided. Seeds depressed, scored.
A. Fl. tubular florets, fertile. Involucrum winged. Seeds bulging, level.
H. Fl. tubular florets, fertile. Petals heart-shaped. Seeds of the ray flat; of the disk pitcher-shaped.

* 533.

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* 533. CONIUM. Fl. floscul. fertiles. Pet. cordata. Sem. gibba, costato-sulcata; involucella dimidiata.

524. EXOACANTHA. Fl. floscul. fertiles. Petal. cordata. Sem. ovata, striata. Involucrum et involucella spinosa.

* 532. BUNIUM. Flor. flosc. fert. Pet. cordata. Involucella setacea.

* 535. ATHAMANTA. Fl. flosc. fert. Pet. cordata. Sem. convexa, striata.

* 523. BUPLEURUM. Fl. flosc. fert. Pet. involuta (plerisque folia indivisa, s. involucella petaliformia).

* 544. SIUM. Fl. flosc. fert. Pet. cordata. Sem. subovata, striata.

* 534. SELINUM. Fl. flosc. fert. Pet. cordata. Sem. depressa, striata.

547. CUMINUM. Fl. flosc. fert. Pet. cordata. Umb. 4-fid. Invol. setacea, longissima.

539. FERULA. Fl. flosc. fert. Pet. cordata. Sem. plana.

* 537. CRITHMUM. Fl. flosc. fert. Pet. planiuscula. Invol. horizontale.

546. BUBON. Fl. flosc. fert. Pet. planiusc. Invol. 5-phyllum.

538. COCHRYS. Fl. flosc. fert. Pet. planiusc. Sem. cortice suberoso.

* 542. LIGUSTICUM. Fl. flosc. fert. Pet. involuta. Invol. membranacea.

* 543. ANGELICA. Fl. flosc. fert. Pet. planiusc. Umbellulæ globosæ.

* 545. SISON. Fl. flosc. fert. Pet. planiusc. Umbell. depauperata.

B. *Involucris partialibus; universali nullo.*

* 551. ÆTHUSA. Flor. subradiati, fertiles. Involucella dimidiata.

* 552. CORIANDRUM. Fl. radiati, abortivi. F. subglobosi.

* 553. SCANDIX. Flor. radiat. abort. Fr. oblongi.

* 554. CHÆROPHYLLUM. Fl. floscul. abort. Fr. subglobosi.

* 549. PHELLANDRIUM. Fl. floscul. fert. Fr. coronati.

* 555. IMPERATORIA. Fl. flosc. fert. Umbell. expanso-plana.

556. SESELI. Fl. flosc. fert. Umbell. rigidula.

* 550. CICUTA. Fl. flosc. fert. Pet. planiuscula.

† *Bupleurum rotundifolium. Apium petroselinum et anisum.*

C. *Involucro nullo; nec universali, nec partialibus.*

* 559. SMYRNIUM. Flor. floscul. abortivi. Sem. reniformia angulata.

* 561. CARUM. Fl. floscul. abortivi. Sem. gibba. striata.

557. THAPSIA. Fl. floscul. fert. Sem. membranacea, alata, emarginata.

* 558. PASTINACA. Fl. flosc. fert. Sem. depresso plana.

* 560. ANETHUM. Fl. flosc. fert. Sem. marginata, striata.

* C. Flowers with tubular florets, fertile. Petals heart-shaped. Seeds bulging, rib-furrowed; the small involucrums extending half round.

E. Fl. tubular florets, fertile. Petals heart-shaped. Seeds oval, scored. The total and partial involucrums thorny.

* B. Fl. tubular florets fertile. Petals heart-shaped. Seeds convex, striped.

* A. Fl. florets fertile. Petals heart-shaped. Seeds convex, scored.

* B. Fl. florets fertile. Petals rolled inwards (usually the leaves undivided, or the involucella or small involucrums petal-shaped).

* S. Fl. florets fertile. Petals nearly heart-shaped. Seeds nearly egg-shaped, scored.

* S. Fl. florets fertile. Petals heart-shaped. Seeds depressed, scored.

C. Fl. florets fertile. Petals heart-shaped. An umbel 4-cleft. Involucrums very long, bristly.

F. Fl. florets fertile. Petals heart-shaped. Seeds flat.

* C. Fl. florets fertile. Petals little planes. Involucrum horizontal.

B. Fl. florets fertile. Petals flattened. Involucrum 5-leaved.

C. Fl. florets fertile. Petals flattened. Seeds with a gnawed bark.

* L. Fl. florets fertile. Petals rolled inwards in a membranaceous involucrum.

* A. Fl. florets fertile. Petals flattened. Small globular umbels.

* S. Fl. florets fertile. Petals flattened. Slender umbel.

B. *With partial involucrums; none universal.*

* Æ. Flowers nearly radiated, fertile. Small involucrums going half round.

* C. Flowers radiated, barren. Fruits nearly globular.

* S. Flowers radiated, barren. Fruits oblong.

* C. Flowers are florets, barren. Fruits nearly globular.

* P. Flowers are florets, fertile. Fruits crowned.

* I. Flowers are florets, fertile. An umbel expanding, flat.

S. Flowers are florets, fertile. Inflexible umbel.

* C. Flowers are florets, fertile. Petals flattened.

C. *With no involucrum, neither universal nor partial.*

* S. Flowers barren florets. Seeds kidney-shaped, angular.

* C. Flowers barren florets. Seeds bulging, scored.

T. Flowers fertile florets. Seeds membranaceous, notched at the end.

* P. Flowers fertile florets. Seeds sunk flat.

* A. Flowers fertile florets. Seeds bordered, scored.

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* 564. ÆGOPODIUM. Fl. flosc. fert. Sem. gibba, striata. Pet. cordata.
* 563. APIUM. Fl. flosc. fert. Sem. minuta, striata. Pet. inflexa.
* 562. PIMPINELLA. Fl. flosc. fert. Umbell. ante florescentiam nutantes. Pet. cordata.

ORDO III. TRIGYNIA.

Sect. I. *Flores superi.*

* 567. VIBURNUM. Cor. 5-fida. Bacca 1-sperma.
* 569. SAMBUCUS. Cor. 5-fida. Bacca 3-sperma.

Sect. II. *Flores inferi.*

565. SEMICARPUS. Cor. 5-petala. Nux 1-sperma in receptaculo compresso carnoso magno.
566. RHUS. Cor. 5-petala. Bacca 1-sperma.
568. CASSINE. Cor. 5-petala. Bacca 3-sperma.
574. REICHELIA. Cor. 1-petala, campanulata. Caps. 3-locul. circumscissa.
570. SPATHELIA. Cor. 5-petala. Caps. 3-locularis, 3-gona, 1-sperma. Filamenta basi dentata.
* 571. STAPHYLEA. Cor. 5-petala. Caps. 2 s. 3-fida, inflata.
* 572. TAMARIX. Cor. 5-petala. Caps. 1-locularis. Sem. coma pappiformi coronata.
581. DRYPIS. Cor. 5-petala, coronata. Caps. 1-sperma, circumscissa.
576. TURNERA. Cor. 5-petala. Caps. 1-locularis. Cal. 1-phyllus, corollifer.
575. SALMASIA. Cor. 5-petala. Styl. 0. Caps. 3-locul. 3-valv.
583. SAROTHRA. Cor. 5-petala. Caps. 1-locul. colorata. Cal. 1-phyllus.
* 580. ALSINE. Cor. 5-pet. Caps. 1-locul. Cal. 5-phyllus. Pet. 2-fida.
577. TELEPHIUM. Cor. 5-pet. Caps. 1-locul. triquetra. Cal. 5-phyllus.
* 578. CORRIGIOLA. Cor. 5-pet. Sem. 1, triquetrum. Cal. 5-partitus.
584. PORTULACARIA. Cor. 5-petala. Sem. 1 alato-triquetrum. Cal. 2-phyllus.
579. PHARNACEUM. Cor. nulla. Cal. 5-phyllus. Caps. 3-locularis.
573. XYLOPHYLLA. Cal. 5-partitus. Caps. 3-coc. seminibus binis.
582. BASELLA. Cor. nulla. Cal. 6-fidus. Sem. 1 globosum, calyce baccato.

† *Ziziphus paliurus. Celastrus.*

ORDO IV. TETRAGYNIA.

* 585. PARNASSIA. Cor. 5-petala. Caps. 4-valvis. Nect. 5, ciliata-glandulosa.
586. EVOLVULUS. Cor. 1-petala. Caps. 4-locul.

ORDO V. PENTAGYNIA.

Sect. I. *Flores superi.*

587. ARALIA. Cor. 5-petala. Bacca 5-locul.; locul. 1-sperma,

* Æ. Flowers fertile florets. Seeds bulging, scored. Petals heart-shaped.
* A. Flowers fertile florets. Seeds minute, scored. Petal bent inwards.
* P. Flowers fertile florets. Umbels drooping before the flowering. Petals heart-shaped.

ORDER III. TRIGYNIA.

Sect. I. *Flowers superior.*

* V. Cor. 5-cleft. Berry 1-seeded.
* S. Cor. 5-cleft. Berry 3-seeded.

Sect. II. *Flowers inferior.*

S. Cor. 5-petaled. Nect. 1 seed in a large fleshy compressed receptacle.
R. Cor. 5 petals. Berry 1-seeded.
C. Cor. 5 petals. Berry 3-seeded.
R. Cor. 1 petal, bell-shaped. Caps. 3-celled, cut round.
S. Cor. 5 petals. Caps. 3-celled, 3-gon. One seed. Filaments toothed at the base.
* S. Cor. 5 petals. Caps. 2 or 3-cleft, inflated.

* T. Cor. 5 petals. Caps. 1-celled. Seeds crowned with a double-like comb.
D. Cor. 5 petals, crowned. Caps. 1-seeded, cut round.
T. Cor. 5 petals. Caps. 1-celled. Cal. 1-leaved, bearing the corolla.
S. Cor. 5 petals. No style. Caps. 3-celled, 3-valved.
S. Cor. 5-petaled. Caps. 1-celled, coloured. Cal. 1-leafed.
* A. Cor. 5 petals. Caps. 1-celled. Cal. 5-leaved. Pet. 2-cleft.
T. Cor. 5 petals. Caps. 1-celled, 3-cornered. Cal. 3-leaved.
* C. Cor. 5 petals. Seed 1, 3-cornered. Cal. 5-partite.
P. Cor. 5 petals. Seed 1, winged at 3 sides. Cal 2-leaved.
P. No cor. Cal. 5-leaved. Caps. 3-celled.

X. Cal. 5-partite. Caps. 3-celled, with two seeds in each.
B. No cor. Cal. 6-cleft. Seed 1, globular, with a berried calyx.

ORDER IV. TETRAGYNIA.

* P. Cor. 5 petals. Caps. 4-valved. Nectaries 5, fringed, glandular.
E. Cor. 1 petal. Caps. 4-celled.

ORDER V. PENTAGYNIA.

Sect. I. *Flowers superior.*

A. Cor. 5 petals. Berry 5-celled, each cell 1-seeded.

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588. GLOSSOPETALUM. Cor. 5-petala. Bacca 1-locul. 5-sperma.

G. Cor. 5 petals. Berry 1 cell, 5 seeds.

Sect. II. *Flores inferi.*

Sect. II. *Flowers inferior.*

594. CRASSULA. Cor. 5-partita. Caps. 5, polysperma.

593. GISECHIA. Cor. 0. Cal. 5-phyllus. Caps. 5, rotundæ, 5-sperma.

* 590. LINUM. Cor. 5-petala. Caps. 10-locularis, 2-sperma.

591. ALDROUANDA. Cor. 5-petala. Caps. 1-locularis, 10-sperma.

* 592. DROSERA. Cor. 5-petala. Caps. 1-locularis, apice debiscens.

595. MAHERNIA. Cor. 5-petala. Caps. 5-locularis, glabra.

596. COMMERSONIA. Cor. 5-petala. Caps. 5-locul. echinata.

* 597. SIBBALDIA. Cor. 5-petala. Sem. 5. Cal. 10-fidus.

* 589. STATICE. Cor. 5-partita. Sem. 1, calyce infundib. vestitum.

C. Cor. 5-partite. Caps. 5, many-seeded.

G. No cor. Cal. 5-leafed. Caps. 5, round, 5-seeded.

* L. Cor. 5-petaled. Caps. 10-celled, 2-seeded.

A. Cor. 5-petaled. Caps. 1-celled, 10-seeded.

* D. Cor. 5-petaled. Caps. 1-celled, opening at the top.

M. Cor. 5-petaled. Caps. 5-celled, smooth.

C. Cor. 5-petaled. Caps. 5-celled, prickly.

* S. Cor. 5-petaled. Seeds 5. Cal. 10-cleft.

* S. Cor. 5-partite. Seed 1, covered by a funnel-shaped calyx.

† *Cerastium pentandrum. Spergula pentandra. Erodium.*

ORDO VI. DECAGYNIA.

ORDER VI. DECAGYNIA.

598. SCHEFFLERA. Cor. 5-petala. Caps. 10-locul.; locul. 1-spermis.

S. Cor. 5-petaled. Caps. 10-celled, with 1 seed in each cell.

ORDO VII. POLYGYNIA.

ORDER VII. POLYGYNIA.

* 599. MYOSURUS. Cal. 5-phyllus. Nect. 5, lingulata. Sem. numerosa.

560. ZANTHORHIZA. Cal. 0. Petala 5. Nect. 5, pedicellata. Caps. 5, monospermæ.

* M. Cal. 5-leafed. Nectaries 5, tongue-shaped. Seeds numerous.

Z. No cal. Petals 5. Nectaries 5, on pedicles. Caps. 5, 1-seeded.

ORDER I. MONOGYNIA.

274. HELIOTROPIUM, or *Turnsole*,

Includes, 22 species; viz. peruvianum, amplexicaule, indicum, parviflorum, inundatum, villosum, europæum, coromandelianum, malabaricum, marifolium, supinum, undulatum, lineatum, strigosum, curassavicum, zeylanicum, persicum, scabrum, orientale, gnaphaloides, ternatum, pinnatum. S. Eur. Asia, W. Indies, Peru.

275. MYOSOTIS.

12 species; viz. scorpioides, * arvensis, nana, fruticosa, spathulata, rupestris, virginiana, lappula, squarrosa, echinophora, spinocarpos, pectinata. Europe, N. America.

276. LITHOSPERMUM, or *Gromwell.*

16 species; viz. * officinale, arvense, incanum, papillosum, virginianum, tinctorium, apulum, scabrum, orientale, * purpureo-cœruleum, fruticosum, callosum, ciliatum, tenuiflorum, dispermum, retortum. Europe, Egypt, Virginia.

arvense. * L. seeds wrinkled; corolla or blossoms hardly longer than the calyxes or cups.—The girls in the north of Europe, it is said, paint their faces with the juice of the root of this plant upon days of festivity. The bark of the root tinges wax and oil of a beautiful red, similar to that which is obtained from the root of the foreign alkanet that is kept in the shops. Sheep and goats eat it. Cows are not fond of it. Horses and swine refuse it.

officinale. * L. seeds smooth; corol. scarcely longer than the calyx; leaves lanceolate or spear-shaped.—This species is found wild in dry fields and hedges. Its seeds are roundish, hard, of a whitish colour, like little pearls; and from these circumstances, they were at one time supposed peculiarly serviceable in calculous disorders. Their taste is merely farinaceous.

277. ANCHUSA, or *Bugloss.*

13 species; viz. paniculata, capensis, officinalis, italica, angustifolia, undulata, tinctoria, hispida, virginica, lanata, * sempervirens, parviflora, cespitosa. Europe, Madeira, N. America.

278. CYNOGLOSSUM, or *Hounds-tongue.*

24 species; viz. * officinale, pictum, lanceolatum, virginicum, limense, cheirifolium, apenninum, hispidum, hirsutum, echinatum, muricatum, angustifolium, lævigatum,

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gatum, glastifolium, cristatum, lusitanicum, linifolium, lanatum, japonicum, lateriflorum, scorpioides, omphalodes, cappadocicum, myosotoides. S. Europe, Japan, Virginia.

officinale. * C. stamens shorter than the blossom; leaves broad, spear-shaped, sitting, cottony.—Both the root and leaves of this plant have been suspected to possess narcotic properties, but some will not admit of the fact. It is discarded from the present practice; though some individuals are said to use a decoction of the roots inwardly, and cataplasms of them outwardly, in strumous and scrophulous cases. Its scent is very disagreeable, and very much resembles that of mice. Goats eat it. Cows, horses, sheep, and swine, refuse it. It furnishes food to the *phalæna domina.*

279. PULMONARIA, or *Lungwort.*

Seven species; viz. * angustifolia, * officinalis, suffruticosa, paniculata, virginica, sibirica, * maritima. Europe, N. America.

officinalis. * P. root-leaves egg-heart-shaped, rough; upper leaves egg-shaped, acute.—This plant, when burnt, is said to afford a larger quantity of ashes than almost any other vegetable; often 1-7th of its weight. Sheep and goats eat it. Cows are not fond of it. Horses and swine refuse it. The *chrysomela nemorum* feeds upon it.

280. SYMPHYTUM, or *Comfrey.*

Three species; viz. officinale, * tuberosum, orientale. Ger. Fr. Spain, India.

officinale. * S. leaves egg-shaped, decurrent.—The particles of the pollen are said to appear in the microscope like two globules united together. The leaves give a grateful flavour to cakes and panada, and the young stems and leaves are excellent when boiled. The roots are glutinous and mucilaginous, and a decoction of them is used by dyers to extract the colouring matter of gum lac. Cows and sheep eat it. Horses, goats, and swine refuse it.

281. CERINTHE, or *Honey-wort.*

Three species; viz. major, aspera, minor. Austria, S. Europe.

282. ONOSMA.

Eight species; viz. simplicissima, orientalis, echioides, sericea, cœrulea, tenuiflora, caspica, micrantha. Europe, India.

283. BORAGO, or *Borage.*

Seven species; viz. officinalis, indica, africana, longifolia, zeylanica, orientalis, cretica. E. Indies, Africa.

officinalis. * B. all the leaves alternate; cal. expanding.—It appears by experiment that the juice of this plant affords a true nitre. It is seldom used inwardly, but as an ingredient in cool tankards for summer drinking, though the young and tender leaves are good in sallads, or as a pot herb. It is said to afford nourishment to the *phalæna gamma.* Horses are said to have eaten it.

284. ASPERUGO, or *Small Wild Bugloss.*

Two species; viz. * procumbens and ægyptiaca. Europe, Egypt.

285. LYCOPSIS.

Nine species; viz. vesicaria, pulla, ciliata, obtusifolia, variegata, * arvensis, echioides, orientalis, virginica. Germ. S. Eur. Virginia.

286. ECHIUM, or *Viper's Bugloss.*

26 species; viz. fruticosum, candicans, giganteum, stricteum, argenteum, sericeum, setosum, trichotomum, hispidum, paniculatum, trigonum, capitatum, lævigatum, glabrum, incanum, spicatum, caudatum, plantagineum, * italicum, rubrum, * vulgare, * violaceum, maritimum, creticum, orientale, lusitanicum. S. Europe, Cape, Canaries.

* E. stem rough with bristles and tubercles; stem-leaves spear-shaped, rough with hair; flowers in lateral spikes.—Cows and sheep are said not to be fond of this plant. Horses and goats refuse it. Bees are fond of the flowers, but get their wings torn by its strong hairs. *vulgare.*

287. MESSERSCHMIDIA.

Three species; viz. fruticosa, arguzia, cancellata. Siber. Canaries.

288. TOURNEFORTIA, or *Basket Withe.*

Eleven species; viz. serrata, hirsutissima, volubilis, syringæfolia, foetidissima, humilis, bicolor, cymosa, argentea, sericea, suffruticosa. Ceylon, West Indies, S. America.

289. NOLANA.

One species; viz. prostrata. Peru.

290. DIAPENSIA.

One species; lapponica. Lapland.

291. ARETIA.

Three species; viz. helvetica, alpina, vitaliana. Alps, Pyrenees.

292. ANDROSACE.

Ten species; viz. maxima, elongata, filiformis, septentrionalis, odoratissima, villosa, chamæjasme, obtusifolia, lactea, carnea. N. Eur. Archipelago.

293. PRIMULA, or *Primrose.*

17 species; viz. verticillata, * veris, * elatior, * farinosa, cortusoides, villosa, nivalis, longiflora, glutinosa, marginata, auricula, gigantea, minima, integrifolia, carniolica, finmarchica, viscosa, sibirica. Europe.

* P. leaves toothed, wrinkled, scape many-flowered, lumbus of the cor. concave.—This is a low plant, growing wild in woods and hedges, and producing pale yellow flowers in the spring. The leaves have an herbaceous taste. The roots are slightly bitter, with a kind of aromatic flavour, which some compare to that of aniseseeds; their expressed juice purified by settling is sometimes used as a sternutatory. The flowers have an agreeable flavour, but very weak; an infusion of them in wine, and a spirit distilled from them, are used in some places as cordial and nervine. *veris.*

294. CARTUSA, or *Bears-ear Sanicle.*

Two species; viz. mathioli, gmelini. Alps of Siberia and Austria.

295. TRICRATUS.

One species; viz. admirabilis.

296. SOLDANELLA, or *Soldanel.*

One species; viz. alpina. Alps of Austria and Switzerland.

297. DODECATHEON, or *Virginian Cowslip.*

One species; viz. meadia. North America.

298. CYCLAMEN, or *Sow-bread.*

Five species; viz. coum, * europæum, persicum, hederæfolium, indicum. Austria, S. Europe, Ceylon.

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299. MENYANTHES, or *Bog-bean.*

Four species; viz. * nymphoides, ovata, indica, * trifoliata. Europe, Cape, Ceylon, Malta.

trifoliata. * M. leaves growing by threes; cor. segments entire at the edge, shaggy on the upper surface.—An infusion of the leaves of this plant is said to be extremely bitter, and is prescribed in rheumatisms and dropsies. A dram of them in powder, purges and vomits. It is sometimes given to destroy worms. In a scarcity of hops, this plant is used in the north of Europe to bitter the ale. Two ounces supply the place of a pound of hops. Some people smoke the dried leaves. The powdered roots are sometimes used in Lapland instead of bread, but they are unpalatable. Some people say that sheep will eat it, and that it cures them of the rot. But from the usual experiments, it appears that though goats eat it, sheep sometimes will and sometimes will not. Cows, horses, and swine, refuse it.

300. DORÆNA.

One species; viz. japonica.

301. HOTTONIA, or *Water-violet.*

Four species; viz. * palustris, sessiliflora, indica, serrata. North of Europe and India.

302. BACOPA.

One species; viz. aquatica. Guiana, Cayenne.

303. HYDROPHYLLUM, *Water-leaf.*

Two species; viz. virginicum, canadense. North America.

304. ELLISIA.

One species; viz. nyctelea. Virginia.

305. LYSIMACHIA, or *Loose-strife.*

15 species; viz. * vulgaris, decurrens, ephemerum, atro-purpurea, dubia, stricta, * thyrsiflora, quadrifolia, punctata, linum, stellatum, mauritiana, * nemorum, japonica, * nummularia. Europe, Japan, N. America.

nummularia. * L. leaves somewhat cordate, flowers solitary, stem creeping.—This species, called *Moneywort*, or *Herb Twopence*, grows spontaneously in moist watery places, and creeps on the ground with two little roundish leaves at each joint. Their taste is subastringent and very slightly acid; hence they stand recommended by Boerhaave in the hot scurvy, and in uterine and other hemorrhagies. But their effects are so inconsiderable, that common practice takes no notice of them.

306. ANAGALLIS, or *Pimpernel.*

Six species; viz. * arvensis, pumila, monelli, latifolia, linifolia, * tenella. Europe, Jamaica.

307. THEOPHRASTA.

Two species; viz. americana, longifolia. Amer.

308. SPIGELIA, or *Worm-grass.*

Two species; viz. anthelmia, marilandica. North America, W. Indies.—This last species grows wild in the southern parts of North America. The roots are celebrated as an anthelmintic, particularly for the expulsion of lumbrici from the alimentary canal. Some order it in doses of ten or fifteen grains, and allege it is apt to occasion nervous affections if given in larger doses; while others order it in dram doses, alleging that the bad effects mentioned more readily happen from small, as the large ones often purge or puke: some prefer the form of infusion. An emetic is generally premised; and its purgative effect assisted by some suitable additions.

309. OPHIORRHIZA, or *Serpents-tongue.*

Three species; viz. mungos, mitreola, subumbellata. E. Indies, S. America.

310. LISIANTHUS.

15 species; viz. longifolius, glaucifolius cœrulescens, alatus, chelonoides, purpurascens, grandiflorus, exsertus, glaber, frigidus, latifolius, umbellatus, cordifolius, carinatus, trinervius. West Indies, Surinam.

311. FAGRÆA.

One species; viz. zeylanica. Ceylon.

312. AZALEA, or *Amer. Upright Honeysuckle.*

Six species; viz. pontica, indica, nudiflora, viscosa, lapponica, * procumbens. N. Europe, N. America.

313. SHEFFIELDIA.

One species; viz. repens.

314. SPRENGELIA.

One species; viz. incarnata.

315. EPACRIS.

Four species; viz. grandiflora, longifolia, rosmarinifolia, pumila. Caribbee Isles.

316. STYPHELIA.

Eight species; viz. tubiflora, ericoides, strigosa, scoparia, daphnoides, lanceolata, elliptica, juniperina.

317. WEIGELIA.

Two species; viz. japonica, corsæensis. Japan.

318. PLUMBAGO, or *Lead-wort.*

Seven species; viz. europæa, lapathifolia, capensis, zeylanica, rosea, scandens, auriculata. S. Europe, E. Indies, S. America.

319. TRIGUERA.

Two species; viz. ambrosiaca, inodora. Isle of Bourbon.

320. PHLOX, or *Base Lychnis, Lichnidea.*

12 species; viz. paniculata, undulata, suaveolens, maculata, pilosa, carolina, glaberrima, divarica, ovata, subulata, sibirica, setacea. Siberia, N. America.

321. RETZIA.

One species; viz. spicata. Cape of Good Hope.

322. PORANA.

One species; viz. volubilis. East Indies.

323. CONVOLVULUS, or *Bind-weed.*

120 species; viz. * arvensis, * sepium, wheleri, scammonia, involucratus, sibiricus, rupestris, farinosus, lanuginosus, incanus, emarginatus, medium, filicaulis, tridentatus, angustifolius, japonicus, hastatus, panduratus, bracteatus, bicolor, trilobus, platanifolius, acuminatus, carolinus, hederaceus, nil, purpureus, obscurus, flavus, angularis, batatas, maximus, biflorus, gemellus, striatus, pentanthus, gujanensis, capitatus, hispidus, parviflorus, triflorus, verticillatus, violaceus, umbellatus, tuguriorum, cordifolius, bifidus, malabaricus, coelestis, canariensis, ferrugineus, muricatus, triqueter, anceps, turpethum, grandiflorus, speciosus, trinervius, peltatus, jalapa, macrospermus, tenellus, sericeus, tomentosus, quinqueflorus, hermanniæ, arenarius, althæoides, cairicus, quinquelobus, copticus, vitifolius, dissectus, mucronatus, macrocarpus,

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paniculatus, macrorhizos, quinquefolius, venosus, glaber, pentaphyllus, tenuifolius, siculus, pentapetaloides, lineatus, saxatilis, cneorum, linearis, cantabrica, amanni, pilosellæfolius, dorycnium, proliferus, lanatus, hystrix, spinosus, scoparius, œnotheroides, floridus, cuneatus, corymbosus, spithamæus, persicus, tricolor, acetosæfolius, repens, reptans, edulis, hirtus, * soldanella, imperati, pes capræ, brasiliensis, multifidus, sublobatus, capensis, sagittatus, littoralis, martinicensis. Europe, Asia, Africa, America.

sepium. * C. leaves arrow-shaped, lopped at the base; fruitstalk four-cornered, bearing 1 flower.—The inspissated juice of this plant, in doses of 20 or 30 grains, is said to be a powerful drastic purge. Scammony is the inspissated juice of a species of convolvulus, so much resembling this, that they are with difficulty distinguished. Though an acrid purgative to the human race, it is eaten by hogs in large quantities without any detriment. Sheep, goats, and horses eat it. Cows refuse it.

soldanella. * C. leaves kidney-shaped; fruitstalks with 1 flower.—It is said, that half an ounce of the juice, or a drachm of the powder of this plant, is an acrid purge. The leaves applied externally, are said to diminish dropsical swellings of the feet. The different species furnish nourishment to the *sphinx convolvuli*, and *phalæna elpenor*.

jalap. The root of the species termed *jalapa*, is brought to us in thin slices from Xalpa, a province of New Spain. Such pieces should be chosen as are most compact, hard, weighty, dark-coloured, and abound most with black circular striæ. Slices of bryony root are said to be sometimes mixed with jalap. These may be easily distinguished by their whiter colour and less compact texture. This root has no smell, and very little taste upon the tongue; but when swallowed it affects the throat with a sense of heat, and occasions a plentiful discharge of saliva. Taken in substance in a dose of about half a drachm, (less or more, according to the circumstances of the patient) in plethoric or cold phlegmatic habits, it proves an effectual, and, in general, a safe purgative; performing its office mildly, seldom occasioning nausea or gripes, which too frequently accompany other strong cathartics. In hypochondriacal cases, and hot bilious temperaments, it gripes violently if the jalap be good; but rarely takes due effect as a purge. An extract made with water purges almost universally, but weakly; and, at the same time, has a considerable effect by urine: the root remaining after this process gripes violently. The pure resin, prepared by spirit of wine, occasions most violent gripings and other distressing circumstances, but proves scarce at all cathartic. Triturated with sugar or with almonds, into the form of an emulsion, or dissolved in spirits and mixed with syrups, it purges plentifully in a small dose, without occasioning much disorder. The part of the jalap remaining after the separation of the resin, yields to water an extract, which has no effect as a cathartic, but operates powerfully by urine.

Frederic Hoffman particularly cautions against giving this medicine to children, and assures us that it will destroy appetite, weaken the body, and perhaps occasion death. In this point this celebrated practitioner was probably deceived. Children, whose vessels are lax, and their food soft and lubricating, bear these kinds of medicines, as Geoffrey observes, better than adults; and, accordingly, inoculators make much use of the tincture mixed with simple syrup. A compound powder of it is employed in dropsy as a hydragogue purge; and where stimulus is not contra-indicated, jalap is considered as a safe cathartic.

scammony The species of the genus convolvulus, called *scammonia*, is a climbing plant, which grows in Asiatic Turkey, and affords a gum resin. The best sorts of the gum resin come from Aleppo, in light spongy masses, easily friable, of a shining ash-colour verging to black; when powdered, of a light gray or whitish colour. An inferior sort is brought from Smyrna in more compact ponderous pieces, of a darker colour, and full of sand and other impurities. This juice is chiefly of the resinous kind. Rectified spirit of wine dissolves five ounces out of six; the remainder is a mucilaginous substance mixed with dross: proof spirit totally dissolves it, the impurities only being left. It has a faint and unpleasant smell, and a bitterish somewhat acrimonious taste. Scammony is an efficacious and a strong purgative. Its dose is from three to 12 grains.

324. Cantua.

Four species; viz. pyrifolia, buxifolia, hoitzia, coronopifolia. Peru.

325. Ipomoea, or *Quamoclit*.

28 species; viz. quamoclit, dissecta, umbellata, carolina, coccinea, lacunosa, leucantha, solanifolia, tuberosa, digitata, bona nox, campanulata, violacea, verticillata, carnea, repanda, filiformis, hastata, glaucifolia, simplex, hederacea, triloba, sanguinea, hederifolia, parviflora, hepaticifolia, tamnifolia, pes tigridis. E. and W. Indies, America.

326. Polemonium, or *Greek Valerian*.

Five species; viz. * cœruleum, reptans, dubium, roelloides, campanuloides. N. Eur. Asia, C. of G. Hope, America.

327. Lightfootia.

Two species; viz. oxycoccoides, subulata. Cape of Good Hope.

328. Jasione, or *Sheep's Scabious*.

One species; viz. * montana. Europe, C. of G. Hope.

329. Campanula, or *Bell-flower*.

85 species; viz. cenesia, uniflora, bellardi, pulla, zoysii, gracilis, glauca, grandiflora, tetraphylla, triphylla, verticillata, * rotundifolia, linifolia, pubescens, linarioides, carpatica, lobelioides, porosa, undulata, linearis, sessiliflora, * patula, * rapunculus, unidentata, fasciculata, persicifolia, pyramidalis, americana, nitida, latifolia, ensifolia, rhomboidea, * latifolia, urticifolia, stylosa, rapunculoides, bononiensis, vesula, ptarmicæfolia, graminifolia, * trachelium, * glomerata, cervicaria, marginata, thyssoidea, petræa, adpressa, subulata, hispidula, paniculata, cinerea, peregrina, cernua, allionii, punctata, medium, barbata, spicata, strigosa, alpina, mollis, saxatilis, alliariæfolia, sibirica, tridentata, laciniata, stricta, aurea, fruticosa, speculum, * hybrida, prismatocarpus, cochlearifolia, limonifolia, pentagonia, perfoliata, capensis, procumbens, tenella,

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tenella, elatines, diffusa, *hederacea, crinoides, heterophylla, erinus. Europe, N. America, Cape, Japan.

rapunculus. * C. leaves waved; root-leaves spear-oval; panicle compact.—The roots of this plant are said to be eaten raw in salads, or boiled like asparagus. In gardens they are blanched.

330. ROELLA.

Five species; viz. ciliata, squarrosa, decurrens, muscosa, spicata. Africa.

331. PHYTEUMA, or *Rampions.*

16 species; viz. pauciflora, scheuchzeri, michelli, hemisphærica, comosa, *orbicularis, nigra, betonicæfolia, spicata, ovata, virgata, lobelioides, lanceolata, rigida, amplexicaulis, pinnata. Europe.

332. TRACHELIUM.

Three species; viz. cœruleum, diffusum, tenuifolium. Italy, Levant, Cape.

333. SAMOLUS, *Water Pimpernel.*

One species; viz. *valerandi. Europe, Asia, America.

334. SPHENOCLEA.

One species; viz. zeylanica.

335. NAUCLEA.

Six species; viz. orientalis, purpurea, parvifolia, africana, aculeata, cordifolia. E. Indies, Guiana.

336. RONDELETIA.

13 species; viz. americana, odorata, trifoliata, virgata, pilosa, thyrsoidea, racemosa, laurifolia, tomentosa, umbellulata, incana, hirsuta, hirta. East and West Indies.

337. MACROCNEMUM.

Three species; viz. jamaicense, candidissimum, coccineum. Jamaica.

338. BELLONIA.

Two species; viz. aspera and spinosa. America.

339. THOUINIA.

One species; viz. spectabilis. Jamaica, Hispaniola.

340. PORTLANDICA.

Four species; viz. tetrandra, grandiflora, coccinea, hexandra. Jamaica, S. America.

341. SOLANDRA.

One species; viz. grandiflora. Jamaica.

342. LOBELIA, or *Cardinal-flower.*

48 species; viz. linearis, simplex, pinifolia, *dortmanna, tupa, kalmii, paniculata, graminea, grandis, cornuta, depressa, columneæ, arborea, bellidifolia, triquetra, cinerea, longiflora, tomentosa, secunda, acuminata, stricta, patula, assurgens, cardinalis, ferruginea, debilis, siphilitica, surinamensis, inflata, cliffortiana, *urens, minuta, laurentia, radicans, campanuloides, evinus, erinoides, anceps, repens, thermalis, pubescens, zeylanica, lutea, angulata, hirsuta, pygmæa, coronopifolia, crenata. Cape, East and West Indies, America.

The species called *siphilitica* grows in moist places in Virginia, and bears our winters. It is perennial, has an erect stalk three or four feet high, blue flowers, a milky juice, and a rank smell. The root consists of white fibres about two inches long, resembles tobacco in the taste, which remains on the tongue, and is apt to excite vomiting. It is used by the North American Indians as a specific for the venereal disease. The form is that of decoction; the dose of which is ordered to be gradually increased till it bring on very considerable purging, then to be intermitted for a little, and again used in a more moderate degree till the cure be completed. The ulcers are also washed with the decoction, and the Indians are said to sprinkle them with the powder of the inner bark of the spruce tree. The same strictness of regimen is ordered as during a salivation or mercurial course. The benefit to be derived from this article has not, so far as we know, been confirmed either in Britain, or by the practitioners of Virginia; for there, as well as in this country, recourse is almost universally had to the use of mercury. Hence the London college have omitted it in their list of medical plants; though in some cases it would seem to deserve trial.

343. CYPHIA.

Six species; viz. volubilis, digitata, bulbosa, cardamines, incisa, phyteuma.

344. GOODENIA.

Nine species; viz. ovata, albida, lævigata, paniculata, bellidifolia, stricta, ramosissima, heterophylla, hederacea.

345. SCÆVOLA.

Three species; viz. lobelia, koengii, sericea. South America.

346. CINCHONA, or *Jesuits-bark Tree.*

Nine species; viz. officinalis, pubescens, macrocarpa, caribæa, corymbifera, lineata, floribunda, brachycarpa, angustifolia. Peru, West Indies, South sea.

The *cinchona officinalis* (Peruvian or Jesuits-bark tree) is described as being in general about 15 feet high and six inches thick. It somewhat resembles our cherry tree, grows promiscuously in forests, particularly in the hilly parts of Quito in Peru, and is spontaneously propagated from its own seeds. The bark has some odour, to most people not unpleasant, and very perceptible in the distilled water, in which floating globules, like essential oil, have been observed. Its taste is bitter and astringent, accompanied with a degree of pungency, and leaving a considerably lasting impression on the tongue. Two sorts are mentioned, viz. the coloured and the white. The coloured includes the pale, the red, the yellow, and the knotty; their barks being coloured, having the cinchona taste and smell, and the trees having very smooth leaves and purplish flowers. The white includes four varieties, their barks being of a whitish colour, with very little taste or smell, and the trees having broad hairy leaves, very fragrant red flowers, with hairs on the inside. The proper red bark, and one of the white kinds, have been found in the province of Santa Fe.

Dr Wright has described very accurately a species of cinchona, under the appellation of *cinchona jamaicensis*, from its being found chiefly in Jamaica. It is there called the *sea-side beech*, and grows from 20 to

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40 feet high. The white-furrowed thick outer bark is not used; the dark-brown inner bark has the common flavour, with a mixed kind of taste at first of the horse-radish and ginger, becoming at last bitter and astringent. It seems to give out more extractive matter than the officinalis. Some of it was imported from St Lucia, in consequence of its having been successfully used in the army and navy; and Dr Kentish has treated of it at great length, under the name of *St Lucia bark*. When fresh, it is considerably cathartic and emetic, but is said to lose these properties on drying.

The pale and the red are chiefly used in Britain. The pale is brought to us in pieces of different sizes, either flat or quilled, and the powder is rather of a lighter colour than that of cinnamon. The red is generally in much larger thicker flattish pieces, but sometimes also in the form of quills, and its powder is reddish, like that of the Armenian bole. It is much more resinous, and possesses the sensible qualities of the cinchona in a much higher degree, than the other sorts; and the more nearly the other kinds resemble the red bark, the better they are now considered. The red bark is heavy, round, and dry; friable between the teeth; does not separate into fibres; and breaks, not shivery, but short, close, and smooth. It has three layers; the outer is thin, ragged, of a reddish-brown colour, but frequently covered with mossy matter; the middle is thicker, more compact, darker-coloured, very resinous, brittle, and yields first to the pestle. The inmost is more woody, fibrous, and of a brighter red.

The Peruvian bark yields its virtues both to cold and boiling water; but the decoction is thicker, gives out its taste more readily, and forms an ink with a chalybeate more suddenly, than the fresh cold infusion. This infusion, however, contains at least as much extractive matter, but more in a state of solution; and its colour, on standing some time with the chalybeate, becomes darker, while that of the decoction becomes more faint. When they are of a certain age, the addition of a chalybeate renders them green; and when this is the case, they are found to be in a state of fermentation, and effete. Mild or caustic alkalies, or lime, precipitate the extractive matter, which in the case of the caustic alkali is re-dissolved by a farther addition of the alkali. Lime-water precipitates less from a fresh infusion, than from a fresh decoction; and in the precipitate of this last some mild earth is perceptible. The infusion is by age reduced to the same state with the fresh decoction, and then they deposite nearly an equal quantity of mild earth and extractive matter; so that lime-water, as well as chalybeate, may be used as a test of the relative strength and perishable nature of the different preparations, and of different barks. Accordingly, cold infusions are found, by experiments, to be less perishable than decoctions; infusions and decoctions of the red bark than those of the pale: those of the red bark, however, are found, by length of time, to separate more mild earth with the lime-water, and more extractive matter. Lime-water, as precipitating the extract, appears an equally improper and disagreeable menstruum.

The power of different menstrua, as acting upon Peruvian bark, is comparatively in the following order; the most powerful solvent being placed first.

1. Dulcified spirit of vitriol,
2. Caustic ley,
3. French brandy,
4. Soft water,
5. Vinegar and water,
6. Dulcified spirit of nitre,
7. Mild volatile alkali,
8. Rectified spirit of wine,
9. Mild vegetable alkali,
10. Lime water.

The antiseptic powers of vinegar and bark united, are double the sum of those taken separately. The astringent power of the bark is increased by acid of vitriol; the bitter taste is destroyed by it. The officinal preparations of the bark are,

1. The powder. Of this, the first parcel that passes the sieve, being the most resinous and brittle layer, is the strongest.

2. The extract. The watery and spirituous extracts conjoined form the most proper preparations of this kind.

3. Spirituous tincture. This is best made with proof spirit.

4. The decoction. This preparation, though frequently employed, is inferior to a simple watery infusion.

The best form is that of powder; in which the constituent parts are in the most effectual proportion. The cold infusion, which can be made in a few minutes by agitation, the spirituous tincture, and the extract, are likewise proper in this respect. For covering the taste, different patients require different vehicles, liquorice, aromatics, acids, port-wine, small beer, porter, butter milk, brandy, rum, currant-jelly, &c.

According to some, the Peruvians learned the use of the bark, by observing certain animals affected with intermittents, instinctively led to it; while others say, that a Peruvian, having an ague, was cured by having drank of a pool, in which some felled trees had so long soaked, as to give the taste of their bark to the water: and its use in gangrene is said to have originated from its curing one in an aguish patient. About the year 1640, the lady of the Spanish viceroy, the Comitissa del Cinchon, was cured by the bark, which has therefore been called *cortex* or *pulvis comitissæ*, *cinchona*, *chinachina* or *chinchina*, *kinakina* or *kinkina*, *quinaquina* or *quinquina*; and from the interest which the cardinal de Lugo and the Jesuits took in its distribution, it has been called *cortex* or *pulvis Cardinalis de Lugo*, *Jesuiticus*, *Patrum*, &c.

As it was first introduced into practice for the cure of intermittent fevers, so it seldom fails of success, when properly exhibited in these. Practitioners, however, have differed as to the best mode of exhibiting it; some prefer giving it just before the fit, some during the fit, others immediately after it. Some again, order it in the quantity of an ounce between the fits, the dose being the more frequent and larger, according to the frequency of the fits: and this mode of exhibition, although it may sometimes lead to the employment of more bark than is necessary, is thought, upon the whole, preferable, from being the best suited to most stomachs. The requisite quantity is very different in different cases, and in many vernal intermittents it seems even hardly necessary.

It often pukes and purges, and sometimes oppresses the stomach. These, or any other irregular effects that may take place, are to be counteracted by remedies particularly appropriated to them. Thus, vomiting

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ing is often restrained by exhibiting it in wine; looseness, by combining it with opium; and oppression at stomach, by combining it with an aromatic. But, unless for obviating particular occurrences, it is more successful when exhibited in its simplest state, than with any addition.

It is now given from the very commencement of the disease, and is to be continued, not only till the paroxyms cease, but till the natural appetite, strength, and complexion, return. Its use is then to be gradually left off, and repeated at proper intervals to secure against a relapse, to which there is a tendency, especially when the wind blows from the east. An emetic is often advantageously employed before commencing the use of it, but other evacuants seem hurtful.

The Peruvian bark seems not only suited to intermittent fevers, both latent and formed, but to that state of the constitution on which all diseases, rigidly periodical, seem to depend; as periodical pain, inflammation, hæmorrhagy, spasm, cough, loss of external sense, &c. Bark is now used by some in all continued fevers, taking care to keep the bowels clean, and to promote, when necessary, the evacuation of redundant bile. In confluent smallpox it promotes languid eruption and suppuration, diminishes the fever through the whole course of it, and prevents or corrects putrescence or gangrene. In gangrenous sore throats it is much used, as it is externally and internally in all cases of gangrene. In contagious dysentery, after due evacuation, it has been used by the mouth, and by injection, with and without opium.

In all those hemorrhagies called *passive*, which all hemorrhagies are very apt to become, and likewise in all other increased discharges, it is much used; and, in certain undefined cases of hæmoptysis, some allege that it is remarkably effectual, when joined with an absorbent. It is used for obviating the disposition to nervous and convulsive diseases; and some have great confidence in it, joined with the acid of vitriol, in cases of phthisis, scrofula, ill-conditioned ulcers, rickets, scurvy, and in states of convalescence. In these cases, however, it ought, in general, to be joined with a milk diet.

In dropsy, not depending on any particular local affection, it is often alternated or conjoined with diuretics or other evacuants; and by its early exhibition after the water is drawn off, or even begins to be freely discharged, a fresh accumulation is prevented, and a radical cure obtained. In obstinate venereal cases, particularly those which appear under the form of pains in the bones, the Peruvian bark is often successfully subjoined to mercury, or even given in conjunction with it. On the whole this remedy is useful in such a vast variety of cases, that its virtues cannot be sufficiently explained, by considering it merely as an ordinary tonic or astringent; and hence many practitioners consider it as possessing specific qualities peculiar to itself, the nature of which is by no means well understood.

347. SOLENA.

One species; viz. longiflora.

348. UCRIANA.

One species; viz. speciosa.

349. PSYCHOTRIA, or *Ipecacuanha*.

39 species; viz. asiatica, glabrata, axillaris, laurifolia, parviflora, hirsuta, fœtens, citrifolia, nitida, marginata, tenuifolia, nervosa, carthaginensis, myristiphyllum, laxa, parasitica, horizontalis, nutans, speciosa, involucrata, flexuosa, racemosa, violacea, brachiata, grandis, patens, uliginosa, serpens, herbacea, emetica, corymbosa, pubescens, pedunculata, crocea, alpina, paniculata, palicurea, lutea, longiflora. E. and W. Indies, S. America, China.

The root of the *Psychotria emetica*, or common ipecacuan is brought from the Spanish W. Indies. It is divided into two sorts, the Peruvian and Brazilian: but the eye distinguishes three; ash-coloured or gray, brown, and white. The ash-coloured or Peruvian ipecacuan of the shops is a small wrinkled root, bent and contorted into a great variety of figures; brought over in short pieces full of wrinkles, and deep circular fissures, quite down to a small white woody fibre that runs in the middle of each piece. The cortical part is compact, brittle, looks smooth and resinous upon breaking. It has very little smell: the taste is bitterish and subacrid, covering the tongue as it were with a kind of mucilage. The brown is small and somewhat more wrinkled than the foregoing; of a brown or blackish colour without and white within: this is brought from Brasil. The white sort is woody and has no wrinkles, and no perceptible bitterness in taste. The first sort, the ash-coloured or gray ipecacuan, is that usually preferred for medicinal use. The brown has been sometimes observed, even in a small dose, to produce violent effects. The white, though taken in a large one, has scarce any effect at all: Mr Geoffrey calls this sort bastard ipecacuan, and complains that it is an imposition upon the public. Geoffrey, Newman, Dale, and Sir Hans Sloane inform us, that the roots of a kind of *Apocynum* (dog's-bane) are frequently brought over instead of it; and instances are given of ill consequences following from the use of these roots. If the marks above laid down, particularly of the ash-colour, brittleness, deep wrinkles, and bitterish taste, be carefully attended to, all mistakes of this kind may be prevented.

Ipecacuan was first brought to Europe about the middle of the century before the last, and an account of it published about the same time by Piso; but it did not come into general use till about the year 1686, when Helvetius, under the patronage of Lewis XIV. introduced it into practice. This root is one of the mildest and safest emetics with which we are acquainted; and has this peculiar advantage, that if it should not operate by vomit, it passes off by the other emunctories. It was first introduced among us with the character of an almost infallible remedy in dysenteries and other inveterate fluxes, as menorrhagia and leucorrhœa, and also in disorders proceeding from obstructions of long standing: nor has it lost much of its reputation by time. In dysenteries it almost always produces happy effects, and often very speedily performs a cure. In other fluxes of the belly, in beginning dysenteries, and such as are of a malignant kind, or where the patient breathes a tainted air, it has not been equally successful: in these cases it is necessary to continue the use of this medicine for several days, and to join with it opiates, diaphoretics, and the like. This root given in substance is as effectual, if not more so, than any of the prepara-

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rations of it: the pure resin acts as a strong irritating emetic, but is of little service in dysenteries; whilst an extract prepared with water, is almost of equal service in these cases with the root itself, though it has little effect as an emetic. Geoffrey concludes from hence that the chief virtue of ipecacuan in dysenteries depends upon its gummy substance, which, lining the intestines with a soft mucilage when their own mucus has been abraded, occasions their exulcerations to heal, and defends them from the acrimony of the juices; and that the resinous part, in which the emetic quality resides, is required where the morbific matter is lodged in the glands of the stomach and intestines. Water assisted by a boiling heat takes up from all vegetables a considerable portion of resinous along with the gummy matter: if the ipecacuan remaining after the action of water be digested with pure spirit, it will not yield half so much resin as at first; so that the aqueous extract differs from the crude root only in degree, being proportionably less resinous, and having less effect both as an emetic, and in the cure of dysenteries. The virtues of ipecacuan in this disorder depend on its producing perspiration, the freedom of which here is of the utmost importance, and an increase of which, even in healthful persons, is generally observed to decrease the evacuation by stool. In dysenteries the skin is for the most part dry and tense, and perspiration obstructed: the common diaphoretics pass off without effect through the intestinal canal; but ipecacuan, if the patient after a puke or two be covered up warm, brings on a plentiful sweat. After the removal of the dysentery, it is necessary to continue the use of the medicine for some time longer, in order to prevent a relapse; for this purpose a few grains divided into several doses, so as not to occasion any sensible evacuation, may be exhibited every day: by this means the cure is effectually established. And indeed small doses given even from the beginning have been found to have better effects in the cure of this disease than larger ones. The only officinal preparation of this root is a tincture made in wine, which has the appellation of *Vinum Ipecacuanhæ* both in the London and Edinburgh Pharmacopœias. Ipecacuan, particularly in the state of powder, is now advantageously employed in almost every disease in which full vomiting is requisite; and when combined with opium, it furnishes us with the most useful and active sweating medicine that we possess. It is also often given with advantage in small doses, so as neither to operate by vomiting, purging, nor sweating. The full dose of the powder is a scruple or half a dram, and double that in form of watery infusion. The full dose is recommended in the paroxysm of spasmodic asthma, and a dose of three or four grains every morning in habitual asthmatic indisposition: a dose of one-third or half a grain rubbed with sugar, and given every four hours or oftener is recommended in uterine hæmorrhagy, cough, pleurisy, hæmoptoë, &c. and has often been found highly serviceable. Dr Irving found that by long boiling, the activity of the root is almost totally destroyed; but that its emetic property was most effectually counteracted by means of the acetous acid; insomuch that 30 grains of the powder, taken in two ounces of vinegar, produced only some loose stools.

350. CHIMARRHIS.

One species; viz. cymosa. Martinico.

351. DENTELLA.

One species; viz. repens. South sea isles.

352. VIRECTA.

One species; viz. biflora. Cayenne, Surinam.

353. COFFEA, or *Coffee-tree*.

Eight species; viz. sambucina, opulina, odorata, arabica, triflora, gujanensis, paniculata, occidentalis. Yemen in Arabia, W. Indies, S. America.

The coffea arabica, though it came originally from Arabia, is now cultivated in the West Indies. Its fruit is employed rather as food than as a medicine. The medical effects expected from it are to assist digestion, promote the natural secretions, and prevent or remove a tendency to sleepiness. It has been recommended in spasmodic asthma; and in some cases it is found highly useful in alleviating severe headach. In the influenza, or epidemic complaint of spring 1803, the use of coffee as the chief article of food was found to be attended with the best effects, particularly in removing that extreme debility which was the most universal and remarkable symptom of the disease.

354. CHIOCOCCA, or *Snow-berry*.

Two species; viz. racemosa and barbata. Jamaica, S. America.

355. VANGUERIA.

One species; viz. edulis. Isle of Madagascar.

356. CANEPHORA.

Two species; viz. axillaris and capitata. Madagascar.

357. CEPHÆLIS.

12 species; viz. violacea, tomentosa, punicea, elata, axillaris, purpurea, alba, glabra, involucrata, tetrandra, sessiliflora, muscosa.

358. BERTIERA.

One species; viz. gujanensis.

359. HAMELLIA.

Five species; viz. patens, axillaris, chrysantha, ventricosa, sessiliflora. S. America, W. Indies.

360. SCHWENKFELDIA.

Three species; viz. hirta, cinerea, aspera. West Indies.

361. LONICERA, or *Honeysuckle*.

20 species; viz. caprifolium, dioica, sempervirens, grata, implexa, * periclymenum, japonica, nigra, quadrifolia, tatarica, * xylosteum, pyrenaica, alpigena, cœrulea, orientalis, flexuosa, symphoricarpos, diervilla, bubalina, corymbosa. Eur. Cape, Japan, N. Amer.

* L. heads egg-shaped, tiled, terminating; leaves distinct, deciduous; blossom gaping.—The beauty and fragrance of the flowers of this plant render it a pleasing ornament to our gardens, hedges, and arbours. Cows, goats, and sheep, eat it; horses refuse it. Various insects feed upon it. *periclymenum.*

* L. fruitstalks 2-flowered; berries distinct; leaves very entire, pubescent. In the north of Europe this is a common plant; Linnæus informs us it makes excellent garden hedges in a dry soil: that the clear parts between the joints of the shoots are used in Sweden as tubes for tobacco pipes, and that the wood being extremely hard makes teeth for rakes, &c. *xylosteum.*

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362. TRIOSTEUM, or *Fever-root, Tinker's Weed.*
Three species; viz. perfoliatum, angustifolium, triflorum.

363. MORINDA.
Three species; viz. umbellata, citrifolia, royoc.

364. BÆBOTRUS.
Two species; viz. nemoralis and lanceolata.

365. STROEMIA.
Four species; viz. farinosa, tetrandra, glandulosa, rotundifolia. Arabia.

366. CONOCARPUS, or *Button-tree.*
Three species; viz. erecta, procumbens, racemosa. W. Indies, Brazil.

367. SCHOEPFIA.
One species; viz. americana.

368. ERITHALIS.
Two species; viz. fruticosa, polygama. Jamaica, S. America.

369. MENAIS.
One species; viz. topiaria. S. America.

370. MUSSÆNDA.
Two species; viz. frondosa, glabra.

371. GENIOSTOMA.
One species; viz. rupestris. South sea isles.

372. MATHIOLA.
One species; viz. scabra.

373. MIRABILIS, or *Marvel of Peru.*
Three species; viz. dichotoma, longiflora, and ialapa. E. and W. Indies, Mexico, Peru.

374. CORIS, or *Heath Low Pine.*
One species; viz. monspeliensis. S. of Europe.

375. BROSSÆA.
One species; viz. coccinea. S. America.

376. VERBASCUM, or *Mullein.*
17 species; viz. * thapsus, * thapsoides, boerhaavii, hæmorrhoidale, phomoides, * lychnitis, ferrugineum, * nigrum, phœniceum, * blattaria, gallicum, sinuatum, pinnatifidum, barnadesii, osbechii, spinosum, miconi. S. of Europe, Madeira.

thapsus. * V. leaves decurrent, cottony on both sides; stem unbranched; summit globular.—This plant externally used is said to be emollient. Dr Home advises a decoction of it, two ounces to a quart, in diarrhœas of an old standing. It eases the pains of the intestines: it is used as an injection in tenesmus with advantage; and is often applied externally to the piles. It is said to intoxicate fish so that they may be taken with the hand. In Norway they give it to cows that are consumptive. The down serves for tinder. Neither cows, goats, sheep, horses or swine will eat it.

377. DATURA, or *Thorn-apple.*
Seven species; viz. ferox, * stramonium, tatula, fastuosa, metel, lævis, arborea. Europe, Asia, Africa, America.

stramonium. * D. seed-vessel thorny, upright, egg-shaped; leaves egg-shaped, smooth.—At night the leaves, particularly the upper ones, rise up and enclose the flowers. An ointment prepared from the leaves gives ease in external inflammations and hemorrhoids. The Edinburgh college directs an extract to be prepared by evaporating the expressed juice of the leaves. This has been given with great advantage in convulsive affections and epilepsies: out of 14 epileptic patients, 8 were entirely cured by it at Stockholm. The dose from 2 to 16 grains a day. The seeds or leaves given internally bring on delirium, tremors, swelling, itching, eruption, and inflammation on the skin; these effects were produced by a dose of a drachm and a half in a girl nine years old. Cows, goats, sheep, and horses, refuse it.

378. HYOSCYAMUS, or *Henbane.*
Eight species; viz. * niger, reticulatus, albus, aureus, muticus, pusillus, physaloides, scopolia. S. Europe, Siberia, Persia.

nigra. * H. leaves embracing the stem, indented flowers sitting.—The seeds, the leaves, and the roots taken internally are reputed poisonous; and well-attested instances of their bad effects are recorded: madness, convulsion, and death, are the general consequences. But Dr Smith says, he has often eaten the seeds with impunity. It is said that the leaves scattered about a house will drive away mice. The Edinburgh college order the expressed juice of the plant to be evaporated to an extract: and perhaps in this state it may be advantageously joined with opium, where the effects of that medicine are desirable, and costiveness is to be avoided. There is no doubt of its being an useful medicine under proper management. The dose is from half a scruple to half a drachm. Goats are not fond of it; horses, cows, sheep, and swine refuse it; sheep are, however, said sometimes to eat it when young: *Chrysomela hyoscyami* and the *cimex hyoscyami* are found upon it.

379. NICOTIANA, or *Tobacco.*
Seven species; viz. tabaccum, fruticosa, * rustica, paniculata, urens, glutinosa, pusilla. America, China.

The species called *N. tabaccum* was first brought into Europe about the year 1560 from the island of Tobago in America; and is now sometimes cultivated for medicinal uses in our gardens, but in general imported from America in large quantities. The leaves are about two feet long, of a pale green colour while fresh, and when carefully dried of a lively yellowish cast. They have a strong disagreeable smell, like that of the narcotic plants, and a very acrid burning taste. Taken internally, they prove virulently cathartic and emetic, occasioning almost intolerable cardialgic anxieties. By boiling water their virulence is abated, and at length destroyed: an extract made by long coction is recommended by Stahl and other German physicians, as a safe and most effectual aperient, expectorant, detergent, &c.; but this medicine, which is extremely precarious and uncertain in strength, has never come into esteem among us. Of late, however, tobacco, under the form of a vinous or watery infusion, and taken in such small doses as to produce little effect from its action on the stomach, has been recommended by Dr Fowler. He found it to be a very useful and powerful diuretic, and published many cases of dropsy and dysury in which its employment was attended with the best effects. These good effects have been confirmed by the observation of other physicians.

Tobacco is sometimes used externally in unguents for destroying cutaneous insects, cleansing old ulcers, &c.

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Beaten into a mash with vinegar or brandy, it has sometimes proved serviceable in removing hard tumours of the hypochondres. Injections by the anus of the smoke or decoction have been used with advantage in cases of obstinate constipation threatening ileus, of incarcerated hernia, of ascarides, of spasmodic asthma, and of persons apparently dead from drowning or other sudden causes. It has been used internally in form of syrup, conserve, and infusion, in cases of worms, epilepsy, amenorrhea, asthma, &c.; but it is certainly too active to be thus ventured on.

The *N. rustica* is found wild on dunghills in several parts of England. It is said to be often substituted in the market for true tobacco, from which, however, it may be known by the leaves being much smaller and the flowers not reddish like those of the proper sort, but of a yellowish green colour.

380. JABOROSA.

Two species; viz. integrifolia, runcinata. Monte Video, Buenos Ayres.

381. ATROPA, or *Deadly Nightshade*.

Seven species; viz. mandragora, * belladonna, physaloides, procumbens, solanacea, arborescens, frutescens. Europe, Peru, Lima.

belladonna. * A. stem herbaceous; leaves egg-shaped, entire.—The whole of this plant is poisonous; and children, allured by the beautiful appearance of the berries, have too often experienced their fatal effects. Tumours of the breasts, even of the cancerous kind, are said to have been resolved by a topical application of the fresh leaves. Dr Graham says he found great benefit from a poultice made of the roots, boiled in milk, and applied to hard ill-conditioned tumours and ulcers: and relates a deplorable case in which this poultice effected a perfect cure. There is no doubt but their external application may be productive of good effects in several cases, but the following instance shows us that their application is dangerous when the skin is broken: A lady who had a small ulcer, a little below one of her eyes, which was supposed to be of a cancerous nature, put a small bit of the green leaf upon it. In the morning the uvea of that eye was so affected, that the pupil would not contract even by the brightest light; whilst the other eye retained its usual powers. The leaf being removed, the eye was gradually restored to its former state. This could not be an accidental effect, for it was repeated three separate times, and the same circumstances attended each application. The juice of the ripe berries stains paper of a beautiful and durable purple.

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382. PHYSALIS, or *Alkekengi Winter Cherry*.

17 species; viz. somnifera, aristata, flexuosa, arborescens, curassavica, tomentosa, viscosa, pennsylvanica, alkekengi, peruviana, angulata, pubescens, barbadensis, chenopodifolia, minima, prainosa, prostrata. Europe, E. and W. Indies, Carolina.

383. SOLANUM, or *Nightshade*.

83 species; viz. laurifolium, verbascifolium, auriculatum, pubescens, bombense, pseudo-capsicum, microcarpum, terminale, pauciflorum, diphyllum, fugax, geminatum, retrofractum, stellatum, *dulcamara, triquetrum, scandens, lyratum, tegore, quercifolium, laciniatum, radicans, havannense, triste, racemosum, corymbosum, quadrangulare, repandum, bonariense, macrocarpon, tuberosum, pimpinellifolium, lycopersicum, pseudo-lycopersicum, peruvianum, montanum, rubrum, nodiflorum, * nigrum, æthiopicum, melongena, subinerme, longiflorum, muricatum, insanum, torvum, volubile, ferox, campechiense, fuscatum, mammosum, hirtum, paniculatum, aculeatissimum, virginianum, aquini, xanthocarpum, coagulans, jamaicense, indicum, carolinense, sinuatum, sodomeum, capense, marginatum, stramonifolium, vespertilio, sanctum, hybridum, tomentosum, polygamum, bahamense, obscurum, giganteum, flexuosum, lanceæfolium, lanceolatum, eleagnifolium, polyacanthos, igneum, milleri, trilobatum, lycioides. Eur. Asia, Africa, Amer.

* S. stem without prickles, rather shrub-like, zigzag: upper leaves halberd-shaped: flowers in tuft-like bunches. *dulcamara.*—Boerhaave says it is a medicine far superior to china and sarsaparilla as a sweetener and restorative. Linnæus says, an infusion of the young twigs is an admirable medicine in acute rheumatisms, inflammations, fevers, and suppression of the lochia. Dr Hill says he has found it very efficacious in the asthma. Dr Hallenberg advises it in ischiatic and rheumatic pains, jaundice, scurvy, and lues venerea. He directs a pint of boiling water to be poured upon two drachms of the stalks sliced and dried after standing half an hour. It must be boiled 15 minutes. The dose is two cups full or more, morning and evening. The stalks may be gathered early in spring, or at the end of autumn. The root has the smell of the potato. Sheep and goats eat it; horses, cows, and swine refuse it.

* S. stem without prickles, herbaceous; leaves egg-shaped, toothed, angular, bunches nodding, pointing two ways.—From one to three grains of the leaves infused in boing water and taken at bed-time occasions a copious perspiration, increases the secretion by the kidneys, and generally purges more or less the following day. These properties judiciously applied render it capable of doing essential service in several diseases. But its effects on the nervous system are so uncertain, and sometimes so considerable, that it must ever be administered with the greatest caution. The leaves, externally applied, abate inflammation and assuage pain. The flowers smell like musk. Horses, cows, goats, sheep, and swine refuse it. *nigrum.*

384. CAPSICUM, or *Guinea Pepper*.

Six species; viz. annuum, baccatum, sinense, grossum, frutescens, cerasiforme. E. and W. Ind.—The *capsicum annuum* is cultivated in our gardens. It ripens its seeds in September and October. The taste of capsicum is extremely pungent and acrimonious, setting the mouth as it were on fire. It is chiefly employed for culinary purposes, and has long been used in that way; but of late it has been employed also in the practice of medicine. And there can be little doubt that it furnishes us with one of the purest and strongest stimulants which can be introduced into the human stomach, while at the same time it has nothing of the narcotic effect of ardent spirit. Dr Mackitrick Adair, who was perhaps the first that employed it as a medicine, directs its being given to the extent of six or eight grains under the form of pills, or under the form of tincture, by infusing half an ounce in a pound of rectified spirit, and giving this from one to three drachms, diluted,

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dilated, for a dose. He found it useful in a variety of affections, particularly in that morbid disposition which he calls the *cachexia africana*, and which he considers as a most frequent and fatal predisposition to disease among the slaves. This pepper has also been successfully employed in a species of cynanche maligna (putrid sore throat), which proved fatal in the W. Indies, resisting the use of Peruvian bark, wine, and the other remedies commonly employed. A variety of it, called in the West Indies *bird-pepper*, is the basis of a powder brought us from thence under the name of cayan pepper.

385. STRYCHNOS, or *Poison-nut*.
Three species; viz. nux-vomica, calubrina, potatorum. E. Indies.

386. IGNATIA, or *St Ignatius's Beans*.
One species; viz. amara. India.

387. CESTRUM.
11 species; viz. laurifolium, nocturnum, parqui, auriculatum, scandens, vespertinum, diurnum, venenatum, tomentosum, hirtum, latifolium. W. Indies, Peru.

388. LYCIUM, or *Box-thorn*.
11 species; viz. afrum, rigidum, ruthenicum, tetrandrum, barbarum, cinereum, europæum, horridum, barbatum, boerhaaviæfolium, capsulare. Europe, Asia, Africa, America.

389. SERISSA.
One species; viz. fœtida.

390. CRYPTOSTOMUM.
One species; viz. laurifolium. Guiana.

391. ARDISIA, or *Aderno*.
Nine species; viz. tinifolia, coriacea, serrulata, acuminata, humilis, solanacea, lateriflora, excelsa, parasitica. Madeira, Ceylon, W. Indies.

392. JAQUINIA.
Five species; viz. arborea, armillaris, venosa, ruscifolia, linearis. W. Indies, S. America.

393. BASSOVIA.
One species; viz. sylvatica. Guiana.

394. CHIRONIA.
16 species; viz. trinervia, jasminoides, lychnoides, nudicaulis, campanulata, angularis, * pulchella, chilensis, * centaurium, inaperta, maritima, spicata, linoides, baccifera, frutescens, tetragona. Ceylon, Cape, N. America.

centaurium. * C. herbaceous; leaves spear-shaped; calyx shorter than the tube of the blossom.—This plant is extremely bitter. It is the basis of the famous Portland powder, which prevents fits of the gout, when taken in a large quantity, and a long time together; but brings on hardness of the liver, palsy, and apoplexy. A tincture of the leaves, and the upper part of the root, is a good medicine in weak stomachs and cachectic habits. A decoction of the whole plant destroys lice, and cures the itch. Cows are not fond of it, and in sheep-pasture it is frequently left untouched.

395. LITA.
Two species; viz. rosea, cœrulea.

396. CORDIA, or *Sebesten Plum*.
18 species; viz. myxa, obliqua, monoica, spinescens, sebestena, aspera, dichotoma, geraschanthus, flavescens, toquere, macrophylla, micranthus, elliptica, colococca, hirsuta, tetrandra, patagonula, tetraphylla. Guiana.

397. EHRETIA, or *Base Cherry tree*.
Nine species; viz. tinifolia, aspera, lævis, internodis, spinosa, beurreria, virgata, exsucca, buxifolia. W. Indies, S. America.

398. VARRONIA.
Nine species; viz. lineata, bullata, mirabiloides, martinicensis, globosa, curassavica, angustifolia, alba, monosperma. W. Indies, S. America.

399. LAUGERIA.
Five species; viz odorata, lucida, coriacea, resinosa, tomentosa. W. Indies, S. America.

400. CHRYSANTHEMUM, or *Star-apple*.
Seven species; viz. cainito, monopyrenum, microcarpum, argenteum, rugosum, pyriforme, glabrum. W. Indies, S. America.

401. BUMELIA.
12 species; viz. nigra, pallida, tenax, retusa, fœtidissima, salicifolia, manglillo, montana, nervosa, pentagona, rotundifolia, cuneata. W. Indies.

402. TECTONA, or *Indian Oak* or *Teak-wood*.
One species; viz. grandis.—The teak-wood is extremely valuable for ship-building, on account of its resisting in the Indian seas the worms which so speedily destroy oak and all other sorts of timber. That which is used at Calcutta is chiefly or rather entirely imported from Rangoon, a port belonging to the Birman empire in the eastern peninsula of India. See ASIA, N° 106.

403. SIDEROXYLON, or *Iron-wood*.
Nine species; viz. mite, inerme, melanopheum, cymosum, sericeum, argenteum, tomentosum, lycioides, decandrum. Morocco, Cape, N. America.

404. SCHREBERA.
One species; viz. albens. C. of G. Hope.

405. RHAMNUS, or *Buck-thorn*.
32 species; viz. * catharticus, infectorius, lycioides, erythroxylon, eleoides, crenulatus, saxatilis, theezans, sarcomphalus, ferreus, levigatus, tetragonus, polifolius, valentinus, cubensis, colubrinus, dauricus, alpinus, pumilus, * frangula, latifolius, glandulosus, ellipticus, prinoides, mystacinus, almifolius, sphærospermus, hybridus, alaternus, carpinifolius, capensis, circumscissus. Europe, E. and W. Indies, Africa, N. America.

catharticus. * R. therns terminating: flowers 3-cleft; male and female on different plants: leaves egg-shaped; stem upright.—A purgative syrup prepared from the berries of this plant is kept in the shops. About an ounce of it is a moderate dose; but it generally occasions so much sickness and griping that it is falling into disuse. The flesh of birds that feed upon the berries is said to be purgative. The juice of the unripe berries is of the colour of saffron, and is used for staining maps or paper. These are sold under the name of French berries. The juice of the ripe berries mixed with alum, is the sap-green of the painters: but if they are gathered late in the autumn the juice is purple. The bark affords a beautiful yellow dye. Goats, sheep, and horses eat it: cows refuse it.

frangula. * R. without thorns: flowers hermaphrodite, with pistile leaves very entire.—It is said, that from a

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quarter to half an ounce of the inner bark of this plant boiled in small beer, is a sharp purge. In dropsies or constipations of the bowels of cattle, it is a very certain purgative. The berries gathered before they are ripe, dye wool green. The bark dyes yellow, and with preparation of iron black. Charcoal prepared from the wood is preferred by the makers of gunpowder. The flowers are particularly grateful to bees: goats devour the leaves voraciously, and sheep will eat them. The *papilio rhamni* and *argus* live upon both the species.

406. ZIZYPHUS.

Ten species; viz. lineatus, volubilis, paliurus, lotus, napeca, jujuba, xylopyrus, œnoplia, vulgaris, spina christi.

407. VENTILAGO.

One species; viz. maderaspatana.

408. CORYMBIUM.

Four species; viz. scabrium, filiforme, glabrum, villosum. C. of G. Hope.

409. PHYLICA, or *Base Alaternus.*

19 species; viz. ericoides, lanceolata, bicolor, capitata, eriophoros, plumosa, villosa, imberbis, stipularis, pinifolia, cordata, dioica, buxifolia, spicata, callosa, paniculata, imbricata, racemosa, parviflora. C. of G. Hope.

410. CARPODETUS.

One species; viz. serratus. South sea isles.

411. COLLETIA.

One species; viz. horrida. Brazil, Peru.

412. CEANOTHUS, or *New-Jersey Tea.*

Five species; viz. americanus, macrocarpus, asiaticus, africanus, capsularis. N. America, Cape, Ceylon.

413. SCOPOLIA.

Two species; viz. aculeata, inermis. South sea isles.

414. RUYSCHIA.

Two species; viz. clusiæfolia, surubea. W. Indies, Guiana.

415. ARDUINA, or *Cape Buckthorn.*

One species; viz. bispinosa. C. of G. Hope.

416. CAMAX.

One species; viz. fraxinea. Guiana.

417. BUTTNERIA.

Seven species; viz. scabra, tereticaulis, microphylla, ovata, cordata, herbacea, catalpæfolia. S. America.

418. AYENIA.

Four species; viz. pusilla, lævigata, tomentosa, magna. Jamaica, Cumana, Peru.

419. GLUTA.

One species; viz. benghas. Java.

420. POLYCARDIA.

One species; viz. madagascarensis. Madagascar.

421. MYRSINE, or *African Box-tree.*

Two species; viz. africana, retusa. Azores, Africa.

422. BLADHIA.

Four species; viz. japonica, glabra, villosa, crispa. Japan.

423. CELASTRUS, or *Staff-tree.*

32 species; viz. lucidus, microphyllus, bullatus, laurinus, rostratus, undulatus, octogonus, filiformis, scandens, paniculatus, procumbens, acuminatus, cassinoides, striatus, ceruis, undatus, edulis, crenatus, dilatatus, myrtifolius, maytenus, tetragonus, articulatus, alatus, linearis, integrifolius, emarginatus, phyllacanthus, buxifolius, pyracanthus, rotundifolius, parviflorus. Amer. Cape, isle of Bourbon, Japan.

424. EVONYMUS.

Seven species; viz. tobira, japonicus, * europæus, verrucosus, latifolius, atro-purpureus, americanus.

* E. flowers mostly 4-cleft; leaves sitting.—The berries vomit and purge violently. They are fatal to sheep. Powdered, and sprinkled upon the hair, they destroy lice. If the wood is cut when the plant is in blossom, it is tough, and not easily broken; and in that state is used by watch-makers, for cleaning watches, and to make skewers and toothpicks. Goats and sheep eat it; horses refuse it; cows are so fond of the shoots in the spring as constantly to break down the banks of the fields wherever a plant of it stands. *europæus.*

425. PILOCARPUS.

One species; viz. racemosus.

426. DIOSMA, or *African Spiræa.*

30 species; viz. oppositifolia, obtusata, linearis, virgata, alba, hirsuta, rubra, pectinata, ericoides, hispida, ciliata, bifurca, bifida, capitata, villosa, cupressina, imbricata, marginata, lanceolata, pubescens, latifolia, crenata, tetragona, uniflora, rugosa, ovata, barbigera, pulchella, betulina, orbicularis. C. of G. Hope.

427. HOVENIA.

One species; viz. dulcis. Japan.

428. BRUNIA.

Eight species; viz. nodiflora, paleacea, lanuginosa, verticillata, abrotanoides, superba, fragarioides, ciliata. C. of G. Hope.

429. STAARIA.

Two species; viz. radiata, glutinosa.

430. WALKERA.

One species; viz. serrata. India.

431. PITTOSPORUM.

One species; viz. coriaceum. Madeira, Canary isles.

432. BARBERIA.

One species; viz. theabromæfolia. Guiana.

433. ITEA.

Two species; viz. virginica, cyrilla. N. America.

434. GALAX.

One species; viz. aphylla. Virginia.

435. HUMBOLDTIA.

One species; viz. laurifolia.

436. CEDRELA, or *Barbadoes Base Cedar.*

One species; viz. odorata. West Indies.

437. CALODENDRUM.

One species; viz. capense. C. of G. Hope.

438. ELÆODENDRUM.

Two species; viz. orientale, argan. Cape, isle of Mauritius.

439. ESCALONIA.

Two species; viz. myrtilloides, serrata. S. America.

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440. BILLARDIERA.
One species; viz. scandens.

441. MANGIFERA, or *Mango-tree.*
Three species; viz. indica, laxiflora, axillaris. E. Indies.

442. HIRTELLA.
Three species; viz. americana, triandra, paniculata. W. Indies, Cayenne.

443. STRUMPFIA.
One species, viz. maritima. America.

444. PLECTRONIA.
One species; viz. ventosa. C. of G. Hope.

445. RIBES, or *Currant and Gooseberry.*
16 species; viz. rubrum, petræum, procumbens, glandulosum, alpinum, fragrans, triste, nigrum, floridum, diacantha, saxatile, reclinatum, grossularia, uva crispa, oxyacanthoides, cynosbati. Eur. N. Amer.

446. VIOLA, or *Violet.*
39 species; viz. palmata, pedata, pinnata, sagittata, lanceolata, obliqua, cucullata, primulifolia, * hirta, magellanica, palustris, * odorata, * canina, montana, nummularifolia, cenisia, canadensis, striata, pubescens, mirabilis, biflora, uniflora, decumbens, * tricolor, grandiflora, zoysii, calcarata, cornuta, capensis, arborescens, stipularis, parviflora, enneasperma, suffruticosa, calceolaria, oppositifolia, hybanthus, ipecacuanha, diandra. Alps, Pyren. Cape, America.

odorata. * V. leaves heart shaped; suckers creeping.—The flowers and seeds of this plant are said to be mild laxatives. The powdered root, in doses from 40 to 80 grains, vomits and purges. The petals give the colour to the syrup of violets, for which purpose they are cultivated in large quantities at Stratford-upon-Avon. This syrup is very useful in many chemical inquiries, to detect an acid or an alkali, the former changing the blue colour to a red, and the latter to a green. Slips of white paper stained with the juice of the petals, and kept from the air and light, answer the same purpose.

tricolor. * V. stem branched; leaves egg-shapped, toothed; cal. smooth, but half the size of the blossom.—Some allege that it infallibly cures the scabby complaints in young children, called *crusta lactea.* Boil a handful of the fresh, or half a dozen of the dried leaves, in half a pint of milk, and give this milk morning and evening, for some weeks.

447. IMPATIENS, or *Balsam balsamine.*
12 species; viz. bifida, chinensis, latifolia, capensis, oppositifolia, fasciculata, cornuta, balsamina, biflora, triflora, natans, *nolitangere. Europe, N. America, E. Indies, China.

nolitangere. * I. fruitstalks many-flowered, solitary; leaves egg-shaped; stem swoln at the joints.—The whole of this plant is considerably acrid. Goats eat it. Horses, cows, and sheep refuse it. The *sphinx elpenor* lives upon it.

448. GRONOVIA.
One species; viz. scandens. Jamaica, Vera Cruz.

449. LEEA.
Three species; viz. sambucina, æquata, crispa. Cape, E. Indies.

450. ARGOPHYLLUM.
One species; viz. nitidum. New Caledonia.

451. CORYNOCARPUS.
One species; viz. lævigata. New Zealand.

452. HEDERA, or *Ivy.*
Four species; viz. *helix, pendula, mutans, terebinthinacea. Europe, N. Amer. Jam.

helix. * H. leaves some egg-shaped, others lobed.—The roots are used by leather-cutters to whet their knives upon. Its evergreen leaves adorn our walls, and cover the naked trunks of trees. Apricots and peaches covered with ivy during the month of February, have been observed to bear fruit plentifully. The leaves have a nauseous taste. Some say they are given in Germany as a specific in the atrophy of children. The common people apply them to issues. The berries have a little acidity. They purge and vomit. In warm climates a resinous juice exudes from the stalks. Horses and sheep eat it. Goats and cows refuse it. Sheep are fond of it, and in severe weather it is stripped off the trees as food.

453. VITIS, or *Vine.*
12 species; viz. vinifera, palmata, indica, flexuosa, labrusca, vulpina, heterophylla, laciniosa, hederacea, heptaphylla, pinnata, arborea. Temperate parts of the world.

vinifera. V. with leaves gashed, indented, naked.—The leaves of this species, which is the proper vine tree, were formerly celebrated as astringents, but have for a long time been entirely disregarded; their taste is herbaceous with only a slight degree of roughness. The trunk of the tree wounded in the spring produces a limpid watery juice; this, called the tear of the vine, has been accounted excellent for sore eyes, and by some recommended also in ardent and malignant fevers, and as a diuretic. The flowers have a pleasant smell, which water elevates from them in distillation; along with the water a small portion of an elegant essential oil is said to arise, possessing in great perfection the fragrance of the flowers. The unripe fruit is of a very harsh, rough, sour taste; its expressed juice, called *verjuice*, was in great esteem among the ancients, and still continues so in some places, as a cooling astringent medicine; a rob and a syrup were formerly prepared from it. The ripe fruit or grapes, of which there are many kinds, properly cured and dried, are the raisins of the shops. The juice by fermentation affords wine, vinegar, and tartar, of which mention will be made under their proper heads.

454. EUPAREA.
One species; viz. amœna. New Holland.

455. ÆGICERAS.
Two species; viz. majus, minus.

456. LAGOECIA, or *Wild Cumin.*
One species; viz. cuminoides. Crete, Levant.

457. RORIDULA.
One species; viz. dentata. C. of G. Hope.

458. SAUVAGESIA.
One species; viz. erecta. Jamaica, St Domingo, Surinam.

459. CLAYTONIA.
Three species; viz. virginica, sibirica, perfoliata. Siberia, N. Amer.

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460. HELICONIA, or *Base* or *Wild Plantain.*
Five species; viz. caribæa, behai, humilis, psittacorum, hirsuta. Cape, W. Indies.

461. STRELITZIA.
Two species; viz. reginæ, angusta. Cape of G. Hope.

462. ACHYRANTHES.
16 species; viz. argentea, aspera, lappacea, echinata, muricata, patula, prostata, sarmentosa, alternifolia, polygonoides, altissima, nivea, stellata, corymbosa, tenuifolia, dichotoma. S. Enr. E. and W. Indies.

463. CELOSIA, or *Cock's Comb.*
18 species; viz. argentea, albida, margaritacea, cristata, comosa, paniculata, nitida, coccinea, castrensis, monsoniæ, corymbosa, caudata, trigyna, virgata, polygonoides, baccata, gnaphaloides, nodiflora. China, E. and W. Indies, Senegal.

464. CHENOLEA.
One species; viz. diffusa.

465. ILLECEBRUM, or *Mountain Knot-grass.*
19 species; viz. brachiatum, sanguinolentum, lanatum, javanicum, *verticillatum, aristatum, canariense, cymosum, paronychia, capitatum, divaricatum, benghalense, arabicum, achyrantha, frutescens, polygonoides, ficoideum, sessile, alsinefolium. S. Europe, East Indies, S. America.

466. GLAUX, or *Sea Milk-wort.*
One species; viz. *maritima. Europe.

467. PLOCAMA.
One species; viz. pendula. Canary isles.

468. HEDYCREA.
One species; viz. incana. Guiana.

469. THESIUM, or *Base Toad-flax.*
19 species; viz. * linophyllum, alpinum, humile, lineatum, squarrosum, frisea, funale, spicatum, capitatum, strictum, umbellatum, fragile, scabrum, paniculatum, amplexicaule, triflorum, euphorbioides, colpoon, spinosum. Alps of Europe, Cape, N. Amer.

470. QUINCHAMALA.
One species; viz. chilensis. Chili.

471. RAUWOLFIA.
Four species; viz. nitida, glabra, canescens, tomentosa. W. Indies. S. America.

472. PÆDERIA.
Two species; viz. fœtida, fragrans. India.

473. CARISSA.
Five species; viz. carandas, spinarum, edulis, inermis, mitis. India, Arabia.

474. GYNOPOGON.
Three species; viz. stellatum, alyxia, scandens. South sea isles.

475. CERBERA.
Five species; viz. ahovai, ovata, parviflora, manghas, thevetia. S. Amer.

476. WEBERA.
Three species; viz. corymbosa, cymosa, tetrandra.

477. GARDENIA, or *Cape Jessamine.*
17 species; viz. radicans, florida, thunbergia, latifolia, clusiæfolia, gummifera, mussænda, genipa, rothmannia, uliginosa, armata, spinosa, dumetorum, randia, micranthus, scandens, multiflora. Cape, E. and W. Indies, Japan.

478. WILLUGHBEJA.
Two species; viz. acieca, scandens. Guiana.

479. ALLAMANDA.
One species; viz. cathartica. Surinam, Cayenne.

480. UNICA, or *Periwinkle.*
Five species; viz. * minor, * major, lutea, rosea, parviflora. Ger. Fr. Sp. E. Indies, N. Amer.
* U. stems trailing; leaves spear-egg-shaped; flowers on fruitstalks.—The fruit of this plant seldom comes to maturity. It may, however, be easily obtained by planting the *U. major* in a pot, where the roots not having free room to extend themselves, the juices are more copiously propelled towards the pistil, which then expands into well-formed seed-vessels. *minor.*

481. NERIUM, or *Oleander*, or *Rose Bay.*
Eight species; viz. oleander, odorum, salicinum, obesum, zeylanicum, divaricatum, antidysentericum, coronarium. S. Europe, E. Indies.

482. ECHITES, or *Savanna-flower.*
22 species; viz. biflora, quinquangularis, annularis, tomentosa, suberecta, domingensis, agglutinata, asperuginis, torulosa, umbellata, circinalis, floribunda, trifida, repens, corymbosa, costata, spicata, siphilitica, candata, scholaris, succulenta, bispinosa. W. Indies, Surinam, Carolina, Cape.

483. PLUMIRIA, or *Red Jessamine.*
Four species; viz. rubra, alba, obtusa, pudica. W. Indies, S. America.

484. CAMERARIA.
Four species; viz. latifolia, zeylanica, lutea, angustifolia. W. Indies, S. America.

485. TABERNÆMONTANA.
12 species; viz. citrifolia, laurifolia, echinata, grandiflora, cymosa, amygdalifolia, discolor, persicariæfolia, elliptica, alternifolia, amsonia, angustifolia. East and West Indies, N. America, Japan.

ORDO II. DIGYNIA.

486. PERGULARIA.
Five species; viz. glabra, edulis, tomentosa, purpurea, japonica. India, Japan.

487. PERIPLOCA, or *Virginian Silk.*
11 species; viz. græca, secamone, lævigata, angustifolia, esculenta, emetica, indica, capsularis, africana, tunicata, sylvestris. Syria, Cape, India.

488. CYNANCHUM, or *Base Dogs-bane.*
25 species; viz. viminale, filiforme, crispum, tenellum, obtusifolium, capense, acutum, planiflorum, rostratum, grandiflorum, nigrum, racemosum, maritimum, suberosum, carolinense, obliquum, hirtum, crispiflorum, prostratum, monspeliacum, extensum, reticulatum, undulatum, parviflorum, erectum. S. Europe, Cape, E. Indies, America.

489. APOCYNUM, or *Dogs-bane.*
14 species; viz. filiforme, hastatum, androsæmifolium,

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lium, cannabinum, hypericifolium, venetum, frutescens, paniculatum, umbellatum, reticulatum, cordatum, lanceolatum, triflorum, lineare. Am. isles, Adriatic, India.

490. ASCLEPIAS, or *Swallow-wort.*

41 species; viz. aphylla, undulata, crispa, pubescens, mucronata, procera, gigantea, grandiflora, carnosa, syriaca, amoena, purpurascens, variegata, curassavica, nivea, laniflora, parviflora, incarnata, pulchra, critifolia, decumbens, lactifera, vincetoxicum, nigra, fœtida, convolvulacea, volubilis, alexiaca, asthmatica, viminalis, arborescens, fruticosa, sibirica, davurica, setosa, filiformis, verticillata, mexicana, linaria, rubra, tuberosa. Europe, Africa, East Indies, America.

491. HOSTEA.

One species; viz. viridiflora.

492. MELODINUS.

One species; viz. scandens. New Caledonia.

493. CYROPEGIA.

Eight species; viz. candelabrum, tuberosa, bulbosa, biflora, juncea, acuminata, sagittata, tenuiflora. Cape, Ceylon, Malabar.

494. STAPELIA, or *African Swallow-wort.*

49 species; viz. ciliata, revoluta, hirsuta, sororia, grandiflora, ambigua, pulvinata, asterias, gemmiflora, divaricata, rufa, acuminata, reclinata, elegans, cæspitosa, arida, parviflora, subulata, concinna, glandulifera, pedunculata, aperta, gordoni, pilifera, candata, articulata, mammillaris, pruinosa, ramosa, pulla, adscendens, quadrangula, incarnata, punctata, geminata, decora, pulchella, vetula, verrucosa, irrorata, mixta, variegata, campanulata, barbata, venusta, guttata, humilis, reticulata, clarata. C. of G. Hope.

495. LINCONIA.

One species; viz. alopecuroidea. C. of G. Hope.

496. HERNIARIA, or *Rupture-wort.*

Six species; viz. * glabra, * hirsuta, alpina, fruticosa, lenticulata, polygonoides. Germany, Spain, Italy, Chili.

glabra. * H. Plant smooth.—This plant is a little saltish, and astringent. It is said to increase the secretions by the kidneys, and that the juice takes away specks in the eye; but, to the virtue for which it has been most celebrated, that of curing ruptures, it has no title. Cows, sheep, and horses eat it. Goats and swine refuse it.

497. CHENOPODIUM, or *Goosefoot*, or *Wild Orache.*

26 species; viz. * bonus henricus, mucronatum triandrum, * urbicum, atriplicis, * rubrum, guineense, * murale, quinoa, serotinum, * album, * viride, * hybridum, botrys, ambrosioides, multifidum, anthelminticum, * glaucum, * vulvaria, * polyspermum, caudatum, laterale, scoparia, * maritimum, oppositifolium, aristatum. Europe, China, America.

bonus henricus. * C. Leaves triangular, arrow-shaped, very entire; spikes compound, leafless, axillary.—This plant is said to be cultivated as spinage by the poor people at Boston in Lincolnshire. The young shoots, peeled and boiled, may be eaten as asparagus, which they resemble in flavour. They are gently laxative. The leaves are often boiled in broth. The roots are given to sheep that have a cough. Goats and sheep are not fond of it. Cows, horses, and swine, refuse it.

* C. leaves diamond triangular, gnawed, entire behind, the uppermost oblong; bunches upright.—Cows, goats, and sheep eat it. Horses refuse it. Swine are extremely fond of it. A black *aphis* feeds upon it, and sometimes destroys it. *album.*

* C. leaves awl-shaped, semi-cylindrical.—It is an excellent pot-herb. The *phalæna lubricipeda* feeds upon most of the species. *maritimum.*

C. with leaves oblong indented; branches naked, many-cleft. Called *Jerusalem oak.*—It is cultivated in gardens. It has a strong, not disagreeable smell, and a warm, somewhat pungent taste. It is recommended as a carminative pectoral, and it has also been recommended as an emmenagogue. Infusions of the leaves and seed may be drank as tea; and in this form it has been recommended in cases of chronic catarrh. But the proper menstruum, both for the leaves and seed, is rectified spirit. *botrys.*

* C. with entire, diamond-shaped, oval leaves, with flowers incorporated at the bosom of the leaves. *Stinking orach.* It is a low plant, sprinkled all over with a kind of whitish clammy meal; it grows about dunghills and waste places. The leaves have a strong fetid smell, with which the hand, by a light touch, becomes so impregnated, as not to be easily freed from it. Its smell has gained it the character of an excellent antihysteric; and this is the only use it is applied to.—Tournefort recommends a spirituous tincture, others a decoction in water, and others a conserve of the leaves, as of wonderful efficacy in uterine disorders; but in the present practice it is little employed. *vulvaria.*

498. BETA, or *Beet.*

Four species; viz. vulgaris, patula, cicla, maritima. France, Portugal, Madeira.—The *beta vulgaris* has of late attracted much notice on the continent, from the discovery of M. Achard of Berlin, that sugar may be extracted from it in large quantities with profit. See SUGAR.

499. MICROTEA.

One species; viz. debilis.

500. SALSOLA, or *Glass-wort.*

25 species; viz. * kali, tragus, rosacea, soda, sativa, spicata, altissima, trigyna, salsa, nudiflora, flavescens, hirsuta, laniflora, hyssopifolia, polyclonos, prostrata, monandra, vermiculata, arbuscula, aphylla, arborescens, * fruticosa, indica, sedoides, muricata. Europe, Egypt, Cape, Asia, Carnatic.

501. ANABASIS, or *Berry-bearing Glass-wort.*

Five species; viz. aphylla, cretacea, foliosa, spinosissima, tamariscifolia. Spain, Caspian sea, Egypt.

502. CRESSA.

Two species; viz. cretica, indica. Crete, Arabia.

503. GOMPHRENA, or *Globe Amaranth.*

Ten species; viz. globosa, perennis, hispida, angustifolia, vermicularis, brasiliensis, serrata, interrupta, flava, arborescens. India, S. Amer. New Gran.

504. BOSEA, or *Golden-rod Tree.*

One species; viz. yervamora. Canary isles.

505. ULMUS, or *Elm-tree.*

Seven species; viz. * campestris, suberosa, effusa, americana,

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americana, nemoralis, pumila, integrifolia. N. Europe, N. America.

campestris. * U. leaves doubly serrated, unequal at the base; flowers almost sitting, coronated together.—A decoction of the inner bark, drank freely, has been known to carry off the water in dropsies. It cures the *lepra ichthyosis* of Sauvages. The bark dried and ground to powder has been mixed with meal in Norway, to make bread in times of scarcity. The flowers have a violet smell. The wood, being hard and tough, is used to make axle-trees, mill-wheels, heels of boots, chairs, and coffins. The tree is beautiful, and well adapted to make shady walks, as it does not destroy the grass; and its leaves are acceptable to cows, horses, goats, sheep, and swine; for this purpose, it should be grafted upon the *U. glabra*, and then the roots will not send out suckers, which the common elm is very apt to do, and give a great deal of trouble to keep the ground clear of them. It loves an open situation, and black or clayey soil. It bears to be transplanted. *Papilio polychloros* and *C. album, phalæna lubricipeda, pavonia betularia et vellica, cimex ulmi et striatus, cicada ulmi, aphis ulmi*, feed upon it. The latter generally curl the leaves so as to make them a secure shelter against the weather. Silk worms will devour the tender leaves with great avidity.

506. NAMA.
One species; viz. jamaicensis. Jamaica.

507. HYDROLEA.
Three species; viz. spinosa, trigynia, zeylanica. E. and W. Indies, America.

508. ROCHEFORTIA.
Two species; viz. cuneata, ovata. Arabia.

509. HEUCHERA, or *Virginian Sanicle.*
One species; viz. americana. Virginia.

510. VELEGIA.
One species; viz. rigida. Spain.

511. SWERTIA, or *Marsh-Gentian.*
Six species; viz. * perennis, difformis, decumbens, corniculata, dichotoma, tetrapetala. Siberia, Austria, Virginiana, Canada.

512. GENTIANA, or *Gentian.*
56 species; viz. * lutea, purpurea, pannonica, punctata, campanulata, septemfida, asclepiadea, montana, cruciata, macrophylla, adscendens, * pneumonanthe, triflora, frigida, algida, saxosa, saponaria, ochroleuca, villosa, linearis, quinqueflora, aurea, glauca, exaltata, acaulis, altaica, pyrenaica, verna, utriculosa, bavarica, imbricata, prostrata, * nivalis, pumila, aquatica, scilloides, uniflora, germanica, * amarella, obtusifolia, uliginosa, pratensis, * campestris, auriculata, tenella, glacialis, dichotoma, nana, carinthiaca, sulcata, rotata, ciliata, crinita, barbata, dentosa, serrata.—The *gentiana lutea* is said to be found wild in some parts of England; but the dried roots are most commonly brought from Germany. They are much used in medicine. They should be chosen fresh, and of a yellow or bright colour within. This root is a strong bitter, and as such very frequently made use of in practice: in taste it is less exceptionable than most other bitters. Infusions of it, flavoured with orange-peel, are sufficiently grateful. It is the capital ingredient in the bitter wine, tincture, and infusion of the druggists. An extract from it is likewise prepared. This useful bitter is not used as a powder, as it loses considerably by the drying, which is requisite for giving it that form. As a very trifling quantity of it gives taste to a large quantity of water, it is said to be sometimes fraudulently used in malt liquors, to save the more expensive ingredient of hops.

513. DICHONDRA.
Two species; viz. repens, sericea. Jamaica, South sea isles.

514. VAHLIA.
One species; viz. capensis. C. of G. Hope.

515. BUMALDA.
One species; viz. trifolia. Japan.

516. PHYLLIS, or *Base Hares-ear.*
One species; viz. nobla. Canary isles.

517. CUSSONIA.
Two species; viz. thyrsiflora, spicata. C. of Good Hope.

518. ERYNGIUM, or *Sea-holly.*
11 species; viz. fœtidum, aquaticum, planum, pusillum, tricuspidatum, * maritimum, * campestre, amethystinum, triquetrum, alpinum, bourgati. Europe, N. America, W. Indies.

maritimum. * E. root leaves roundish, plaited, thorny; flowering heads on fruitstalks; chaff 3-pointed.—The leaves are sweetish, with a light aromatic warmth and pungency. The roots are supposed to have the same aphrodisiac virtues as the orchis tribe. They are kept in the shops, candied.

519. HYDROCOTYLE, or *Water Navel-wort.*
18 species; viz. * vulgaris, umbellata, bonariensis, americana, hirsuta, moschata, asiatica, erecta, villosa, glabrata, spananthe, ranunculoides, saniculæfolia, solandra, tridentata, chinensis, linifolia, virgata. Eur. N. America, India.

520. AZORELLA.
Two species; viz. filamentosa, cespitosa.

521. SANICULA, or *Sanicle.*
Three species; viz. * europæa, canadensis, marilandica. Europe, N. America.

522. ASTRANTIA, or *Black Master-wort.*
Five species; viz. epipactis, major, carniolica, minor, ciliaris. Alps of Europe.

523. BUPLEURUM, *Hares-ear.*
23 species; viz. * rotundifolium, stellatum, petræum, graminifolium, angulosum, pyrenaicum, longifolium, falcatum, caricifolium, odontites, semicompositon, ranunculoides, rigidum, * tenuissimum, baldense, gerardi, junceum, nudum, fruticosum, coriaceum, frutescens, spinosum, difforme. Germany, Switzerland, S. Europe.

525. ECHINOPHORA, or *Prickly Parsnip.*
Two species; viz. * spinosa, tenuifolia. Apulia, Med. sea shores.

526. HASSELQUISTIA.
Two species; viz. ægyptiaca, cordata. Egypt, Levant.

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527. TORDYLIUM, or *Hart-wort of Crete.*

Six species; viz. syriacum, * officinale, peregrinum, apulum, * maximum, siifolium. Austria, Italy, Crete, Syria.

528. CAUCALIS, or *Base Parsley.*

13 species; viz. grandiflora, * daucoides, * latifolia, mauritanica, pumila, orientalis, africana, leptophylla, platycarpos, * arvensis, * anthriscus, japonica, * nodosa. S. Europe, Egypt, India.

529. ARTEDIA.

One species; viz. squamata. Levant.

530. DAUCUS, or *Carrot.*

Six species; viz. * carota, mauritanicus, lucidus, visnaga, gingidium, muricatus. Europe, Barb. Carolina.—For the culture and properties of the carrot, see AGRICULTURE, N° 40, 341—353.

531. AMMI, or *Bishop's-weed.*

Four species; viz. magus, copticum, glaucifolium, daucifolium. Austria, S. Europe, Egypt.

532. BUNIUM, or *Pig* or *Earth-nut.*

Three species; viz. * bulbocastanum, majus, aromaticum. Germany, France.

533. CONIUM, or *Hemlock.*

Four species; viz. * maculatum, rugosum, rigens, africanum. Europe, Cape.

maculatum. * C. seeds without prickles; stem greatly branched, smooth, spotted.—The whole plant is poisonous, and many instances are recorded of its deleterious effects; but modern experience has proved it to be less virulent than was formerly imagined, and though it may not cure cancers, it is certainly a very useful medicine when properly prepared. The powder of the dried leaves is now only prescribed. Let the leaves be gathered about the end of June when the plant is in flower. Pick off the leaves and throw away the leafstalks. Dry these selected little leaves in a hot sun on a tin dropping-pan or pewter dish, before a fire. Preserve them in bags made of strong brown paper; or powder them, and keep the powder in glass phials, in a drawer, or something that will exclude the light; for the light soon dissipates the beautiful green colour, and with its colour the medicine loses its efficacy. From 15 to 25 grains of this powder may be taken, twice or thrice a-day. It has been found particularly useful in chronic rheumatisms, and also in many of those diseases which are usually supposed to arise from acrimony. This plant is recommended as well worth the medical practitioner's attention.

534. SELINUM, or *Milk Parsley.*

Nine species; viz. sylvestre, * palustre, austriacum, sibiricum, carvifolia, chabræi, seguieri, monnieri, decipiens. Europe.

535. ATHAMANTA, or *Base Spignel.*

11 species; viz. * libanotis, cervaria, sibirica, condensata, incana, oreoselinum, ficula, mathioli, cretensis, amnia, chinensis. Europe.—The seeds of the *A. Cretensis* or Candy Carrot, are brought from the Levant. It is an umbelliferous plant which grows in the island of Candy and the south of Europe. The seeds have a warm biting taste, and an aromatic smell. They are said to be diuretic, but are not at present regarded in medical practice.

536. PEUCEDANUM.

11 species; viz. * officinale, alpestre, capillaceum, tenuifolium, sibiricum, japonicum, * silaus, alsaticum, aureum, nodosum, geniculatum. Alps, Canaries, Japan.

officinale. * P. leaves five times divided into three; thread-strap-shaped.—The roots have a strong fetid smell, and an acrid, bitterish, unctuous taste. Wounded in the spring, they yield a considerable quantity of yellow juice, which dries into a gummy resin, and retains the strong scent of the root. Its virtues have not yet been ascertained with precision.

537. CRITHMUM, or *Samphire.*

Two species; viz. * maritimum, latifolium. Sea shores Europe, Canary.

maritimum. * C. leaves spear-shaped, fleshy.—Poor people on the sea coast eat it as a pot-herb, and gather it for sale, it being much used as a pickle. Sheep and cows eagerly feed, and are said to grow fat upon it.

538. CACHRYS.

Seven species; viz. odontalgica, libanotis, morisoni, sicula, taurica, cretica, panacisfolia. Spain, Sicily.

539. FERULA, or *Fennel giant.*

12 species; viz. communis, sibirica, glauca, rablensis, tingitana, ferulago, orientalis, meoides, nodiflora, canadensis, assafœtida, persica. Europe, Persia, N. America.

The large umbelliferous plant, with obtuse leaflets, alternately indented, called *ferula assafœtida*, is a native of Persia, and produces a valuable concrete juice. This juice exudes from wounds made in the root of the plant, liquid and white like milk. On being exposed to the air it turns of a brownish colour, and gradually acquires different degrees of consistency. It is brought to us in large irregular masses, composed of various little shining lumps or grains, which are partly of a whitish colour, partly reddish, and partly of a violet hue. These masses are accounted the best, which are clear, of a pale reddish colour, and variegated with a great number of elegant white tears. This drug has a strong fetid smell, somewhat like that of garlick. It loses, with age, of its smell and strength, a circumstance to be attended to in the use of it. It consists of about one-third part of pure resin, and two thirds of gummy matter; the former soluble in rectified spirit, the latter in water. Proof spirit dissolves almost the whole into a turbid liquor; the tincture in rectified spirit is transparent.

Assafœtida is the strongest of the fetid gums, and of frequent use in hysteric and different kinds of nervous complaints. It is likewise of considerable efficacy in flatulent colics, and for promoting all the fluid secretions in either sex. The ancients attributed to this medicine many other virtues, which are not at present expected from it. This gummy resin is an ingredient in the gum pills of the druggists, fetid tincture, tincture of soot, and fetid volatile spirit.

540. LASERPITIUM, or *Laser-wort.*

23 species; viz. latifolium, libanotis, capense, trilobum, aquilegifolium, gallicum, angustissimum, formosum, angustifolium, aureum, prutenicum, dauricum, silafolium, aciphylla, peucedanoides, silex, archange-

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lica, chironium, lucidum, ferulaceum, hirsutum, scabrum, simplex. Europe, New Zealand.

541. HERACLIUM, or *Cow-parsnip.*

10 species; viz. * sphondylium, flavescens, angustifolium, elegans, sibiricum, panacea, tuberosum, austriacum, alpinum, pumilum. Siber. Austria, Alps, Italy.

sphondylium. * H. leafets wing-cleft, even; flowers radiated.—In Poland and Lithuania the poor people are said to prepare a liquor from the leaves and seeds of this plant, which undergoes a fermentation, and is drank instead of ale. The stalks, when peeled, are eaten by the Kamtschatkans. The Russians take the leaf-stalks of the root-leaves, peel them, and hang them in the sun to dry a little: then they tie them in little bundles, and hang them up again till they become yellow: in this state they put them into bags, and a mealy substance like sugar forms upon the surface of them. This they shake of, and treat their guests with it as a great delicacy. They likewise distil an ardent spirit from it. The peelings of the stalks are acrid. The leaves are a favourite food of rabbits, hogs, and asses. Cows, goats, and sheep eat them; but horses are not fond of them.

542. LIGUSTICUM, or *Lovage.*

13 species; viz. levisticum, * scoticum, aquilegifolium, nodiflorum, peloponense, austriacum, * cornubiense, pyrenæum, candicans, peregrinum, balearicum, gingidium, longifolium. Alps, Austria, Portugal, Barbary.

scoticum. * L. Leaves doubly threefold.—This plant is much valued in the isle of Skye. The root is reckoned a good carminative, and an infusion of the leaves a good purge for calves. It is, besides, used as food, either as a salad, or boiled as greens. Horses, sheep, and goats eat it. Cows refuse it.

543. ANGELICA.

Six species; viz. * archangelica, * sylvestris, razoulii, verticillaris, atropurpurea, lucida. N. Europe, N. America.

sylvestris. * A. leafets equal, egg-spear-shaped, serrated.—It is warm, acrid, bitter, and aromatic: but the species cultivated in our gardens, possessing these properties in a higher degree, has been long neglected. *Papilio machaon* feeds upon it. Cows, goats, and swine eat it. Horses refuse it.

544. SIUM, or *Water Parsnip.*

18 species; viz. filifolium, * latifolium, angustifolium; * nodiflorum, * repens, sisarum, rigidius, japonicum, falcaria, paniculatum, grandiflorum, patulum, græcum, decumbens, siculum, asperum, hispidum, villosum. Europe, China, Japan, N. America.

latifolium * S. leaves winged; leafets egg-spear-shaped, regularly and sharply serrated; the terminating leafet 3-cleft; umbels terminating. Horses and swine eat it. Sheep are not fond of it. The roots are noxious to cattle.

nodiflorum. * S. leaves winged; leafets tooth-serrated; umbels lateral, opposite the leaves, sitting or on fruitstalks.—It is said, that a young lady, six years old, was cured of an obstinate cutaneous disease, by taking three large spoonfuls of the juice twice a-day. Three or four ounces have been repeatedly given to adults, every morning, in similar complaints, with the greatest advantage. It is not nauseous, and children take it readily, if mixed with milk. In the doses given, it neither affects the head, the stomach, nor the bowels.

545. SISON, or *Bare Stone-parsley.*

Eight species; viz. * amomum, * segetum, canadense, ammi, * inundatum, * verticillatum, salsum, crinitum. Europe, N. America.

546. BUBON, or *Macedonian Parsley.*

Five species; viz. macedonicum, galbanum, lævigatum, gummiferum, rigidius. Greece, Barb. Cape.

547. CUMINUM, or *Cummin.*

One species: viz. cyminum. Egypt, Ethiopia.—This umbelliferous plant resembles fennel in appearance, but is much smaller. The seeds used in Britain are brought chiefly from Sicily and Malta. Cummin seeds have a bitterish warm taste, accompanied with an aromatic flavour, not of the most agreeable kind. An essential oil is obtained from them by distillation, in which their activity is concentrated; and they are not unfrequently used externally, giving name both to a plaster and cataplasm in medical practice.

548. OENANTHE, or *Water Drop-wort.*

11 species; viz. * fistulosa, * crocata, prolifera, globulosa, peucedanifolia, * pimpinelloides, inebrians, tenuifolia, ferulacea, interrupta, exaltata. Europe, Carolina.

* O. sending forth suckers; stem-leaves winged, thread-shaped, hollow.—Cows and horses refuse this plant, though, from experiments made on purpose, it does not appear to be in the least degree noxious to the former. *fistulosa.*

* O. all the leaves many-cleft, blunt, nearly equal.—The whole of this plant is poisonous; and Dr Pulteney remarks, that the root is the most virulent of all the vegetable poisons that Great Britain produces: many instances of its fatal effects are recorded. It is said, that an infusion of the leaves, or three tea-spoonfuls of the juice of the root taken every morning, effected a cure in a very obstinate cutaneous disease, but not without occasioning very great disturbances in the constitution. Some say, that the country people in Westmoreland apply a poultice of the herb to the ulcer which forms in the fore-part of the cleft of the hoof in horned cattle, and is called the *foul.* Sheep eat it. Cows and horses refuse it. *crocata.*

549. PHELLANDRIUM.

Two species; viz. * aquaticum, mutellina. Europe.

* P. ramifications of the leaves straddling.—The seeds are recommended in intermittents, and are said to be diuretic, antiseptic, and expectorant; dose from one to three drachms daily. The leaves are sometimes added to discutient cataplasms. It is generally esteemed a fatal poison to horses, occasioning them to become paralytic: but this effect is owing to an insect (*curculio paraplecticus*), which generally inhabits within the stems. The usual antidote is pig-dung. In the winter, the roots and stems, dissected by the influence of the weather, afford a very curious skeleton or net-work. Horses, sheep, and goats eat it. Swine are not fond of it. Cows refuse it. *Chrysomela phellandria*, and the *gilt leptura*, are found upon the roots, and the *curculio paraplecticus* within the stems. *aquaticum.*

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550. CICUTA, or *Water-Hemlock.*

Three species; viz. * virosa, bulbifera, maculata. Eur. N. Amer.

virosa. * C. umbels opposite the leaves; leafstalks bordered, blunt.—This is one of the rankest of our vegetable poisons. Numerous instances are recorded of its fatality to the human species. Early in the spring, when it grows in the water, cows often eat it, and are killed by it; but, as the summer advances, and its scent becomes stronger, they carefully avoid it. Though a certain and fatal poison to cows, goats devour it greedily, and with impunity. Horses and sheep eat it with safety.

551. ÆTHUSA, or *Fools-parsley.*

Four species; viz. * cynapium, bunius, * meum, fatua. Europe.

cynapium. * Æ. all the leaves alike; fruit nearly globular.—This plant, from its resemblance to common parsley, has sometimes been mistaken for it, and when eaten, it occasions sickness. If the curled-leaved parsley only was cultivated in our gardens, no such mistakes would happen. Cows, horses, sheep, and swine eat it. It is noxious to geese.

meum. * Æ. all the leaves divided into many bristle-shaped segments; involucrum 1 leaf; fruit egg-oblong, tapering at each end.—Linnæus says, that the radical fibres of this plant form the basis of the *calculus ægragopila.* The roots and seeds are aromatic and acrid. They have been used as stomachics and carminatives. They are sometimes given to cure tertians; and there is no doubt but they will often answer as well as pepper, and other acrid aromatics.

552. CORIANDRUM, or *Coriander.*

Two species; viz. * sativum, testiculatum. S. of Eur.

sativum. * C. fruit globular.—The leaves have a very strong and disagreeable scent. The seeds are grateful to the taste, and incrusted with sugar are sold by the confectioners, under the name of coriander comfits. The Edinburgh college use them as correctors in the bitter infusion, and the preparations of senna; nothing so effectually covering the disagreeable taste of that medicine. They have been considered as suspicious, if not deleterious; but six drams of them have been taken at once, without any remarkable effect.

553. SCANDIX, or *Shepherds-needle.*

11 species; viz. * odorata, * pecten, chilensis, * cerefolium, * anthriscus, australis, nodosa, trichosperma, infesta, grandiflora, procumbens. Eur. Virg. Chili.

odorata. * S. seeds furrowed; angular.—The seeds are used in the north of England, for polishing and perfuming oak floors and furniture.

cerefolium * S. seeds glossy, cylindrical and beaked; umbels lateral, nearly sitting.—It is cultivated in our gardens as a pot-herb, and for salads. It is slightly aromatic and aperient. Cows are extremely fond of it. Sheep and goats eat it. Horses refuse it.

554. CHÆROPHYLLUM, or *Wild Chervil.*

11 species; viz. * sylvestre, bulbosum, aristatum, * temulum, capense, scabrum, hirsutum, aromaticum, coloratum, aureum, arborescens. Eur. Virg. Jap.

sylvestre. * C. stem smoothish, scored, a little swoln at the knots. The roots, eaten as parsnips, have been found poisonous. The umbels afford an indifferent yellow dye; the leaves and stems a beautiful green. Its presence indicates a fruitful soil. Neither horses, sheep, or goats, are fond of it. Swine refuse it. Rabbits are fond of it. In some parts of the kingdom, in times of scarcity, it is used as a pot-herb. Cows are so fond of it, that, when a pasture is overrun with it, as is often the case about Dudley, they always turn them in to eat it up.

555. IMPERATORIA, or *Master-wort.*

One species; viz. ostruthium. Alps of Austria, Switzerland.—Root warm and aromatic, a sudorific, diuretic, and sialagogue; recommended in dropsy, debilities of the stomach and bowels; and an infusion of it in wine is said to have cured quartans that have resisted the bark. When chewed, it excites a copious flow of saliva, exciting a warm and not disagreeable sensation in the gums, and frequently curing the rheumatic toothach.

556. SESELI, or *Hart-wort of Marseilles.*

15 species; viz. filifolium, pimpinelloides, montanum, striatum, glaucum, aristatum, annuum, chærophylloides, ammoides, tortuosum, turbith, hippomarathrum, pyrenæum, saxifragum, elatum. Germ. S. Eur.

557. THAPSIA, or *Deadly Carrot.*

Five species; viz. villosa, fœtida, asclepium, garganica, trifoliata. France, Spain, Portugal, Lev. Virg.

558. PASTINACA, or *Parsnip.*

Three species; viz. lucida, sativa, opopanax. South of Europe.

sativa. P. leaves simply winged.—The roots, when cultivated, are sweeter than carrots, and are much used by those who abstain from animal food in Lent; they are highly nutritious. In the north of Ireland, they are brewed instead of malt, with hops, and fermented with yeast. The liquor thus obtained is agreeable. The seeds contain an essential oil, and will often cure intermittent fevers. Hogs are fond of the roots, and quickly grow fat with them. See AGRICULTURE *Index.*

559. SMYRNIUM, or *Alexanders.*

Seven species; viz. perfoliatum, ægyptiacum, laterale, * olusatrum, apiifolium, aureum, integerrimum. Italy, Crete, Egypt, N. Amer.

olusatrum. * S. stem leaves growing by threes on leafstalks, serrated.—It was formerly cultivated in our gardens, but its place is now better supplied by celery. It is boiled, and greedily eaten by sailors returning from long voyages, who happen to land at the south-west corner of Anglesea.

560. ANETHUM, or *Dill.*

Three species; viz. graveolens, segetum, * fœniculum. Germ. Spain, Portugal.

fœniculum * A. leaves with many divisions, hair-like; seeds egg-oblong, tapering at each end, not bordered.—The tender buds are useful in salads. The leaves, boiled, are used in sauce for several kinds of fish, and eaten raw with pickled fish. In Italy the stalks are blanched as a winter salad. The seeds abound with an essential oil, which is carminative and diuretic, but not heating. The *papilio machaon* feeds upon it.

561. CARUM, or *Caraways.*

Two species; viz. * carui, simplex. Europe.

carui. * C. The young roots are said to be better eating than parsnips; the tender leaves may be boiled with pot-herbs. The seeds are used in cakes. Incrusted with sugar,

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gar, they are called caraway comfits, and are distilled with spirituous liquors, for the sake of the flavour they afford. The seeds were formerly recommended by Dioscorides to pale-faced girls, and in more modern days their use is not forgotten.—They are no despicable remedy in tertian agues. They abound with an essential oil, which is antispasmodic and carminative. Sheep, goats, and swine eat it. Cows and horses are not fond of it.

562. PIMPINELLA, or *Burnet Saxifrage.*

Ten species; viz. saxifraga, nigra, * magna, dissecta, glauca, capensis, peregrina, anisum, dichotoma, * dioica. Europe, Egypt.

magna. * P. leaves uniform, winged; leafets spear-shaped, irregularly serrated; floral leaves wing-cleft.—This and the saxifraga partake nearly of the same qualities. The root is very acrid, burning the mouth like pepper. It affords a blue oil. Its acrimony hath occasioned it to be used to cure the toothach, and to cleanse the skin from freckles. It is chewed to promote the secretion of saliva, and is used in gargles for dissolving viscid mucus in the throat. In Germany it is prescribed in the asthma and dropsy. The *papilio machaon* is found upon both species.

563. APIUM, or *Parsley.*

Two species; viz. petroselinum, * graveolens. Sardinia, Carolina.

graveolens * A. stem-leaves wedge-shaped.—The root in its wild state (when it grows near water) is fetid, acrid, and noxious; but when cultivated in dry ground it loses these properties, and the root and lower part of the leaf-stalks and stem, blanched by covering them up with earth, are eaten raw, boiled in soups, or stewed. In this latter state it is called *celery*. They are said to be hurtful to people subject to nervous complaints. They are certainly good antiscorbutics. The seeds yield an essential oil. Sheep and goats eat it; cows are not fond of it; horses refuse it.

564. ÆGOPODIUM, or *Gout-weed.*

One species; viz.

podagraria. * A. upper leaves three together; lower ones in triple threes.—The leaves may be eaten early in the spring with other pot-herbs. Cows, sheep, and goats eat it; horses are not fond of it.

ORDER III. TRIGYNIA.

565. SEMICARPUS.

One species; viz. anacardium. Ceylon.

566. RHUS, or *Sumach* or *Poison-tree.*

33 species; viz. coriaria, tiphynum, javanicum, glabrum, elegans, vernix, succedanium, semialatum, copallinum, alatum, pauciflorum, metopeum, digitatum, cirrhiflorum, tridentatum, radicans, toxicodendron, aromaticum, suaveolens, dentatum, sinuatum, cuneifolium, incisum, tomentosum, villosum, pubescens, viminale, angustifolium, rosmarinifolium, lævigatum, lucidum, cotinus, astrum. S. Europe, Cape, China, N. Amer.

coriaria. R. with winged leaves, and leafets elliptical, bluntly toothed, woolly beneath. Called *common sumach.*—This tree or shrub is cultivated in the south of Europe on account of the culinary uses of its fruits, and for the purposes of the dyers, &c. Amongst us it is met with only in the gardens of the curious. The seeds and berries are of a red colour, in shape round and flat. But these and the leaves are moderately astringent, and have sometimes been exhibited with this intention by medical practitioners; but they are not at present used.

copallinum R. with winged entire leaves, with a membranaceous jointed leaf-stalk.—This tree grows in New Spain, and produces a resin called *copal*, which is brought to us in irregular lumps, some transparent, of a yellowish or brown colour; others semitransparent and whitish. It is used for making a very pure and hard varnish by painters. It has never come into use in medicine in this country, though it is introduced into some of the foreign pharmacopœias, and may be considered as an article deserving attention.

567. VIBURNUM, or *Pliant Mealy-tree.*

23 species; viz. tinus, tinoides, villosum, scandens, nudum, primifolium, davuricum, dentatum, plicatum, erosum, * lantana, tomentosum, hirtum, acerifolium, orientale, * opulus, dilatatum, macrophyllum, cuspidatum, lentago, cassinoides, nitidum, lævigatum. S. of Europe, N. America.

lantana. * V. leaves heart-shaped, serrated, veined, cottony underneath.—The bark of the root is used to make birdlime. The berries are drying and astringent.

568. CASSINE, or *Cashew-berry-bush, South-Sea Tea.*

Four species; viz. capensis, colpoon, barbara, maurocenia. C. of G. Hope.

569. SAMBUCUS, or *Elder-tree.*

Five species; viz. * ebulus, canadensis, * nigra, japonica, racemosa. Europe, China. N. America.

ebulus. * S. tufts with three divisions; stipulæ leaf-like; stem herbaceous.—This plant has the same medical properties with the *S. nigra*, but in some respects more violent, and therefore less manageable: A dram and a half of the root is a strong purge: The berries give out a violet colour: The green leaves drive away mice from granaries, and the Silesians strew them where their pigs lie, under a persuasion that they prevent some of the diseases to which they are liable. Neither cows, goats, sheep, horses, or swine, will eat it.

nigra. * S. tufts with five divisions; leaves winged; leafets nearly egg-shaped, serrated; stem tree-like.—The whole plant has a narcotic smell; it is not well to sleep under its shade. The wood is hard, tough, and yellow. It is commonly made into skewers for butchers; tops for angling-rods; and needles for weaving nets. It is not a bad wood to turn in the lathe. The inner green bark is purgative, and may be used with advantage where acrid purgatives are requisite. In smaller doses it is diuretic, and has done eminent service in obstinate glandular obstructions, and in dropsies. If sheep that have the rot are placed in a situation where they can get at the bark and the young shoots, they will soon cure themselves. It is an ingredient in the black dye. The leaves are purgative like the bark, but more nauseous. They are an ingredient in several cooling ointments. If turnip-cabbages, fruit-trees or corn, which are subject to blight from a variety of insects, are whipped with the green leaves and branches of elder, the insects will not attack them. A decoction of the flowers, taken internally, is said to promote expectoration in pleurisies. If the flowers are fresh gathered

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gathered they loosen the belly. Externally they are used in fomentations to ease pain and abate inflammation. Many people use them to give a flavour to vinegar. They are fatal to turkeys. A rob prepared from the berries is a gentle opener, and promotes perspiration. The juice of the berries is employed to give a red colour to raisin or sugar wines. The berries are poisonous to poultry. The pith, being exceedingly light, is cut into balls used in electrical experiments. Sheep eat it; horses, cows, and goats refuse it. The *aphis sambuci* and the *phalæna sambucaria* are found upon it.

570. SPATHELIA.

One species; viz. simplex. Jamaica.

571. STAPHYLEA, or *Bladder-nut.*

Three species; viz. occidentalis, pinnata, trifolia. S. Europe, Virginia, Jamaica.

572. TAMARIX, or *Tamarisk.*

Four species; viz. * gallica, songarica, germanica, articulata. Germany, France, Spain, Italy, Barbary.

573. XYLOPHYLLA, or *Love-flower.*

Seven species; viz. longifolia, latifolia, arbuscula, falcata, angustifolia, montana, ramiflora. Siberia, Jamaica, Bahama isles.

574. REICHELIA.

One species; viz. palustris.

575. SALMASIA.

One species; viz. racemosa. Guiana.

576. TURNERA, or *Nettle-leaved Cistus.*

Nine species; viz. ulmifolia, pumilea, rupestris, fidoides, frutescens, rugosa, cistoides, racemosa, gujanensis. Jamaica, Martinico, Guiana.

577. TELEPHIUM, or *True Orpine.*

Two species; viz. imperati, oppositifolium. South of France, Italy, Barbary.

578. CORRIGIOLA, or *Base Knot grass.*

Two species; viz. * littoralis, capensis. Germany, France, Arabia.

579. PHARNACEUM.

14 species; viz. cerviana, lineare, teretifolium, microphyllum, marginatum, mollugo, glomeratum, serpyllifolium, quadrangulare, incanum, albens, dichotomum, distichum, cordifolium. Russia, Spain, Asia, Africa.

580. ALSINE, or *Chickweed.*

Three species; viz. * media, segetalis, mucronata. S. Europe, Egypt.

581. DRYPSIS.

One species; viz. spinosa. Italy, Barbary.

582. BASELLA, or *Malabar Nightshade.*

Five species; viz. rubra, alba, lucida, cordifolia, vesicaria. East Indies, China.

583. SAROTHRA, or *Base Gentian.*

One species; viz. gentianoides. Virginia, Pensylvania.

584. PORTULACARIA, or *Purslane tree.*

One species; viz. afra. Africa.

ORDER IV. TETRAGYNIA.

585. PARNASSIA, or *Grass of Parnassus.*

One species; viz. * palustris. Europe.

586. EVOLVULUS.

Seven species; viz. mammilarius, gangeticus, emarginatus, alsinoides, hirsutus, linifolius, sericeus. East Indies, Jamaica.

ORDER V. PENTAGYNIA.

587. ARALIA, or *Berry-bearing Angelica.*

10 species; viz. arborea, capitata, cordata, japonica, pentaphylla, seiodaphyllum, spinosa, chinensis, racemosa, nudicaulis. China, West Indies, North America.

588. GLOSSOPETALUM.

Two species; viz. glabrum, tomentosum. Guiana.

589. STATICE, or *Thrift*, or *Sea-pink.*

37 species; viz. * armeria, juniperifolia, alliacea, cephalotes, graminifolia, * limonium, gmelini, scoparia, latifolia, oleæfolia, incana, auriculæfolia, cordata, scabra, tetragona, * reticulata, echiodes, speciosa, tatarica, echinus, flexuosa, purpurata, longifolia, minuta, pectinata, suffruticosa, monopetala, axillaris, cylindrifolia, linifolia, aurea, ferulacea, pruinosa, sinuata, lobata, spicata, micronata. Europe, Barbary, Canary, Amer.

* S. stalk simple, with a head of flowers; leaves strap-shaped.—It is much used in gardens as an edging for borders, and, when in full blossom, gives a glowing tinge to pastures on the sea-coast. Horses and goats eat it; sheep are not fond of it. *armeria.*

590. LINUM, or *Flax.*

29 species; viz. * usitatissimum, * perenne, viscosum, hirsutum, aquilinum, narbonense, reflexum, * tenuifolium, selaginoides, prostratum, gallicum, maritimum, alpinum, austriacum, virginianum, flavum, monopetalum, strictum, monogynum, suffruticosum, arboreum, campanulatum, africanum, æthiopicum, nodiflorum, * catharticum, * radiola, quadrifolium, verticillatum. Europe, Africa, America.

* L. cal. and capsules dagger-pointed; petals scolloped; leaves spear-shaped; stem generally solitary.—This valuable plant originally came from those parts of Egypt which are exposed to the inundations of the Nile. The seeds yield, by expression only, a large proportion of oil, which is an excellent pectoral, as is likewise the mucilaginous infusion. They make an easy and useful poultice in cases of external inflammation; and they are the food of several small birds. After the oil is expressed, the remaining farinaceous part, called *oil-cake*, is given to oxen, who soon grow fat upon it. The oil itself differs in several respects from other expressed oils; it does not congeal in winter, nor does it form a solid soap with fixed alkaline salts; and it acts more powerfully as a menstruum upon sulphureous bodies. When heat is applied during the the expression, it gets a yellowish colour, and a peculiar smell. In this state it is used by the painters and the varnishers. The fibres of the stem are manufactured into linen, and this linen, when worn to rags, is made into paper. *usitatissimum.*

* L. leaves opposite, egg-spear-shaped; stem forked. Cor. pointed.—An infusion of two drams or more of the dried plant is an excellent purge, and has been given with advantage in many obstinate rheumatisms. It frequently acts as a diuretic. Horses, sheep, and goats eat it. *catharticum.*

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591. ALDROVANDA.
One species; viz. vesiculosa. Italy, India.

592. DROSERA, or *Sun-dew.*
10 species; viz. acaulis, * rotundifolia, cuneifolia, burmanni, * longifolia, capensis, lusitanica, cistifolia, peltata, indica. Europe, Asia, Africa, America.

rotundifolia. * D. stalks from the root; leaves circular.—The whole plant is acrid, and sufficiently caustic to erode the skin; but some ladies know how to mix the juice with milk, so as to make it an innocent and safe application to remove freckles and sunburn. The juice that exsudes from it unmixed will destroy warts and corns. This plant has the same effect upon milk as the *pinguicula vulgaris*, and like that too is supposed to occasion the rot in sheep. The sour coagulated milk of the Syrians, called *leban* or *leven*, is supposed to be at first prepared with some plant of this kind. The name *sun-dew* seems to be derived from a very striking circumstance in the appearance of these plants; the leaves are fringed with hairs, supporting small drops or globules of a pellucid liquor like dew, which continue even in the hottest part of the day and in the fullest exposure to the sun. Perhaps the acrimony of the plant resides in this secreted liquor.

593. GISCHIA.
One species; viz. pharnacioides. E. Indies.

594. CRASSULA, or *Lesser Orpine.*
71 species; viz. coccinea, cymosa, flava, pubescens, pruinosa, scabra, corallina, vestita, argentea, perfoliata, perforata, fruticulosa, ramosa, mollis, tetragona, muricata, punctata, obvallata, cultrata, obliqua, spathulata, punctata, marginalis, cordata, lactea, arborescens, rupestris, pinnata, spinosa, retroflexa, lineolata, centauroides, dichotoma, glomerata, pulchella, strigosa, muscosa, pyramidalis, columnaris, hemisphærica, alcoides, capitella, cotyledonis, barbata, ciliata, thyrsiflora, spicata, subulata, alternifolia, rubens, cæspitosa, minima, moschata, verticillaris, expansa, dentata, nudicaulis, tecta, cephalophora, montana, turrita, alpestris, marginata, tomentosi, crenulata, deltoidea, orbicularia, sparsa, diffusa, prostrata, pellucida. Switzerland, Italy, Cape, China.

595. MAHERNIA.
Eight species; viz. verticillata, pinnata, pulchella, diffusa, incisa, glabrata, heterophylla, biserrata. C. of G. Hope.

596. COMMERSONIA.
One species; viz. echinata. Otaheite.

597. SIBBALDIA.
Three species; viz. * procumbens, erecta, altaica. Siberia, Alps in Europe.

ORDER VI. DECAGYNIA.

598. SCHEFFLERA.
One species; viz. digita. South Sea isles.

ORDER VII. POLYGYNIA.

599. MYOSURUS, or *Mouse-tail.*
One species; viz. * minimus. Europe.

600. ZANTHORHIZA.
One species; viz. apiifolia.

In the class Pentandria are

325 Genera, including 2537 Species, of which 168 are found in Britain.

CLASSIS VI.

HEXANDRIA.

ORDO I. MONOGYNIA.

Sect. I. *Flores calyculati, calyce corollaque instructi, absque spathis.*

602. BROMELIA. Cor. 3 partita. Cal. 3-partitus, superus. Bacca.
603. PITCAIRNIA. Cor. 3-partita. Cal. 3-partitus, semisuperus. Capsula.
604. TILLANDSIA. Cor. 3-petala. Cal. 3-partitus, inferus. Sem. comosa.
606. BURMANNIA. Cor. 3-petala. Cal. 1-phyllus, inferus, triquetro-alatus, coloratus.
607. TRADESCANTIA. Cor. 3-petala. Cal. 3-phyllus, inferus. Filamenta barbata.
686. STEPHANIA. Cor. 4-petala. Cal. 2-lobus. Germ. pedicellatum.

CLASS VI.

HEXANDRIA.

ORDER I. MONOGYNIA.

Sect. I. *Flowers double calyxed, furnished with a calyx and corolla, and without sheaths.*

B. Cor. 3-partite. Cal. 3-partite, superior. A berry.
P. Cor. 3-partite. Cal. 3-partite, half superior. A capsule.
T. Cor. 3-petalous. Cal. 3-partite, inferior. Seeds hairy.
B. Cor. 3-petalous. Cal. 1 leaf, inferior, three-square, winged, coloured.
T. Cor. 3-petalous. Cal. 3-leaved, inferior. Filaments bearded.
S. Cor. 4-petalous. Cal. 2-lobed. Germen on a pedicle.

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690. FRANKENIA. Cor. 5-petala. Cal. 1-phyllus, inferus. Caps. 1-locularis, polysperma.
675. COSSIGNEA. Cor. 5-petala. Cal. 5-partitus. Caps. 3-locularis.
684. LORANTHUS. Cor. 6-partita. Cal. margo superus. Bacca 1-sperma.
687. HILLIA. Cor. 6-fida. Cal. 6-phyllus, superus. Fructus 2-locularis, polyspermus.
685. SCHRADERA. Cor. 6-fida. Cal. truncatus. Bacca polysperma.
DUROIA. Cor. 6-partita. Cal. truncatus. Pomum.
671. RICHARDIA. Cor. 6-fida. Cal. 6-fidus, superus. Sem. 3, nuda.
665. TACCA. Cor. 6-petala. Cal. 6-partitus. Bacca infera.
676. BARBACENTIA. Cor. 6-petala. Cal. 6-dentatus. Filamenta dentata. Capsula.
677. BERBERIS. Cor. 6-petala. Cal. 6-phyllus, inferus. Bacca 2-sperma.
644. LEONTICE. Cor. 6-petala. Cal. 6-phyllus, inferus. Bacca inflata, supera.
679. NANDINA. Cor. 6-petala. Cal. polyphyllus, imbricatus. Bacca 2-sperma.
674. PRINOS. Cor. 6-fida. Cal. 6-fidus, inferus. Bacca 6-sperma.
678. PSATHURA. Cor. 6-fida. Cal. 6-dentatus. Pomum 6-loculare.
689. CANARINA. Cor. 6-fida. Cal. 6-phyllus, superus. Caps. 6-locularis.
673. ACHRAS. Cor. 12-fida. Cal. 6-phyllus, inferus. Bacca 12-sperma.
683. CAPURA. Cor. 12-fida. Cal. nullus. Germen superum. Bacca.

† *Chlora imperfoliata. Portlandia hexandra. Lythra aliquot. Fumaria. Cucullaria.*

F. Cor. 3 petals. Cal. 1 leaf, inferior. Caps. 1 cell, many seeds.
C. Cor. 5 petals. Cal. 5-partite. Caps. 3-celled.

L. Cor. 6-partite. Cal. border superior. Berry 1 seed.
H. Cor. 6-cleft. Cal. 6-leaved, superior. Fruit 2-celled, many seeds.
S. Cor. 6-cleft. Cal. lopped. A berry with many seeds.
D. Cor. 6-partite. Cal. lopped. An apple.

R. Cor. 6-cleft. Cal. 6-cleft, superior, 3 naked seeds.
T. Cor. 6 petals. Cal. 6-partite. Berry inferior.

B. Cor. 6 petals. Cal. 6-toothed. Filaments toothed. A capsule.
B. Cor. 6 petals. Cal. 6-leaved, inferior. Berry 2-seeded.
L. Cor. 6 petals. Cal. 6-leaved, inferior. Berry inflated, superior.
N. Cor. 6 petals. Cal. many-leaved, tiled. Berry with 2 seeds.
P. Cor. 6-cleft. Cal. 6-cleft, inferior. Berry 6 seeds.
P. Cor. 6-cleft. Cal. 6-toothed. A 6-celled apple.

C. Cor. 6-cleft. Cal. 6-leaved, superior. Caps. 6-celled.
A. Cor. 12-cleft. Cal. 6-leaved, inferior. Berry 12-seeded.
C. Cor. 6-cleft. No calyx. Germen superior. Berry.

Sect. II. *Flores calyculati, calyce, corolla, spathisque instructi.*

666. CORYPHA. Cor. 3-partita. Cal. 3-phyllus. Drupa.
667. LICOALA. Cor. 3-partita. Cal. 3-partitus. Nectar. sertiforme. Drupa.
608. MNASIUM. Cor. 3-dentata. Cal. 5-partit. Spatha 2-valvis. Antheræ foliaceæ.

Sect. II. *Double calyxed flowers, furnished with a corolla and sheaths.*

C. Cor. 3-partite. Cal. 3-leaved. A drupe.

L. Cor. 3-partite. Cal. 3-partite. Nectary garland-shaped. A drupe.
M. Cor. 3-toothed. Cal. 3-partite. Sheath 2-valved. Anthers leafy.

Sect. III. *Flores spathacei glumacei.*

601. URANIA. Cor. supera 3-petala. Spathæ alternæ.
610. HÆMANTHUS. Cor. supera, 6-partita. Involucrum polyphyllum, maximum.
613. LEUCOIUM. Cor. supera, 6-petala, campanulata. Stamina æqualia.
614. STRUMARIA. Cor. 6-petala, plana.
612. GALANTHUS. Cor. supera, 6-petala. Nectar. campanulatum, extra stamina.
617. PANCRATIUM. Cor. supera, 6-petala. Nectarium campanulatum, staminibus terminatum.
622. AMARYLLIS. Cor. supera, 6-petala, irregularis. Stam. inæqualia, declinata.
618. CRINUM. Cor. supera, 6-fida, basi tubulosa. Stam. distantia, fauci inserta.

Sect. III. *Flowers sheathed husked.*

U. Cor. superior, 3-petaled. Sheaths alternate.

H. Cor. superior, 6-partite. The involucrum many-leaved, very large.
L. Cor. superior, 6-petaled, bell-shaped. Stamens equal.
S. Cor. 6-petaled, flat.
G. Cor. superior, 6-petaled. Nectary bell-shaped, without the stamens.
P. Cor. superior, 6-petaled. Nectary bell-shaped, ending with stamens.
A. Cor. superior, 6-petaled, irregular. The stamens unequal, bending.
C. Cor. superior, 6-cleft, tubular at the base. Stamens distant, inserted in the mouth.

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621. CYRTANTHUS. Cor. supera, 6-fida, clavata. Filamenta simplicia.
620. EUSTEPHIA. Cor. supera, 6-fida, tubulosa. Filamenta tricuspidata.
619. AGAPANTHUS. Cor. infera, 6-fida, infundibuliformis, regularis.
609. PONTEDERIA. Cor. infera, 6-fida, ringens.
624. BULBOCODIUM. Cor. infera, 6-petala; unguibus longissimis staminiferis.
615. TULBAGIA. Cor. infera, 6-petala; tribus inferioribus. Nectarium cylindricum extus petaliferum.
626. ALLIUM. Cor. infera, 6-petala. Petala ovata, sessilia.
636. CURCULIGO. Cor. infera, 6-petala. Styl. 3-partitus.
625. APHYLLANTHES. Cor. infera, 6-petala. Spathæ dimidiatæ, glumosæ.
611. MASSONIA. Cor. infera, 6-partita. Stem. nect. inserta.
637. HYPOXIS. Cor. supera, 6-petala. Spathæ glumaceæ.

C. Cor. superior, 6-cleft, club-shaped. Filaments undivided.
E. Cor. superior, 6-cleft, tubular. Filaments 3-pointed.
A. Cor. inferior, 6-cleft, funnel-shaped, regular.

P. Cor. inferior, 6 cleft, gaping.
B. Cor. inferior, 6-petaled, with very long claws bearing the stamens.
T. Cor. inferior, 6-petals; three inferior. A cylindrical nectary without, bearing the petals.
A. Cor. inferior, 6 petaled. Petals oval, sitting.

C. Cor. inferior, 6-petaled. Style 3-partite.

A. Cor. inferior, 6-petaled. Sheaths extending half round, husky.
M. Cor. inferior, 6-partite. Stamens inserted in a nectary.
H. Cor. superior, 6-petaled. Sheaths husky.

Sect. IV. *Flores nudi.*

605. XEROPHYTA. Cor. 6-partita supera. Stigma clavatum.
661. ALSTROEMERIA. Cor. supera, 6-petala, unguibus tubulosis.
655. LANARIA. Cor. supera, 6-fida, subcampanulata.
662. HEMEROCALLIS. Cor. infera, 6-partita. Stam. declinata.
660. AGAVE. Cor. supera, 6-fida, limbo erecto, filamentis brevior.
635. GETHYLLIS. Cor. supera, 6-partita. Bacca clavata, polysperma.
659. ALOE. Cor. infera, 6-fida. Filam. receptaculo inserta.
657. ALETRIS. Cor. infera, 6-fida, rugosa. Stamina fauci inserta.
656. VOLTHEIMIA. Cor. infera, 6-fida. Stamina corollæ basi inserta.
650. POLYANTHES. Cor. infera, 6-fida, tubo curvato.
649. CONVALLARIA. Cor. infera, 6-fida. Bacca trisperma.
648. SANSEVIERA. Cor. 6-partita. Bacca 1-sperma.
652. HYACINTHUS. Cor. infera, 6-fida, subcampanulata. Stamina receptaculo inserta.
651. DRIMIA. Cor. infera, 6-fida, campanulata. Stamina tubo corollæ inserta.
623. MILLEA. Cor. infera, 6-fida, infundibulif. Germen pedicellatum.
642. ASPHODELUS. Cor. infera, 6-partita. Nectarii valvulis 6 staminiferis.
629. EUCOMIS. Cor. infera, 6-partita, persistens. Filamenta nectario adnata.
643. ANTHERICUM. Cor. infera, 6-petala, plana.
681. ENARGEA. Cor. infera, 6-petala, petalis alternè basi biglandulosis.
653. PHORMIUM. Cor. infera, 6-petala, inæqualis. Caps. triquetra.
654. LACHENALIA. Cor. infera, 6-petala, inæqualis. Caps. trialata.

Sect. IV. *Flowers naked.*

X. Cor. 6-partite superior. Stigma club-shaped.

A. Cor. superior, 6-petaled, with tubular claws.

L. Cor. superior, 6-cleft, nearly bell-shaped.

H. Cor. inferior, 6-partite. Stamens bent.

A. Cor. superior, 6-cleft, with an erect border shorter than the filaments.
G. Cor. superior, 6-partite. Berry club-shaped, many-seeded.
A. Cor. inferior, 6-cleft. Filaments inserted in the receptacle.
A. Cor. inferior, 6-cleft, wrinkled. Stamens inserted in the mouth.
V. Cor. inferior, 6-cleft. Stamens inserted in the base of the corolla.
P. Cor. inferior, 6-cleft, with a crooked tube.

C. Cor. inferior, 6-cleft. Berry 3-seeded.

S. Cor. inferior, 6-partite. Berry 1-seeded.

H. Cor. inferior, 6-cleft, nearly bell-shaped. Stamens inserted in the receptacle.
D. Cor. inferior, 6-cleft. Bell-shaped. Stamens inserted in the tube of the corolla.
M. Cor. inferior, 6-cleft, funnel-shaped. Germen on a pedicle.
A. Cor. inferior, 6-cleft. Nectaries with 6 valves, bearing the stamens.
E. Cor. inferior, 6-partite, permanent. Filaments connected with the nectary.
A. Cor. inferior, 6 petals, flat.
E. Cor. inferior, 6 petals, the petals alternately biglandular at the base.
P. Cor. inferior, 6 petals, unequal. Caps. with 3 flat sides.
L. Cor. inferior, 6 petals, unequal, Caps. 3-winged.

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* 639. ORNITHOGALUM. Cor. infera, 6-petala. Filam. alternis basi dilatatis.

638. ERIOSPERMUM. Cor. infera, 6-petala. Filam. lanceolata. Sem lanata.

* 640. SCILLA. Cor. infera, 6-petala, decidua. Filam. filiformia.

641. CYANELLA. Cor. infera, 6-petala; petalis exterioribus propendentibus.

682. PHILESIA. Cor. infera, 6-petala, tribus interioribus duplo longioribus.

680. LINDERA. Cor. infera, 6-petala. Caps. 2-locularis.

647. DRACÆNA. Cor. infera, 6-petala. Bacca 3-sperma.

* 646. ASPARAGUS. Cor. infera, 6-petala. Bacca 6-sperma.

645. POLLIA. Cor. infera, 6-petala. Bacca polysperma.

631. GLORIOSA. Cor. infera, 6-petala, reflexa, caudata.

630. UVULARIA. Cor. infera, 6-petala, basi fovea nectarifera; erecta.

* 628. FRITILLARIA. Cor. infera, 6-petala, basi fovea nectarifera; ovata.

627. LILIUM. Cor. infera, 6-petala; petalis basi canaliculato-tubulosis.

* 633. TULIPA. Cor. infera, 6-petala, campanulata. Stylus 0.

658. YUCCA. Cor. infera, 6-petala, patens. Stylus 0.

634. ALBUCA. Cor. infera, 6-petala, 3 exterioribus patulis, 3 interioribus conniventibus. Stigma cinctum cuspidibus 3.

Sect. V. *Flores incompleti.*

664. ORONTIUM. Spadix multiflorus. Follic. 1-spermus.

* 663. ACORUS. Spadix multiflorus. Caps. 3-locularis.

669. CALAMUS. Cal. 6-phyllus. Peric. retrorsum imbricatum, 1-spermum.

* 670. JUNCUS. Cal. 6-phyllus. Casp. 1-locularis.

668. THRINAX. Cal. 6-dentatus. Drupa.

* 691. PEPLIS. Cal. 12-fidus. Caps. 2-locularis.

Sect. VI. *Gramina.*

693. BAMBUSA. Cal. 0. Cor. 2-valvis.

692. GAHNIA. Cal. 1-valv. Cor. 2-valvis.

694. EHRHARTA. Cal. 2-valv. Cor. duplex.

ORDO II. DIGYNIA.

679. FALKIA. Cal. 5-partitus. Cor. 1-petala. Sem. 4.

698. ATRAPHAXIS. Cal. 2-phyllus. Cor. 2-petala. Sem. compressum.

696. NECTRIS. Cal. 6-partit. Cor. 0. Caps. 2, polyspermæ.

695. ORYZA. Gluma 1-flora. Cor. 2-glumis. Sem. 1, oblongum.

† *Leersia hexandria. Ehrhartæ nonnullæ.*

* O. Cor. inferior, 6 petals. The alternate filaments dilated at the base.

E. Cor. inferior, 6 petals. Filaments spear-shaped. Seeds woolly.

* S. Cor. inferior, 6 petals, deciduous. Filam. thread-shaped.

C. Cor. inferior, 6 petals; outer petals hanging over.

P. Cor. inferior, 6 petals, the three inner of a double length.

L. Cor. inferior, 6 petals. Caps. 2-celled.

D. Cor. inferior, 6 petals. A berry, 3-seeded.

* A. Cor. inferior, 6 petals. A berry, 6-seeded.

P. Cor. inferior, 6 petals. Berry many-seeded.

G. Cor. inferior, 6 petals bent back, tailed.

U. Cor. inferior, 6 petals, with a honey-bearing hollow at the base, erect.

* F. Cor. inferior, 6 petals, with a honey-bearing hollow at the base, oval.

L. Cor. inferior, 6 petals, the petals tubular-channelled at the base.

* T. Cor. inferior, 6 petals, bell-shaped. No style.

Y. Cor. inferior, 6 petals, expanding. No style.

A. Cor. inferior, 6 petals, the 3 outer open, the three inner converging. The stigma surrounded by 3 prickles.

Sect. V. *Incomplete Flowers.*

O. Sheathed fruit-stalk, many-flowered. Air-bag 1-seeded.

* A. Sheathed fruit-stalk, many-flowered. Caps. 3-celled.

C. Cal. 6-leaved. Seed-vessel tiled backwards. One seed.

* J. Cal. 6-leaved. Caps. 1-celled.

T. Cal. 6-toothed. A drupe.

* P. Cal. 12-cleft. Caps. 2-celled.

Sect. VI. *Grasses.*

B. No cal. Cor. 2-valved.

G. Cal. 1-valved. Cor. 2-valved.

E. Cal. 2-valved. Cor. double.

ORDER II. DIGYNIA.

F. Cal. 5-partite. Cor. 1-petaled. Seeds 4.

A. Cal. 2-leaved. Cor. 2-petaled. Seed compressed.

N. Cal. 6-partite. No cor. Caps. 2, many-seeded.

O. A husk, 1-flowered. Cor. with 2 husks. One oblong seed.

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Ordo III. TRIGYNIA.

Sect. I. *Flores inferi.*

703. Wurmbea. Cor. 6-fida, tubulosa.
* 707. Colchicum. Cal. spatha. Cor. 6-petaloidea.
704. Melanthium. Cal. o. Cor. 6-petala, petalis staminiferis.
705. Medeola. Cal. o. Cor. 6-petala. Bacca 3-cocca.
708. Helonias. Cal. o. Cor. 6-petala. Caps. 3-locul.
706. Trillium. Cal. 3-phyllus. Cor. 3-petala. Bacca 3-locul.
* 702. Triglochin. Cal. 3-phyllus. Cor. tripetala. Caps. basi dehiscens.
* 669. Rumex. Cal. 3-phyllus. Cor. 3-petala. Sem. 1, triquetrum.
701. Scheuchzeria. Cal. 6-phyllus. Cor. o. Caps. 3, 1-spermæ.

† *Xylophylla latifolia.*

Sect. II. *Flores superi.*

700. Flagellaria. Cal. 6-phyllus. Cor. o. Pericarpium 1-spermum.

Ordo IV. HEXAGYNIA.

710. Damosonium. Spatha. Cal. 5-partit. Cor. 3-petala. Bacca 10-locul.
706. Wendlandia. Cal. 6-phyl. Cor. 6-petala. Caps. 6, monospermæ.

Ordo V. POLYGYNIA.

* 711. Alisma. Cal. 3-phyllus. Cor. 3-petala. Pericarp. plura.

Order III. TRIGYNIA.

Sect. I. *Flowers inferior.*

W. Cor. 6-cleft, tubular.
* C. Cal. a sheath. Cor. 6-petaled.
M. No cal. Cor. 6-petaled, with petals bearing the stamens.
M. No cal. Cor. 6-petaled. A berry 3-celled.
H. No cal. Cor. 6-petaled. Caps. 3-celled.
T. Cal. 3-leaved. Cor. 3-petaled. Berry 3-celled.
* T. Cal. 3-leaved. Cor. 3-petalous. Caps. opening at the base.
* R. Cal. 3-leaved. Cor. 3-petaled. Seed 1, triangular.
S. Cal. 6-leaved. No cor. Caps. 3, 1-seeded.

Sect. II. *Flowers superior.*

F. Cal. 6-leaved No cor. Seed-vessel with 1 seed.

Order IV. HEXAGYNIA.

D. A sheath. Cal. 5-partite. Cor. 3-petaled. Berry 10-celled.
W. Cal. 6-leaved. Cor. 6-petaled. Caps. 6, 1-seeded.

Order V. POLYGYNIA.

* A. Cal. 3-leaved. Cor. 3 petals. Several seed-vessels.

Order I. MONOGYNIA.

601. Urania.
One species; viz. speciosa. Isle of Madagascar.

602. Bromelia, or *Pine-apple, Ananas.*
10 species; viz. ananas, pinguin, karatas, lingulata, bracteata, paniculigera, chrysantha, nudicaulis, humilis, acanga. W. Indies, S. America.—The ananas is the most grateful of all the tropical fruits. It requires a very powerful heat for its cultivation in hot-houses.

603. Pitcairnia.
Three species; viz. bromeliæfolia, angustifolia, latifolia. Jamaica, Santa Cruz.

604. Tillandsia.
16 species; viz. utriculata, serrata, lingulata, tenuifolia, flexuosa, setacea, paniculata, fasciculata, nutans, polystachya, monostachya, pruinosa, canescens, angustifolia, recurvata, usneoides. N. Amer. Jamaica.

605. Xerophyta.
One species; viz. pinifolia. Isle of Madagascar.

606. Burmannia.
One species; viz. disticha, biflora. Ceyl. Virg.

607. Tradescantia, or *Virginia Spider-wort.*
17 species; viz. virginica, crassifolia, erecta, zanonia, discolor, malabarica, nervosa, divaricata, geniculata, monandra, multiflora, cordifolia, procumbens, axillaris, formosa, cristata, papilionacea. Virginia, Maryland, E. and W. Indies.

608. Mnasium.
One species; viz. paludosum. Guiana.

609. Pontederia.
Six species; viz. rotundifolia, azurea, vaginalis, limosa, cordata, hastata. E. and W. Indies.

610. Hæmanthus, or *Blood-flower.*
14 species; viz. coccineus, coarctatus, puniceus, multiflorus, tigrinus, quadrivalvis, pubescens, ciliaris, albiflos,

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albiflos, toxicarius, lanceæfolius, carinatus, pumilis, spiralis. Africa.

611. MASSONIA.

Four species; viz. latifolia, angustifolia, undulata, echinata. C. of G. Hope.

612. GALANTHUS, or *Snow-drop.*

One species; viz. * nivalis. South of Europe.

613. LEUCOIUM, or *Greater Snow-drop.*

Three species; viz. * vernum, * æstivum, autumnale. Germany, Switzerland, Italy, Cape.

614. STRUMARIA.

Six species; viz. linguæfolia, truncata, rubella, undulata, angustifolia, filifolia.

615. TULBAGIA.

Two species; viz. alliacea, cepacea. Cape of Good Hope.

616. NARCISSUS, or *Daffodil.*

17 species; viz. * poeticus, incomparabilis, * pseudonarcissus, bicolor, minor, moschatus, triandrus, orientalis, trilobus, odorus, * biflorus, calathinus, tazetta, dubius, bulbocodium, serotinus, jonquilla. South of Europe, Levant.

617. PANCRATIUM, or *Sea-daffodil.*

11 species; viz. zeylanicum, mexicanum, humile, caribæum, maritimum, fragrans, littorale, speciosum, amœnum, illyricum, amboinense. S. Europe, America, E. and W. Indies.

618. CRINUM, or *Asphodel Lily.*

Five species; viz. asiaticum, americanum, erubescens, bracteatum, nervosum. Asia, Africa, America.

619. AGAPANTHUS, or *African Blue-lily.*

Two species; viz. umbellatus, ensifolius. Cape of Good Hope.

620. EUSTEPHIA.

One species; viz. coccinea.

621. CYRTANTHUS.

Three species; viz. angustifolius, ventricosus, oblimus. Guiana.

622. AMARYLLIS, or *Lily-daffodil.*

38 species; viz. lutea, pumilio, bubispatha, tubiflora, atamasco, maculata, chilensis, clavata, formosissima, reginæ, purpurea, linearis, equestris, reticulata, tatarica, belladonna, vittata, falcata, ornata, longifolia, montana, zeylanica, revoluta, latifolia, aurea, orientalis, sarniensis, marginata, curvifolia, undulata, radiata, humilis, flexuosa, radula, striata, crispa, stellaris, caspia. S. Europe, Cape, E. Indies, America.

623. MILLEA.

One species; viz. biflora.

624. BULBOCODIUM, or *Mountain-saffron.*

One species; viz. vernum. Spain.

625. APHYLLANTHES.

One species; viz. monspeliensis. Montpelier.

626. ALLIUM, or *Garlick.*

53 species; viz. * ampeloprasum, porrum, lineare, suaveolens, deflexum, rotundum, victorialis, subhirsutum, magicum, obliquum, ramosum, tataricum, roseum, * sativum, scorodoprasum, * arenarium, * carinatum, sphærocephalon, parviflorum, pallasii, descendens, moschatum, flavum, pallens, paniculatum, * vineale, * oleraceum, nutans, ascalonicum, senescens, illyricum, odorum, inodorum, angulosum, striatum, narcissiflorum, pedemontanum, nigrum, canadense, * ursinum, clusianum, triquetrum, cepa, moly, tricoccum, fistulosum, * schoenoprasum, sibiricum, stellerianum, capillare, tenuissimum, gracile, chamæ-moly. Europe, N. America, Jamaica.

* A. umbel globular; stamens 3-pointed, petals rough on the heel.—This is eaten along with other pot-herbs. It communicates its flavour to the milk and butter of cows that eat it. *ampeloprasum.*

* A. filaments undivided; leaves semi-cylindrical, rough furrowed underneath; (leaves not rough.)—The tender leaves are very commonly boiled in soups, or fried with other herbs. Cows, goats, sheep, and swine, eat it. *oleraceum*

* A. stalk 3-square; leaves spear-shaped on leaf-stalks; umbel flat-topped.—An infusion of this plant in brandy is esteemed a good remedy for the gravel. Other plants growing near it do not flourish. Cows eat it in the spring when grass is scarce; but it communicates an offensive flavour to the milk and butter. *ursinum.*

* A.—The roots of this plant, which is the proper garlick, are of an irregularly roundish shape, with several fibres at the bottom; each root is composed of a number of lesser bulbs, called *cloves of garlick*, enclosed in one common membranaceous coat, and easily separated from each other. All the parts of this plant, but more especially the roots, have a strong offensive smell, and an acrimonious, almost caustic, taste. The root applied to the skin inflames and often exulcerates the part. Its smell is extremely penetrating and diffusive. When the root is applied to the feet, its scent is soon discoverable in the breath; and when taken internally its smell is communicated to the urine, or the matter of an issue, and perspires through the pores of the skin. *sativum.*

This pungent root warms and stimulates the solids, and attenuates tenacious juices. Hence in cold leucophlegmatic habits, it proves a powerful expectorant, diuretic, and, if the patient be kept warm, sudorific; it has also been by some supposed to be an emmenagogue. In catarrhous disorders of the breast, flatulent colics, hysterical and other diseases, proceeding from laxities of the solids, it has generally good effects; it has likewise been found serviceable in many hydropic cases. Sydenham relates, that he has seen the dropsy cured by the use of garlick alone; he recommends it chiefly as a warm strengthening medicine in the beginning of the disease.

Garlick is with some also a favourite remedy in the cure of intermittents; and it has been said to have sometimes succeeded in obstinate quartans after the Peruvian bark had failed, particularly when taken to the extent of one or two cloves daily in a glass of brandy or other spirits. The liberal use of garlick, however, is apt to occasion headachs, flatulencies, thirst, febrile heats, inflammatory distempers, and sometimes discharges of blood from the hæmorrhoidal vessels. In hot bilious constitutions, where there is already a degree of irritation, and where there is reason to suspect an unsound state of the viscera, this stimulating medicine is manifestly improper, and never fails to aggravate the distemper.

The most commodious form of taking garlick, a medicine to most people not a little unpleasant, is that

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of a bolus or pill. Infusions in spirit, wine, vinegar, and water, although containing the whole of its virtues, are so acrimonious as to be unfit for general use. A syrup and oxymel of it were formerly kept in the shops; but it does not now enter any officinal preparation in our pharmacopœias; and it is proper that even the pills should always be an extemporaneous prescription, as they suffer much from keeping.

Garlick made into an ointment with oils, &c. &c. applied externally, is said to resolve and discuss cold tumours, and has been by some greatly esteemed in cutaneous diseases. It has likewise sometimes been employed as a repellent. When applied under the form of a poultice to the pubes, it has sometimes proved effectual in producing a discharge of urine, when retention has arisen from want of a due action of the bladder; and some have recommended, in certain cases of deafness, the introduction of a single clove, wrapt in thin muslin or gauze, into the meatus auditorius or passage of the ear. Sydenham assures us, that among all the substances which occasion a derivation or revulsion from the head, none operates more powerfully than garlick applied to the soles of the feet; hence he was led to make use of it in the confluent smallpox. About the eighth day after the face began to swell, the root cut in pieces, and tied in a linen cloth, was applied to the soles, and renewed twice a-day till all danger was over.

The roots of the *allium cepa*, or *onion*, are considered rather as articles of food than of medicine. They are supposed to afford little nourishment, and when eaten liberally in their raw state, produce flatulencies, occasion thirst, headachs, and troublesome dreams. In cold phlegmatic habits, where viscid mucus abounds, they doubtless have their use; as by their stimulating quality they tend to excite appetite, attenuate thick juices, and promote their expulsion: by some they are strongly recommended in suppressions of urine, and in dropsies. The chief medicinal use of onions in the present practice is in external applications, boiled as a cataplasm, for suppurating tumours.

627. LILIUM, or *Lily*.

16 species; viz. cordifolium, longiflorum, candidum, japonicum, lancifolium, bulbiferum, catesbæi, speciosum, pomponium, chalcedonicum, superbum, martagon, canadense, maculatum, kamschatense, philadelphicum. Europe, Japan, N. America.—The *Lilium candidum*, or *white lily*, is cultivated in gardens more for its beauty than utility. The mucilaginous root is used by some as a poultice; but it possesses no advantage over the poultices formed of vegetable farinæ.

628. FRITILLARIA, or *Crown-imperial*, *Fritillary*.

Six species; viz. imperialis, persica, verticillata, pyrenaica, * meleagris, latifolia. Aust. Pyren. Italy, Pers.

629. EUCOMIS.

Five species; viz. nana, bifolia, regia, undulata, punctata. C. of G. Hope.

630. UVULARIA.

Six species; viz. amplexifolia, hirta, lanceolata, perfoliata, sessilifolia, cirrhosa. Germ. N. Amer. Jap.

631. GLORIOSA, or *Superb Lily*.

Two species; viz. superba, simplex. Guiana, E. Ind.

632. ERYTHRONIUM, or *Dogs-tooth Violet*.

One species; viz. dens canis. Siberia, Italy, Virg. Carolina.

633. TULIPA, or *Tulip*.

Five species; viz. * sylvestris, suaveolens, gesneriana, biflora, breyniana. S. Eur. Lev. Cape.

634. ALBUCA, or *Base Star of Bethlehem*.

14 species; viz. altissima, major, flaccida, minor, viridiflora, coarctata, fastigiata, candata, setosa, aurea, abyssinica, fragrans, viscosa, spiralis. C. of G. Hope.

635. GETHYLLIS.

Five species; viz. spiralis, ciliaris, villosa, plicata, lanceolata. C. of G. Hope.

636. CURCULIGO.

One species; viz. orchioides.

637. HYPOXIS, or *Base Star-flower*.

15 species; viz. erecta, sobolifera, villosa, decumbens, obliqua, aquatica, minuta, alba, ovata, veratrifolia, stellata, serrata, juncea, fascicularis, sessilis. N. Amer. Jamaica, Cape, Japan.

638. ERIOSPERMUM.

Three species; viz. latifolium, lanceæfolium, parvifolium.

639. ORNITHOGALUM, or *Star of Bethlehem*.

43 species; viz. uniflorum, striatum, bulbiferum, spathaceum, bohemicum, * luteum, minimum, circinatum, paradoxum, niveum, * umbellatum, * pyrenaicum, stachyoides, lacteum, ovatum, ciliatum, crenulatum, pilosum, revolutum, conicum, narbonense, latifolium, altissimum, scilloides, longebracteatum, japonicum, comosum, pyramidale, tenellum, odoratum, suaveolens, secundum, fuscatum, barbatum, polyphyllum, juncifolium, rupestre, arabicum, thyrsoides, aureum, coarctatum, candatum, nutans. Eur. Egypt, Madeira, Cape.

* O. stalk angular, 2-leaved; fruitstalks in an unbranched umbel.—The bulbous roots of all the species are nutritious and wholesome, and those of this species have been employed for food in a scarcity of provision. Horses, goats, and sheep eat it; swine are not fond of it; cows refuse it. *luteum.*

640. SCILLA, or *Squill*.

16 species; viz. maritima, lilio-hyacinthus, italica, tetraphylla, peruviana, japonica, amœna, præcox, campanulata, * bifolia, * verna, lusitanica, orientalis, hyacinthoides, * autumnalis, unifolia. Eur. Barb. Madeira, Japan.

S. flowers naked; floral leaves bent backwards as if broken.—This is the squill or sea-onion well known in medicine. It is a kind of onion growing spontaneously upon dry sandy shores in Spain and the Levant, from whence the root is annually brought into Europe. It should be chosen plump, sound, fresh, and full of clammy juice: some have preferred the red sort, others the white, though neither deserves the preference to the other. The only difference perceivable between them is that of the colour, and hence both may be used promiscuously. This root is to the taste very nauseous, intensely bitter and acrimonious. Much handled it ulcerates the skin. With regard to its me- *maritima.*

dical

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dical virtues, it powerfully stimulates the solids and attenuates viscid juices; and by these qualities promotes expectoration, urine, and, if the patient be kept warm, sweat: if the dose be considerable it proves emetic, and sometimes purgative. The principal use of this medicine is where the *primæ viæ* abound with mucous matter, and the lungs are oppressed by tenacious phlegm. Dr Wagner, in his clinical observations, recommends it given along with nitre in hydropical swellings, and in the nephritis; and mentions several cures that he performed by giving from four to ten grains of the powder for a dose, mixed with a double quantity of nitre: he says, that thus managed, it almost always operates as a diuretic, though sometimes it vomits or purges. In dropsy, dried squills are often combined with mercury. The most commodious form for the taking of squills, unless when designed as an emetic, is that of a bolus or pill; liquid forms are to most people too offensive, though these may be rendered less disagreeable both to the palate and stomach by the addition of aromatic distilled waters. This root yields the whole of its virtues both to aqueous and to vinous menstrua, and likewise to vegetable acids. Its officinal preparations are a conserve of dried squills, a syrup and vinegar, an oxymel, and pills.

641. CYANELLA.

Four species; viz. capensis, orchidiformis, lutea, alba. C. of G. Hope.

642. ASPHODELUS, or *Asphodel*, or *King's-spear*.

Seven species; viz. luteus, creticus, ramosus, albus, fistulosus, altaicus, liburnicus. Austria, S. Europe.

643. ANTHERICUM, or *Spider-wort*.

55 species; viz. * serotinum, fragrans, filifolium, flexifolium, filiforme, exuviatum, elongatum, græcum, planifolium, squameum, comosum, floribundum, revolutum, ramosum, elatum, falcatum, contortum, vespertinum, graminifolium, japonicum, longifolium, hirsutum, adenanthera, reflexum, pilosum, undulatum, triflorum, * canaliculatum, albucoides, liliago, liliastrum, spirale, frutescens, rostratum, alooides, nutans, incurvum, latifolium, pugoniforme, præmorsum, asphodeloides, longiscapum, annuum, hispidum, muricatum, ciliatum, cauda felis, triquetrum, scabrum, cirrhatum, crispum, * ossifragum, physodes, pusillum, * calyculatum. Alps of Swed. S. Eur. Cape, Japan.

ossifragum. * A.—It is believed in Sweden to be noxious to sheep, and has been supposed to soften the bones of animals that eat it. Cows and horses eat it; sheep and swine refuse it.

644. LEONTICE, or *Lions Leaf*.

Five species; viz. chrysogonum, leontopetalum, vesicaria, altaica, thalictroides. Levant, N. America.

645. POLLIA.

One species; viz. japonica. Japan.

646. ASPARAGUS.

20 species; viz. * officinalis, declinatus, decumbens, flexuosus, scandens, falcatus, racemosus, retrofractus, æthiopicus, asiaticus, albus, acutifolius, subulatus, dependens, horridus, aphyllus, lanceus, capensis, sarmentosus, verticillaris. S. Eur. Asia, Africa.

officinalis. * A. stem herbaceous, cylindrical, upright; leaves bristle-shaped; leaf-scales solitary or in pairs; male and female flowers sometimes on distinct plants.—The young shoots of this plant, in its cultivated state, are very universally esteemed for their flavour and nutritious qualities. They impart to the urine the scent of water in which they have been boiled. The *sparagus chrysomela* lives upon it.

647. DRACÆNA, or *Dragon-tree*.

14 species; viz. draco, indivisa, umbraculifera, australis, cernua, ferrea, terminalis, marginata, striata, undulata, erecta, ensifolia, borealis, graminifolia. Cape, E. Indies, China, N. America.

648. SANSEVIERA.

Three species; viz. guineensis, zeylanica, lanuginosa.

649. CONVALLARIA, or *Lily of the Valley*.

11 species; viz. *majalis, japonica, spicata, *verticillata, * polygonatum, * multiflora, latifolia, racemosa, stellata, trifolia, bifolia. N. Eur. N. America, Japan.

majalis. * C, stalk naked, semi-cylindrical; flowers spiked, nodding.—The flowers are highly fragrant, but when dried are of a narcotic scent: reduced to powder, they excite sneezing. An extract prepared from the flowers, or from the roots, partakes of the bitterness as well as of the purgative properties of aloes. The dose from 20 to 30 grains. A beautiful and durable green colour may be prepared from the leaves by the assistance of lime. Sheep and goats eat it; horses, cows, and swine refuse it.

polygonatum. * C. leaves alternate, embracing the stem; stem 2-edged; fruitstalks axillary, mostly 1-flowered.—In a scarcity of provisions the roots have been made into bread. Sheep and goats eat it; horses, cows, and swine refuse it.

multiflora. * C. leaves alternate embracing the stem; stem cylindrical: fruit-stalks axillary, many-flowered.—The young shoots are eaten by the Turks as asparagus, and the roots have been made into bread as the *C. polygonatum*. Cows, goats, and sheep eat it.

650. POLYANTHUS, or *Tuberose*.

Two species; viz. tuberosa, pygmæa. E. Indies.

651. DRIMIA.

Five species; viz. ciliaris, elata, pusilla, undulata, media.

652. HYACINTHUS, or *Hyacinth*.

13 species; viz. *non-scriptus, cernuus, amethystinus, orientalis, flexuosus, corymbosus, convallarioides, brevifolius, romanus, muscaris, comosus, botryoides, racemosus. S. Eur. Levant.

non-scriptus. * H. blossoms tubular-bell-shaped, with six divisions, segments rolled back; floral leaves in pairs.—The fresh roots are poisonous: They may be converted into starch. *Phalæna plantaginis* lives upon it.

653. PHORMIUM.

One species; viz. tenax.

654. LACHENALIA.

24 species; viz. glaucina, orchioides, pallida, hyacinthoides, angustifolia, contaminata, viridis, serotina, pusilla, patula, fragrans, liliiflora, pustulata, purpureocoerulea, violacea, purpurea, lanceæfolia, unifolia, hirta, isopetala, tricolor, rubina, punctata, penduła. Cape, New Zealand.

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655. LANARIA.

One species; viz. plumosa. C. of G. Hope.

656. VOLTHEIMIA.

Four species; viz. viridifolia, glauca, uvaria, pumila.

657. ALETRIS, or *Base Aloe.*

Two species; viz. farinosa, fragrans. Afr. N. Amer. Ceylon, Japan.

658. YUCCA, or *Adam's Needle.*

Four species; viz. gloriosa, aloifolia, draconis, filamentosa. Amer.

659. ALOE.

17 species; viz. dichotoma, spicata, perfoliata, picta, sinuata, humilis, arachnoides, margaritifera, verrucosa, carinata, maculata, lingua, plicatilis, variegata, viscosa, spiralis, retusa. Africa.

These plants are chiefly or rather only valuable, on account of the medicinal virtues of their inspissated juice. The ancients distinguished two sorts of aloes: The one was pure and of a yellowish colour inclining to a red, resembling the colour of a liver, and thence named hepatic; the other was full of impurities, and hence supposed to be only the dross of the better kind. At present various sorts are met with in commerce, which are distinguished from the place in which they are produced, or from their sensible qualities.

1. The Socotorine aloes, said to be obtained from a variety of the *aloe perfoliata.* This is the purest sort. It is brought from the island Socotora in the Indian ocean, wrapt in skins. It is of a glossy surface, clear, and in some degree pellucid; in the lump, of a yellowish red colour, with a purple cast; when reduced to powder, of a bright golden colour. It is hard and friable in the winter, and somewhat pliable in summer, and grows soft betwixt the fingers. Its taste is bitter, accompanied with an aromatic flavour, but insufficient to prevent its being disagreeable; the smell is not very unpleasant, and somewhat resembles that of myrrh.

2. Barbadoes or hepatic aloes. Hepatic aloes is not so clear and bright as the foregoing sort: it is also of a darker colour, more compact texture, and for the most part drier. Its smell is much stronger and more disagreeable: the taste intensely bitter and nauseous, with little or nothing of the fine aromatic flavour of the Socotorine. The best hepatic aloes comes from Barbadoes in large gourd shells: an inferior sort of it (which is generally soft and clammy), is brought over in casks.

3. Fetid, caballine, or *horse aloes*, may easily be distinguished from each of the foregoing, by its strong rank smell; although in other respects it agrees pretty much with the hepatic, and is not unfrequently sold in its stead. Sometimes the caballine aloes is prepared so pure and bright, as not to be distinguished by the eye from the Socotorine; but its offensive smell, of which it cannot be divested, readily betrays it. It has not now a place in almost any pharmacopœia, and is employed chiefly by farriers.

All the sorts of aloes dissolve in pure spirit, proof spirit, and proof spirit diluted with half its weight of water; the impurities only being left. They dissolve also by the assistance of heat in water alone; but as the liquor grows cold, the resinous part subsides, the gummy remaining united with the water. The hepatic aloes is found to contain more resin, and less gum than the Socotorine, and this than the caballine. The resins of all the sorts, purified by spirit of wine, have little smell: that obtained from the Socotorine has scarce any perceptible taste; that of the hepatic, a slight bitterish relish; and the resin of the caballine a little more of the aloetic flavour. The gummy extracts of all the sorts are less disagreeable than the crude aloes: the extract of Socotorine aloes has very little smell, and is in taste not unpleasant; that of the hepatic has a somewhat stronger smell, but is rather more agreeable in taste than the extract of the Socotorine; the gum of the caballine retains a considerable share of the peculiar rank smell of this sort of aloes, but its taste is not much more unpleasant than that of the extracts made from the two other sorts.

Aloes is a stimulating cathartic bitter: if given in so large a dose as to purge effectually, it often occasions an irritation about the anus, and sometimes a discharge of blood. Small doses of it, frequently repeated, not only cleanse the *primæ viæ*, but likewise warm the habit, quicken the evacuation, and promote the uterine and hemorrhoidal fluxes. This medicine is particularly serviceable in habitual costiveness, to persons of a phlegmatic temperament and sedentary life, and where the stomach is oppressed and weakened. In dry bilious habits, aloes proves injurious, immoderately heating the body and inflaming the bowels.

The juice is likewise, on account of its bitterness, supposed to kill worms, either taken internally, or applied in plasters to the umbilical region. It is also celebrated for restraining external hæmorrhagies, and cleansing and healing wounds and ulcers.

The ancients gave aloes in much larger doses than is customary at present. Dioscorides orders half a dram or a dram for gently loosening the belly; and three drams were intended to have the full effect of a cathartic. But modern practice rarely exceeds a scruple, and limits the greatest dose to two scruples. For the common purposes of this medicine ten or twelve grains suffice; taken in these or less quantities, it acts as a gentle stimulating eccoprotic, capable of removing, if duly continued, very obstinate obstructions. Aloes are much less frequently used to operate as a purgative than merely to obviate costiveness: and indeed their purgative effect is not increased in proportion to the quantity that is taken. Perhaps the chief objection to aloes, in cases of habitual costiveness, is the tendency which they have to induce and augment hæmorrhoidal affections; and with those liable to such complaints they can seldom be employed. Their purgative effect seems chiefly to depend on their proving a stimulus to the rectum.

Some are of opinion, that the purgative virtue of aloes resides entirely in its resin: but experience has shown, that the pure resin has little or no purgative quality, and that the gummy part, separated from the resinous, acts more powerfully than the crude aloes. If the aloes indeed be made to undergo long coction in the preparation of the gummy extract, its cathartic power will be considerably lessened, not from the separation of the resin, but from an alteration made in the juice

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juice itself by the heat. The strongest vegetable cathartics become mild by a like treatment, without any remarkable separation of their parts.

Socotorine aloes, as already observed, contain more gummy matter than the hepatic; and hence are likewise found to purge more, and with greater irritation. The first sort therefore is most proper where a stimulus is required, as for promoting or exciting the menstrual flux; whilst the latter is better calculated to act as a common purge. It is supposed that the vulnerary and balsamic virtues of this juice reside chiefly in the resin, and hence the hepatic aloes, which is most resinous, is most serviceable in external application.

Aloes enter many of the officinal preparations and compositions, particularly different pills and tinctures; and according to the particular purposes for which these are intended, sometimes the Barbadoes, sometimes the Socotorine aloes are the most proper.

660. AGAVE, or *Common American Aloe.*

Seven species; viz. americana, vivipara, virginica, cubensis, lurida, tuberosa, fœtida. America.

661. ALSTROEMERIA.

Six species; viz. pelegrina, pulchella, ligtu, salsilla, ovata, multiflora. Peru, Lima.

662. HEMEROCALLIS, *Day-lily.*

Four species; viz. flava, fulva, lanceifolia, japonica. Siberia, Hungary, Levant, Japan.

663. ACORUS, or *Sweet-smelling Rush.*

Two species; viz. calamus, gramineus. Europe, India.

calamus. * A. floral leaf very much longer than the spike.—The root powdered might supply the place of our foreign spices. It is our only native truly aromatic plant. The powder of the root has cured agues, when the Peruvian bark has failed. The roots have a strong aromatic smell, and a warm pungent bitterish taste. The flavour is greatly improved by drying. They are commonly imported from the Levant, but those of our own growth are full as good. The Turks candy the roots, and think they are a preservative against contagion. Neither horses, cows, goats, sheep, or swine will eat it.

664. ORONTIUM, or *Floating Arum.*

Two species; viz. aquaticum, japonicum. N. America, Japan.

665. TACCA.

One species; viz. pinnatifida. E. Indies, Otaheite.

666. CORYPHA, or *Mountain Palm.*

Two species; viz. umbraculifera, rotundifolia. East Indies, Carolina.

667. LICUALA.

One species: viz. spinosa. Africa, Amboyna.

668. THRINAX, or *Small Jamaica Fan-palm.*

One species; viz. parviflora. Jamaica, Hispaniola.

669. CALAMUS.

Eight species; viz. rotang, verus, draco, niger, viminalis, rudentum, equestris, zalacca. India.

670. JUNCUS, or *Rush.*

40 species; viz. *acutus, *conglomeratus, *effusus, glaucus, *inflexus, arcticus, *filiformis, capillaceus, grandiflorus, magellanicus, rubens, *trifidus, *squarrosus, capitatus, capensis, punctorius, nodosus, *articulatus, sylvaticus, subverticillatus, tenageja, *bulbosus, tenuis, *bufonius, cephalotes, stygius, jacquini, *biglumis, *triglumis, *pilosus, maximus, spadiceus, luteus, parviflorus, serratus, albidus, niveus, *campestris, sudeticus, *spicatus. Europe, Cape, N. America.

* J. straw stiff and straight; panicle lateral, loose; flowers egg-shaped, blunt, 3 stamens in each.—Rushes are sometimes used to make little baskets. The pith of this species is used instead of cotton to make the wick of rush lights. Horses and goats eat it. *effusus.*

* J. straw rigid; leaves like bristles; panicle terminating, leafless.—Horses eat it. The leaves lying close to the ground elude the stroke of the scythe. It indicates a barren soil. *squarrosus.*

671. RICHARDIA.

One species; viz. scabra. Vera Cruz.

672. DUROIA.

One species; viz. eriopila. Surinam.

673. ACHRAS, or *Sapota.*

Three species; viz. dissecta, mammosa, sapota. W. Indies, S. America.

674. PRINOS, or *Winter-berry.*

Seven species; viz. verticillatus, montanus, dioicus, nitidus, glaber, lucidus, sideroxyloides. N. America, Jamaica, Montserrat.

675. COSSIGNEA.

Two species; viz. triphylla, pinnata. India.

676. BARBACENIA.

One species; viz. brasiliensis.

677. BERBERIS, or *Barberry*, or *Pipperidge Bush.*

Five species; viz. * vulgaris, ilicifolia, microphylla, cretica, sibirica. Europe, Canada, Terra del Fuego.

* B. fruitstalks forming bunches; thorns 3 together.—The leaves are gratefully acid. The flowers are offensive to the smell when near, but at a proper distance their odour is extremely fine. The berries are so very acid that birds will not eat them, but boiled with sugar they form a most agreeable rob or jelly. They are used, likewise, as a dry sweetmeat, and in sugar plums. An infusion of the bark in white wine is purgative. The roots boiled in lye dye wool yellow. In Poland they dye leather of a most beautiful yellow with the bark of the root. The inner bark of the stems dyes linen of a fine yellow, with the assistance of alum. This shrub should never be permitted to grow in corn lands, for the ears of wheat that grow near it never fill, and its influence in this respect has been known to extend as far as 3 or 4 hundred yards across a field. This very extraordinary fact well merits investigation. *vulgaris.*

678. PSATHURA.

One species; viz. borbonica. Isle of Bourbon.

679. NANDINA.

One species; viz. domestica. Japan.

680. LINDERA.

One species; viz. umbellata. Japan.

681. ENARGEA.

One species; viz. marginata. Terra del Fuego.

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682. PHILESIA.
One species; viz. buxifolia. Straits of Magellan.

683. CAPURA.
One species; viz. purpurata. India.

684. LORANTHUS.
26 species; viz. scurrula, tetrapetalus, glaucus, biflorus, parvifolius, falcatus, uniflorus, europæus, longibracteatus, buddlejoides, nodosus, elevatus, longiflorus, elasticus, americanus, emarginatus, occidentalis, loniceroides, pedunculatus, sessilis, marginatus, stelis, pauciflorus, brasiliensis, pentandrus, spicatus. Europe, E. Ind. Jam. Amer.

685. SCHRADERA.
Two species; viz. capitata, cephalotes.

686. STEPHANIA.
One species; viz. cleomoides. Guiana.

687. HILLIA.
Two species; viz. longiflora, tetrandra. Jamaica, S. Amer.

688. ISERTIA.
Two species; viz. coccinea, parviflora. Guiana.

689. CANARINA, or *Canary Bell-flower*.
One species; viz. campanula. Canary isles.

690. FRANKENIA, or *Sea-heath*.
Four species; viz. * lævis, nothria, hirsuta, * pulverulenta. Europe, Arabia.

691. PEPLIS, or *Water Purslain*.
Two species; viz. * portula, indica. Europe.

692. GAHNIA.
Two species; viz. procera, schœnoides. New Zealand.

693. BAMBUSA.
Two species; viz. arundinacea, verticillata.

694. EHRHARTA.
Five species; viz. cartilaginea, bulbosa, longiflora, panicea, calycina. Africa.

ORDER II. DIGYNIA.

695. ORYZA, or *Rice*.
One species; viz. sativa. E. and W. Indies, N. America.—Rice is the produce of many countries, particularly of the East Indies; but as used in Britain, it is brought chiefly from Carolina, where this plant is cultivated in large quantities. It is sufficiently nutritious, and affords an useful food in diarrhœas, dysenteries, and other disorders from a thin acrimonious state of the juices.

696. NECTRIS.
One species; viz. aquatica. Guiana.

697. FALKIA.
One species; viz. repens. C. of G. Hope.

698. ATRAPHAXIS.
Two species; viz. spinosa, undulata. Lev. Cape.

ORDER III. DIGYNIA.

699. RUMEX, or *Dock*.
36 species; viz. patentia, * sanguineus, spathulatus, verticillatus, britannica, * hydrolapathum, * crispus, nemolapathum, persicarioides, ægyptiacus, dentatus, * maritimus, divaricatus, * acutus, obtusifolius, * pulcher, bucephalophorus, aquaticus, lunaria, vesicarius, roseus, tingitanus, scutatus, nervosus, * digynus, lanceolatus, alpinus, spinosus, tuberosus, multifidus, * acetosa, * acetosella, aculeatus, luxurians, arifolius, bipinnatus. Europe, Egypt, Barbary.

* R. valves strongly veined; leaves spear-shaped, acute, waved and curled at the edge.—In Norfolk this plant is the pest of clover fields. The fresh roots bruised, and made into an ointment or decoction, cure the itch. The seeds have been given with advantage in the dysentery. Cows, goats, and horses refuse it. *crispus.*

* R. valves veinless; leaves oval-spear-shaped, uneven at the edges.—Cows and horses refuse it. It is infected by the *aphis rumicis*. The root is used by the dyers. It gives a great variety of shades, from straw colour to a pretty fine olive, and a fine deep green to cloths which have been previously blued. *acutus.*

* R. leaves spear-shaped, smooth, acute, very entire, tapering at the base. It is a medicine of considerable efficacy, both externally applied as a wash for putrid spongy gums, and internally in some species of scurvy. In rheumatic pains and chronical diseases, owing to obstructed viscera, it is said to be useful. The powdered root is one of the best things for cleaning the teeth. The root has sometimes a reddish tinge, but soon changing to a yellowish brown when exposed to the air. The *curculio lapathi* is found upon the leaves. *hydrolapathum.*

* R. leaves heart-oblong, bluntish, finely notched.—Fallow-deer eat this and the *R. acutus* with avidity, biting it close to the root, so that it is very rare to see a dock growing in a park. *obtusifolia*

* R. leaves oblong, arrow-shaped.—The leaves are eaten in sauces and in salads. The Laplanders use them to turn their milk sour. In France they are cultivated for the use of the table, being introduced in soups, ragouts and fricassees. In some parts of Ireland they eat them plentifully with milk, alternately biting and supping. The Irish also eat them with fish, and other alkalescent food. The dried root gives out a beautiful red colour when boiled. Horses, cows, goats, sheep, and swine eat it. The *aphis acetosæ* feeds upon it. *acetosa.*

700. FLAGELLARIA.
One species; viz. indica. E. Ind. Guiana.

701. SCHEUCHZERIA, or *Lesser Flowering Rush*.
One species; viz. palustris. Lapland, Sweden, Helvetia.

702. TRIGLOCHIN, or *Arrow-headed Grass*.
Three species; viz. * palustre, bulbosum, maritimum. Europe.

* T. capsule 3-celled, nearly strap-shaped.—Cows are extremely fond of this plant. Horses, sheep, goats, and swine eat it. *palustre.*

* T. capsule 6-celled, egg-shaped.—It is salt to the taste; but horses, goats, sheep, and swine are very fond of it. *maritimum.*

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703. WURMBEA.
Three species; viz. pumila, campanulata, longiflora.

704. MELANTHIUM.
14 species; viz. virginicum, sibiricum, lætum, capense, triquetrum, ciliatum, junceum, secundum, phalangioides, indicum, viride, uniflorum, eucomoides, pumilum. Siberia, Cape, N. America.

705. MEDEOLA, or *Climbing African Asparagus.*
Three species; viz. virginica, asparagoides, angustifolia. Cape, Virginia.

706. TRILLIUM, or *Three-leaved Nightshade.*
One species; viz. sessile. N. America.

707. COLCHICUM, or *Meadow-saffron.*
Three species; viz. * autumnale, montanum, variegatum. S. of Europe, Archipelago.

autumnale. * C. leaves flat, spear-shaped, upright.—This is one of those plants which, upon the concurrent testimony of ages, was condemned as poisonous; but Dr Storck of Vienna hath taught us that it is an useful medicine. The roots have a good deal of acrimony. An infusion of them in vinegar, formed into a syrup by the addition of sugar or honey, is found to be a very useful pectoral and diuretic; it seems in its virtues very much to resemble squill, but is less nauseous, and less acrimonious, though more sedative. In a pasture in which were several horses, and eaten down pretty bare, the grass was closely cropped, even under the leaves, but not a leaf bitten.

708. HELONIAS.
Four species; viz. bullata, borealis, asphodeloides, pumila. Pennsylvania, Virginia.

ORDER IV. HEXAGYNIA.

709. WENDLANDIA.
One species; viz. populifolia.

710. DAMASONIUM.
One species; viz. indicum.

ORDER V. POLYGYNIA.

711. ALISMA, or *Water-plantain.*
Ten species; viz. * plantago, flava, sagittifolia, * damasonium, cordifolia, parnassifolia, repens, * natans, * ranunculoides, subulata. Europe, N. America.

In the class Hexandria are
111 Genera, including 784 Species, of which 63 are found in Britain.

CLASSIS VII.

HEPTANDRIA.

ORDO I. MONOGYNIA.

Sect. I. *Flores completi.*

* 712. TRIENTALIS. Cal. 7-phyllus. Cor. 7-partita, plana. Bacca 1-locularis, sicca.
713. DISANDRA. Cal. subseptempartitus. Cor. rotata, subseptempartita. Caps. 2-locularis, polysperma.
717. ÆSCULUS. Cal. 5-dentatus. Cor. 5-petala, inæqualis. Caps. 3-locularis, 2-sperma.
718. PETROCARYA. Cal. 5-fidus. Cor. 5-petala. Drupa carnosa. Nux 2-locul.
716. PANCOUIA. Cal. 4-partitus. Cor. 4-petala crispata. Stam. adscendentia.
719. JONESIA. Cal. 2-phyllus. Cor. infundibuliformis. Legumen.

† *Pelargonium.*

Sect. II. *Flores incompleti.*

714. PISONIA. Cal. campanulatus, 5-fidus. Cor. 0. Bacca 1 sperma.
715. PETIVERIA. Cal. 4-phyllus. Cor. 0. Stylus lateralis. Sem. 1.

CLASS VII.

HEPTANDRIA.

ORDER I. MONOGYNIA.

Sect. I. *Flowers complete.*

* T. Cal. 7-leaved. Cor. 7-partite, flat. Berry 1-celled, dry.
D. Cal. nearly 7-partite. Cor. wheel-shaped, nearly 7-partite. Caps. 2-celled, many-seeded.
Æ. Cal. 5-toothed. Cor. 5-petaled, unequal. Caps. 3-celled, 2-seeded.
P. Cal. 5-cleft. Cor. 5 petals. A fleshy drupe. Nut 2-celled.
P. Cal. 4-partite. Cor. 4-petaled, crisped. Stamens ascending,
J. Cal. 2-leaved. Cor. funnel-shaped. A leguminous plant.

Sect. II. *Flowers incomplete.*

P. Cal. bell-shaped, 5-cleft. No cor. Berry 1-seeded.
P. Cal. 4-leaved. No cor. Style lateral. Seed 1.

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720. Dracontium. Spatha cymbiformis. Spadix tectus. Cal. 0. Cor. 5-petala. Bacca.
721. Calla. Spatha ovata. Spadix tectus. Cal. 0. Cor. 0. Bacca.
722. Houttuynia. Spatha 4-phylla. Spadix tectus. Cal. 0. Cor. 0. Caps. 3-locul.

Ordo II. DIGYNIA.

723. Limeum. Cal. 5-phyllus. Cor. 5-petala, æqualis. Caps. 2-locularis, polysperma.

Ordo III. TETRAGYNIA.

724. Astranthus. Cal. 0. Cor. hypocrateriform. 14-fida. Sem. 1.
725. Saururus. Cal. amentum. Cor. 0. Pist. 4. Baccæ 4, monospermæ.

Ordo IV. HEPTAGYNIA.

726. Septas. Cal. 7-partitus. Cor. 7-petala. Germina 7. Caps. 7.

† *Phytolacca stricta.*

D. A boat-shaped sheath. The sheathed fruitstalk covered. No cal. Cor. 5 petals. A berry.
C. An oval sheath. Sheathed fruitstalk covered. No cal. No cor. A berry.
H. Sheath 4-leaved. Sheathed fruitstalk covered. No cal. No cor. Caps. 3 celled.

Order II. DIGYNIA.

L. Cal. 5-leaved. Cor. 5 petals, equal. Caps. 2-celled, many-seeded.

Order III. TETRAGYNIA.

A. No cal. Cor. salver-shaped, 14-cleft. Seed 1.

S. Cal. catkin. No cor. Pistils 4. Berries 4, 1-seeded.

Order IV. HEPTAGYNIA.

S. Cal. 7-cleft. Cor. 7 petals. Germens 7. Caps. 7.

Order I. MONOGYNIA.

712. Trientalis, or *Chickweed, Winter Green.*
One species; viz. * europæa. North of Europe.

713. Disandra.
One species; viz. prostrata. Madeira.

714. Pisonia, or *Fringrido.*
Five species; viz. aculeata, subcordata, nigricans, coccinea, mitis. West Indies.

715. Petiveria, or *Guinea-hen-weed.*
One species; viz. alliacea. West Indies.

716. Pancovia.
One species; viz. bijuga.

717. Æsculus, or *Horse-Chesnut.*
Three species; viz. hippocastanum, pavia, flava. N. of Asia, America.
The fruit of this plant has been used as food for sheep and poultry, and as soap for washing. It was much employed in powder as a sternutatory by an itinerant oculist, and has been recommended by some others in certain cases of ophthalmia, headach, &c. in which errhines are indicated.
Its effects as a sternutatory may also be obtained by using it under the form of infusion or decoction drawn up into the nostrils; and it is entirely with a view to its errhine power that it is now introduced into the Pharmacopœia of the Edinburgh college. But besides this, the bark has also been represented by some as a cure for intermittent fevers, and it is probably with this intention, that this part of the hippocastanum is introduced as an officinal article in the Pharmacopœia Rossica.

718. Petrocarya.
Two species; viz. montana, campestris. Guiana.

719. Jonesia.
One species; viz. pinnata.

720. Dracontium, or *Dragon's Head.*
Six species; viz. polyphyllum, spinosum, fœtidum, kamschatcense, lanceæfolium, pertusum. Ceylon, W. Indies, America.

721. Calla, or *Æthiopian Arum.*
Three species; viz. æthiopica, palustris, orientalis. Europe, Cape.

722. Houttuynia.
One species; viz. cordata. Japan.

Order II. DIGYNIA.

723. Limeum.
Three species; viz. africanum, capense, æthiopicum, C. of G. Hope.

Order III. TETRAGYNIA.

724. Astranthus.
One species; viz. cochinchinensis.

725. Saururus, or *Lizard's Tail.*
One species; viz. cernuus. Virginia.

Order IV. HEPTAGYNIA.

726. Septas.
One species; viz. capensis. C. of G. Hope.

In the class Heptandria are
15 Genera, which include 31 Species. Of these only one is found in Britain.

CLASSIS

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CLASSIS VIII.

OCTANDRIA.

Ordo I. MONOGYNIA.

Sect. I. *Flores completi.*

743. Mimusops. Cor. 8-petala. Cal. 8-phyllus, inferus. Drupa.

745. Cupania. Cor. 5-petala. Cal. 5-phyllus. Caps. 3-locularis, loculis monospermis. Sem. arillatum.

765. Dimocarpus. Cor. 5-petala. Cal. 5-dentatus. Baccæ 2, monospermæ.

727. Tropæolum. Cor. 5-petala. Cal. 5-fidus, inferus, calcaratus. Nuces 3.

779. Bæckea. Cor. 5-petala. Cal. 5-fidus, superus. Caps. 4-locularis.

747. Ephielis. Cor. 5-petala. Cal. 5-partitus. Caps. 1-locul. 2-sperma.

748. Molinæa. Cor. 5-petala. Cal. 5-partitus. Caps. 3-locul. 3-valvis.

742. Honckenya. Cor. 5-petala. Cal. 5-phyllus. Nectar. staminiformia. Caps. echinata.

751. Hagenia. Cor. 5-petala. Cal. 2-phyllus. Nectar. 5-phyllum.

766. Memecylon. Cor. 4-petala. Cal. integerrimus, superus.

734. Combretum. Cor. 4-petala. Cal. 5-dentatus, superus. Sem. 4.

738. Roxburghia. Cor. 4-petala. Cal. 4-phyllus inferus. Antheræ nectario insertæ. Caps. 2-valvis.

* 732. Epilobium. Cor. 4-petala. Cal. 4-fidus, tubulosus, superus. Caps. 4-locular. Sem. comosa.

731. Gaura. Cor. 4-petala. Cal. 4-fidus, tubulosus, superus. Nux 1-sperma.

730. Oenothera. Cor. 4-petala. Cal. 4-fidus, tubulosus, superus. Caps. 4-locularis. Anther. lineares.

735. Vitmannia. Cor. 4-petala. Cal. 4-fidus, inferus. Nux 1-sperma.

729. Rhexia. Cor. 4-petala. Cal. 4-fidus. Caps. 4-locularis, supera. Anth. arcuatæ.

728. Osbeckia. Cor. 4-petala. Cal. 4-fidus. Caps. 4-locularis, infera. Anth. rostratæ.

737. Tetratheca. Cor. 4-petala. Cal. 4-fidus. Antheræ 4-loculares. Caps. 2-locularis.

736. Grislea. Cor. 4-petala. Cal. 4-dentatus, inferus. Caps. 1-locularis.

750. Koebreuteria. Cor. 4-petala, nectario cylindrico. Cal. 4-phyllus. Caps. 3-locularis.

752. Persoonia. Cor. 4-petala, nectario cylindrico. Cal. 4-partitus. Caps. 1-locul. polysperma.

753. Guarea. Cor. 4-petala, nectario cylindrico. Cal. 4-dentatus, inferus. Caps. 4-locularis, 4-valvis. Sem. solitaria.

CLASS VIII.

OCTANDRIA.

Order I. MONOGYNIA.

Sect. I. *Flowers complete.*

M. Cor. 8-petaled. Cal. 8-leafed, inferior. A drupe.

C. Cor. 5-petaled. Cal. 5-leafed. Caps. 3-celled, 1 seed in each cell. Seed coated.

D. Cor. 5-petaled. Cal. 5-toothed. Berries 2, 1-seeded.

T. Cor. 5 petals. Cal. 5-cleft, inferior, having a spur. Nuts 3.

B. Cor. 5 petals. Cal. 5-cleft, superior. Caps. 4-celled.

E. Cor. 5 petals. Cal. 5-partite. Caps. 1-celled, 2-seeded.

M. Cor. 5 petals. Cal. 5-partite. Caps. 3-celled, with 3 valves.

H. Cor. 5-petaled. Cal. 5-leaved. Nectaries in the form of stamens. Caps. prickly.

H. Cor. 5-petaled. Cal. 2-leaved. Nectary 5-leaved.

M. Cor. 4-petaled. Cal. very entire, superior.

C. Cor. 4-petaled. Cal. 5-toothed, superior. Seeds 4.

R. Cor. 4 petals. Cal. 4-leaved, inferior. Anthers inserted in the nectary. Caps. with 2 valves.

E. Cor. 4 petals. Cal. 4-cleft, tubular, superior. Caps. 4-celled. Seeds hairy.

G. Cor. 4-petaled. Cal. 4-cleft, tubular, superior. Nut, with one seed.

O. Cor. 4-petaled. Cal. 4-cleft, tubular above. Caps. 4-celled. Anthers strap-shaped.

V. Cor. 4-petaled. Cal. 4-cleft, beneath. Nut 1-seeded.

R. Cor. 4-petaled. Cal. 4-cleft. Caps. 4-celled, above. Anthers bowed.

O. Cor. 4-petaled. Cal. 4-cleft. Caps. 4-celled, beneath or inferior. Anthers having a beak.

T. Cor. 4-petaled. Cal. 4-cleft. Anthers 4-celled. Caps. 2-celled.

G. Cor. 4-petaled. Cal. 4-toothed, inferior. Caps. 1-celled.

K. Cor. 4-petaled, with a cylindrical nectary. Cal. 4-leaved. Caps. 3-celled.

P. Cor. 4-petaled, with a cylindrical nectary. Cal. 4-partite. Caps. 1-celled, many-seeded.

G. Cor. 4-petaled, with a cylindrical nectary. Cal. 4-toothed, inferior. Caps. 4-celled, 4-valved. Seeds solitary.

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741. CORREA. Cor. 4-petala. Cal. 4-dentatus. Caps. 4-locul. loculis 1-spermis.

733. ANTICHORUS. Cor. 4-petala. Cal. 4-phyllus, inferus. Caps. 4-locul. 4-valvis, polysperma.

740. ALLOPHYLLUS. Cor. 4-petala. Cal. 5-phyllus, inferus. Stigma 4-fidum.

739. ORNITROPHE. Cor. 4-petala. Cal. 4-phyllus, inferus. Styl. 2-fidus. Baccæ 2, monospermæ.

744. JAMBOLIFERA. Cor. 4-petala. Cal. 4-dentatus, inferus. Filamenta planiuscula. Drupa.

746. XYLOCARPUS. Cor. 4-petala. Cal. 4-dentatus, inferus. Nect. 8-fidum. Drupa sicca.

757 XIMENIA. Cor. 4-petala. Cal. 4-fidus. Nect. o. Drupa 1-sperma.

763. LAWSONIA. Cor. 4-petala. Cal. 4-fidus, inferus. Bacca 4-locularis.

749. MELICOCCA. Cor. 4-petala refracta. Cal. 4-partitus. Drupa corticosa. Stigma peltatum, anceps.

755. AMYRIS. Cor. 4-petala. Cal. 4-dentatus, inferus. Bacca 1-sperma.

764. MELICOPE. Cor. 4-petala. Cal. 4-partitus. Caps. 4, monospermæ.

775. GNIDIA. Cor. 4-petala. Cal. 4-fidus, corollif. Nux 1-sperma.

758. FUSCHIA. Cor. 4-petala. Cal. 4-fidus, corollif. Bacca 4-locularis, polysperma.

754. HEDWIGIA. Cor. 4-fida. Cal. 4-dentatus. Caps. tricocca.

760. MICHAUXIA. Cor. 8-partita. Cal. 16-partitus. Caps. 8-locularis.

* 759. CHLORA. Cor. 8-fida. Cal. 8-phyllus, inferus. Caps. 1-locul. 2-valvis, polysperma.

* 768. VACCINIUM. Cor. 1-petala. Cal. 4-dentatus, superus. Filam. receptaculi. Bacca.

769. MENZIESIA. Cal. repandus inferus. Cor. 1-petala. Filam. receptaculi. Capsula.

* 770. ERICA. Cor. 1-petala. Cal. 4-phyllus, inferus. Filam. receptaculi. Capsula.

His simillima notanda quæ ad classes diversas pertinent. Bixophora Mangle. Æsculus Pavia. Monotropa Hypopithys. Ruta graveolens. Jussiææ nonnullæ species. Portulaca quadrifida. Portulaca meridiana. Capparides duæ. Dais octandra. Ammania octandra. Fagara octandra. Melastomæ nonnullæ species. Trichilia pallida acuminata. Gilibertia ovata, heterophylla. Elais. Cleome juncea.

Sect. II. *Flores incompleti.*

771. OPHIRA. Cal. o. Involucr. 2-valve, triflorum. Cor. 4-petala supera. Bacca 1-locularis.

772. GRUBBIA. Cal. o. Involucr. 2-phyll. triflorum. Cor. 4-petala infera.

767. BUGINVILLÆA. Cal. o. Cor. tubulosa, subintegra. Stam. inclusa.

778. LACHNÆA. Cal. 4-fidus, corollinus, inæqualis. Stam. exserta.

774. DIRCA. Cal. elimbis, corollinus, inæqualis. Stam. exserta.

* 773. DAPHNE. Cal. 4-fidus, corollinus, æqualis. Stam. inclusa. Drupa pulposa, monosperma.

* 777. PASSERINA. Cal. 4-fidus, corollinus, æqualis. Stam. supra corollam.

C. Cor. 4-petaled. Cal. 4-toothed. Caps. 4-celled, with 1-seeded cells.

A. Cor. 4-petaled. Cal. 4-leaved, inferior. Caps. 4-celled, 4-valved, many-seeded.

A. Cor. 4-petaled. Cal. 4-leaved, inferior. Stigma 4-cleft.

O. Cor. 4-petaled. Cal. 4-leaved. Style 2-cleft. Berries 2, 1-seeded.

J. Cor. 4-petaled. Cal. 4-toothed, inferior. Filaments flattened. A drupe.

X. Cor. 4-petaled. Cal. 4-toothed, inferior. Nectary 8-cleft. A dry drupe.

X. Cor. 4-petaled. Cal. 4-cleft. No nectary. A 1-seeded drupe.

L. Cor. 4-petaled. Cal. 4-cleft, inferior. Berry four-celled.

M. Cor. 4-petaled, bent back as if broken. Cal. 4-partite. Drupe barky. Stigma target-shaped, two-edged.

A. Cor. 4-petaled. Cal. 4-toothed, inferior. Berry 1-seeded.

M. Cor. 4-petaled. Cal. 4-partite. Caps. 4, one-seeded.

G. Cor. 4-petaled. Cal. 4-cleft, bearing the corolla. A nut, 1-seeded.

F. Cor. 4-petaled. Cal. 4-cleft, bearing the blossom. Berry 4-celled, many-seeded.

H. Cor. 4-cleft. Cal. 4-toothed. Caps. 3-celled.

M. Cor. 8-partite. Cal. 16-partite. Caps. 8-celled.

* C. Cor. 8-cleft. Cal. 8-leaved, inferior. Caps. 1-celled, 2-valved, many-seeded.

* V. Cor. 1-petaled. Cal. 4-toothed, superior. Filam. of the receptacle. Berry.

M. Cal. serpentine beneath. Cor. 1-petaled. Filaments of the receptacle. Capsule.

* E. Cor. 1-petaled. Cal. 4-leafed, inferior. Filaments of the receptacle. Capsule.

Sect. II. *Flowers incomplete.*

O. No cal. Involucrum 2-valved, 3-flowered. Cor. 4-petaled, superior. Berry 1-celled.

G. No cal. Involucr. 2-leaved, 3-flowered. Cor. 4-petaled, inferior.

B. No. cal. Cor. tubular, nearly entire. Stamens enclosed.

L. Cal. 4-cleft, blossom-like, unequal. Stamens protruding.

D. Cal. not bordered, blossom-like, unequal. Stamens protruding.

* D. Cal. 4-cleft, blossom-like, unequal. Stamens enclosed. A drupe, pulpy, 1-seeded.

P. Cal. 4 cleft, blossom-like, equal. Stamens above the corolla.

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776. Stellera. Cal. 4-fidus, corollinus, æqualis. Stam. inclusa. Nux.
761. Dodonæa. Cal. 4-phyllus. Cor. 0. Caps. 3-locularis.
762. Valentinia. Cal. 5-partitus. Cor. 0. Caps. baccata, 4-sperma.
756. Cadrota. Cal. 6-partitus. Cor. 0.

S. Cal. 4-cleft, blossom-like, equal. Stamens enclosed. A nut.
D. Cal. 4-leaved. No cor. Caps. 3-celled.

V. Cal. 5-partite. No cor. Caps. berried, 4-seeded.
C. Cal. 6-partite. No cor.

Ordo II. DIGYNIA.

Order II. DIGYNIA.

783. Codia. Cor. 4-petala. Cal. 4-phyllus. Involucrum 4-phyllum.
782. Weinmannia. Cor. 4-petala. Cal. 4-phyllus. Caps. 2-locul. 2-rostris.
784. Moehringia. Cor. 4-petala. Cal. 4-phyllus. Caps. 1-locul.
780. Schmiedelia. Cor. 4-petala. Cal. 2-phyllus. Pericarp. 2, pedicellata.
781. Galenia. Cor. 0. Cal. 4-fidus. Caps. 2-locularis, 2-sperma.

C. Cor. 4-petaled. Cal. 4-leaved. Involucrum 4-leaved.
W. Cor. 4-petaled. Cal. 4-leaved. Caps. 2-celled, with 2 beaks.
M. Cor. 4-petaled. Cal. 4-leaved. Caps. 1-celled.

S. Cor. 4-petaled. Cal. 2-leaved. Seed-vessels 2, with pedicles.
G. No cor. Cal. 4-cleft. Caps. 3-celled, 2-seeded.

† *Chrysoplenium. Polygonum Pensylvanicum.*

Ordo III. TRIGYNIA.

Order III. TRIGYNIA.

788. Seriana. Cor. 4-petala. Cal. 4-phyllus. Samaræ 3.
787. Paullinia. Cor. 4-petala. Cal. 4-phyllus. Caps. 3-locul. 1-sperma.
789. Cardiospermum. Cor. 4-petala. Cal. 4-phyllus. Caps. 3-locul. 1-sperma.
791. Ponæa. Cor. 4-petala. Cal. 4-partitus. Caps. 3-locul. 3-sperma.
790. Sapindus. Cor. 4-petala. Cal. 4-phyllus. Bacca 3-cocca, 1-sperma.
786. Coccoloba. Cor. 0. Cal. 5-partitus. Bacca calycina, 1-sperma.
* 785. Polygonum. Cor. 0. Cal. 5-partitus. Sem. 1, nudum.

S. Cor. 4-petaled. Cal. 4-leaved. Seed-vessels 3.

P. Cor. 4-petaled. Cal. 4-leaved. Caps. 3-celled, 1-seeded.
C. Cor. 4-petaled. Cal. 4-leaved. Caps. 3-celled, 1-seeded.
P. Cor. 4-petaled. Cal. 4-partite. Caps. 3-celled, 3-seeded.
S. Cor. 4-petaled. Cal. 4-leaved. Berry 3-celled, 1-seeded.
C. No cor. Cal. 5-partite. Berry cup-like, 1-seeded.
* P. No cor. Cal. 5-partite. Seed 1, naked.

Ordo IV. TETRAGYNIA.

Order IV. TETRAGYNIA.

* 794. Adoxa. Cor. 4 s. 5-fida, supra. Cal. 2-phyllus. Bacca 4 s. 5-sperma.
792. Verea. Cor. 4-fida. Cal. 4-fidus. Caps. 4, polyspermæ.
796. Halloragis. Cor. 4-petala. Cal. 4-fidus. Drupa sicca, 4-locul.
* 795. Elatine. Cor. 4-petala. Cal. 4-phyllus. Caps. 4-locul.
797. Forskolea. Cor. 8-petala. Cal. 4-phyllus. Sem. 4.

* A. Cor. 4 or 5-cleft, superior. Cal. 2-leaved. Berry 4 or 5-seeded.
V. Cor. 4-cleft. Cal. 4-cleft. Caps. many-seeded.

H. Cor. 4-petaled. Cal. 4-cleft. A drupe, dry, 4-celled.
* E. Cor. 4-petaled. Cal. 4-leaved. Caps. 4-celled.

F. Cor. 8-petaled. Cal. 8-leaved. Seeds 4.

† *Petiveria alliacea. Myriophyllum verticillatum.*

Order I. MONOGYNIA.

727. Tropæolum, or *Indian Cress.*
Five species; viz. minus, majus, hybridum, peregrinum, pentaphyllum. Peru, Lima.

728. Osbechia, or *Gold-rose Feather.*
Two species; viz. chinensis, zeylanica. Ceylon, China.

729. Rhexia, or *Soap-Wood.*
17 species; viz. virginica, mariana, trichotoma, bivalvis,

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valvis, trivalvis, jussiæoides, hypericoides, glutinosa, acisanthera, glomerata, longifolia, aspera, inconstans, latifolia, villosa, aquatica, uniflora. N. America, Jamaica, Brasil.

730. OENOTHERA, or *Tree-primrose*.

15 species; viz. biennis, grandiflora, parviflora, muricata, longiflora, mollissima, nocturna, villosa, odorata, sinuata, tetraptera, fruticosa, pumila, rosea, purpurea. America.

731. GAURA, or *Virginian Loose-strife*.

Three species; viz. biennis, fruticosa, mutabilis. Virginia, Pennsylvania.

732. EPILOBIUM, or *Willow-herb*.

12 species; viz. * angustifolium, angustissimum, latifolium, * hirsutum, pubescens, villosum, * montanum, glabellum, rotundifolium, * tetragonum, * palustre, * alpinum. North of Europe.

angustifolium. * E. leaves scattered, strap-spear-shaped; blossoms irregular.—Goats are extremely fond of this plant. Cows and sheep eat it. Horses and swine refuse it. The *phalæna porcellus* and *sphinx elpenor* are found upon it. The suckers of the root are eatable. An infusion of the plant has an intoxicating property, and the Kamtschatcadales brew a sort of ale from the pith, and from the ale make vinegar. The down of the seeds also, mixed with cotton or fur, has been manufactured into stockings and other articles of clothing.

hirsutum. * E. leaves egg-spear-shaped, hairy, half embracing the stem; stem very much branched and hairy.—The top-shoots have a delicate fragrance, resembling scalded codlings (whence one of its names), but so transitory, that before they have been gathered five minutes, it is no longer perceptible. Horses, sheep, and goats, eat it. Cows are not fond of it. Swine refuse it.

733. ANTICHORUS.

One species; viz. depressus. Arabia.

734. COMBRETUM.

Five species; viz. laxum, secundum, purpureum, decandrum, alternifolium. America.

735. VITMANNIA.

One species; viz. elliptica.

736. GRISLEA.

Two species; viz. secunda, tomentosa. America.

737. TETRATHECA.

One species; viz. pinoea.

738. ROXBURGHIA.

One species; viz. gloriosoides.

739. ORNITROPHE.

Six species; viz. integrifolia, serrata, cobbe, cominia, occidentalis, rigida. Isle of Bourbon.

740. ALLOPHYLLUS.

One species; viz. zeylanicus. Ceyl. Jam. Hispan.

741. CORREA.

One species; viz. alba.

742. HONCKENYA.

One species; viz. ficifolia.

743. MIMUSOPS.

Four species; viz. elengi, hexandra, kauhi, imbricaria. Arabia, India.

744. JAMBOLIFERA.

One species; viz. pedunculata.

745. CUPANIA.

Three species; viz. tomentosa, glabra, saponarioides. Coromandel, W. Indies.

746. XYLOCARPUS.

One species; viz. granatum. Ceylon, E. Indies.

747. EPHIELIS.

One species; viz. fraxinea. Guiana.

748. MOLINÆA.

Three species; viz. lævis, canescens, alternifolia.

749. MELICOCCA.

One species; viz. bijuga. Jamaica.

750. KOELREUTERIA.

One species; viz. paniculata. China.

751. HAGENIA.

One species; viz. abyssinica. Abyssinia.

752. PERSOONIA.

One species; viz. gaureoides.

753. GAUREA.

One species; viz. trichilioides.

754. HEDWIGIA.

One species; viz. balsamifera. Hispaniola.

755. AMYRIS, or *Shrubby Sweetwood*.

19 species; viz. polygama, elemifera, sylvatica, maritima, kataf, gileadensis, opobalsamum, enneandria, heterophylla, gujanensis, ambrosiaca, decandra, altissima, toxifera, protium, dentata, anisata, zeylanica, balsamifera. E. Indies, Carolina, Jamaica.

The *A. elemifera* produces a resin, which is brought from the Spanish W. Indies, and sometimes from the E. Indies, in large roundish cakes, generally wrapped up in flag leaves. The best sort is softish, somewhat transparent, of a pale whitish yellow colour, inclining a little to green; of a strong, not unpleasant smell. It almost totally dissolves in pure spirit, and sends over some part of its fragrance along with this menstruum in distillation: distilled with water it yields a considerable quantity of pale coloured, thin, fragrant essential oil. This resin gives name to one of the officinal unguents, and is at present scarce any otherwise made use of; though it is certainly preferable for internal purposes to some others, which are held in greater esteem.

The fruit of the *amyris gileadensis* is the product of the tree that yields the opobalsam, or balsam of Gilead. It is about the size of a pea, of a whitish colour, enclosed in a dark-brown wrinkled bark. This fruit, when in perfection, has a pleasant warm glowing taste, and a fragrant smell, resembling that of the opobalsam itself. It is very rarely found in the shops; and such as we now and then do meet with, has almost entirely lost its smell and taste. It had formerly a place in the mithridate and theriaca formulæ, now banished from our pharmacopœias; but even then the college permitted cubebs to be employed as a substitute for the carpobalsamum, which could seldom be procured; and it is probably on this account that it has now no place in our lists.

756. CEDROTA.

One species; viz. longifolia. Guiana.

757.

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757. XIMENIA.
Three species; viz. americana, elliptica, inermis. West Indies, Guiana.

758. FUSCHIA.
Four species; viz. triphylla, coccinea, excorticata, multiflora. Jam. Chili, New Zealand.

759. CHLORA, or *Yellow Centaury*.
Five species; viz. * perfoliata, quadrifolia, dodecandra, sessilia, imperfoliata. S. Eur. Lev. Virginia.

760. MICHAUXIA.
One species; viz. campanuloides. Levant.

761. DODONÆA.
Three species; viz. viscosa, triquetra, angustifolia. Tropical climates, Cape.

762. VALENTINIA.
One species; viz. ilicifolia. Cuba, Hispaniola.

763. LAWSONIA.
Four species; viz. inermis, purpurea, acronychia, spinosa. Egypt, East Indies.

764. MELICOPE.
One species; viz. ternata. South Sea isles.

765. DIMOCARPUS.
One species; viz. litchia.

766. MEMECYLON.
Four species; viz. capitellatum, tinctorium, grande, cordatum. Ceylon.

767. BUGINVILLÆA.
One species; viz. spectabilis. Brazil.

768. VACCINIUM, or *Bill-berry*, or *Whortle-berry*.
27 species; viz. * myrtillus, pallidum, hirtum, stamineum, * uliginosum, album, mucronatum, diffusum, angustifolium, corymbosum, bracteatum, ciliatum, fuscatum, frondosum, venustum, ligustrinum, resinosum, amœnum, virgatum, tenellum, arctostaphyllos, meridionale, cereum, *vitis-idæa, *oxycoccos, hispidulum, macrocarpon. N. Europe, Levant, N. America, Jamaica.

myrtillus. * V. fruitstalks 1-flowered; leaves serrated, egg-shaped; stem angular.—The berries of this plant are very acceptable to children, either eaten by themselves, or with milk, or in tarts. The moor game live upon them in the autumn. The juice stains paper or linen purple. Goats eat it. Sheep are not fond of it. Horses and cows refuse it.

uliginosum * V. fruitstalks 1-flowered; leaves very entire, inversely egg-shaped, blunt, smooth.—Children are said sometimes to eat the berries; but in large quantities they occasion dizziness and a slight headach, especially when full grown, and quite ripe. Many vintners in France are said to make use of the juice to colour their white wines red. Horses, cows, sheep, and goats eat it. Swine refuse it.

vitis-idæa. * V. bunches terminating, nodding; leaves inversely egg-shaped; edge very entire, and rolled back, dotted underneath.—The berries are acid, and not very grateful; but they are eaten by the Finlanders, and by the country people in Sweden, and are sent in large quantities from W. Bothnia to Stockholm for pickling. They are also made into tarts, rob, and jelly. Goats eat it. Cows, sheep, and horses, refuse it.

oxycoccos. * V. fruitstalks single or in pairs; leaves egg-shaped, very entire, edges rolled back; stem thread-shaped, trailing, not hairy.—The berries, made into tarts, are much esteemed; but on account of a peculiar flavour, are disliked by some. They may be kept for several years if wiped clean; and then closely corked in dry bottles, or the bottles may be filled with water.—At Longtown in Cumberland, 20 or 30l.'s worth are sold by the poor people each market day, for five or six weeks together. The most general name, cranberry, probably originated from the fruitstalks being crooked at the top, and before the expansion of the blossom, resembling the neck and head of a crane.

769. MENZIESIA.
One species; viz. ferruginea.

770. ERICA, or *Heath*.
127 species; viz. glutinosa, lutea, paniculata, depressa, halicacaba, monsoniana, discolor, densifolia, cruenta, nigrita, phylicoides, regerminans, urceolaris, marifolia, plasifolia, hirta, bicolor, articularis, viridi-purpurea, pubescens, persoluta, gracilis, strigosa, caffra, arborea, stricta, florida, mucosa, pitulifera, amœna, * tetralix, inflata, gilva, abietina, verticillata, pattersonia, mammosa, empetrifolia, spicata, octophylla, fascicularis, obliqua, * vulgaris, gnaphaloides, corifolia, calycina, triflora, scoparia, bergiana, formosa, rubens, incarnata, * cinerea, australis, ramentacea, quadriflora, lateralis, margaritacea, baccans, pendula, physodes, cernua, retorta, * daboecia, tenuifolia, albens, bracteata, thunbergii, tetragona, umbellata, nudiflora, petiolata, bryanthe, stelleriana, fucata, axillaris, imbricata, sexfaria, melanthera, leucanthera, taxifolia, spumosa, capitata, bruniades, passerina, totta, absynthioides, ciliaris, ocrulea, hispidula, petiverii, banksii, sebana, monadelphia, plukenetii, vernicolor, perspicua, aitoni, cephalotes, pulchella, longifolia, vestita, pinea, laeta, coccinea, purpurea, concinna, grandiflora, cylindrica, curviflora, simpliciflora, tubiflora, lanata, procera, conspicua, glandulosa, transparens, cerinthoides, sparmanni, massoni, ventricosa, ampullacea, fastigiata, incurva, globosa, comosa, denticulata, muscari, viscaria, pyramidalis, mediterranea, multiflora, herbacea, purpurascens, * vagans, cubica, racemosa. Europe, Madeira, Cape.

vulgaris. * E. leaves arrow-shaped.—This plant, but little regarded in happier climates, is made subservient to a great variety of purposes, in the bleak and barren highlands of Scotland. The poorer inhabitants make walls for their cottages, with alternate layers of heath, and a kind of mortar made of black earth and straw, the woody roots of the heath being placed in the centre, the tops externally and internally. They make their beds of it, by placing the root downwards; and the tops only being uppermost, they are sufficiently soft to sleep upon. Cabins are thatched with it. In the island of Ilay, ale is frequently made by brewing one part malt and two parts of the young tops of heath; sometimes they add hops. It is said, that this liquor was much used by the Picts. Woollen cloth boiled in alum water, and afterwards in a strong decoction of the tops of heath, comes out a fine orange colour. The stalks and tops will tan leather. In England besoms are made of it, and faggots to burn in ovens, or to fill up drains that are to be covered over. Sheep and goats will sometimes eat the tender shoots, but they are not fond of them. Bees extract a great deal of honey from the

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the flowers; but where heath abounds, the honey has a reddish cast.

771. OPHIRA.
One species; viz. stricta. Africa.

772. GRUBBIA.
One species; viz. rosmarinifolia. C. of G. Hope.

773. DAPHNE, or *Mezereon, Spurge laurel.*
30 species; viz. * mezereum, thymelæa, dioica, calycina, pubescens, vermiculata, villosa, tarton-raira, nitida, alpina, * laureola, pontica, pendula, lagetto, polystachya, monostachya, tinifolia, gnidium, indica, fœtida, rotundifolia, odora, occidentalis, cneorum, altaica, squarrosa, glomerata, eleoides, sericea, collina. Europe, China, Japan, W. Indies.

mezereum *. D. flowers sitting on the stem, mostly three together; leaves spear-shaped, deciduous; berries globular.—An ointment prepared from the bark or the berries, has been successfully applied to ill-conditioned ulcers. The whole plant is very corrosive; six of the berries will kill a wolf. A woman gave 12 grains of the berries to her daughter, who had a quartan ague; she vomited blood, and died immediately.—A decoction made of two drams of the cortical part of the root, boiled in three pints of water till one pint is wasted, and this quantity drank daily, is found very efficacious in resolving venereal nodes, and other indurations of the periosteum. It is said to have been once given, in a case of difficulty in swallowing, seemingly occasioned by a paralytic affection. The patient was directed to chew a thin slice of the root, as often as she could bear to do it; and in about two months, she recovered her power of swallowing. This woman bore the disagreeable irritation, and the ulceration its acrimony occasioned in her mouth, with great resolution; but she had been reduced to skin and bone, and for three years before had suffered extremely from hunger, without being able to satisfy her appetite; for she swallowed liquids very imperfectly, and solids not at all. This complaint came on after lying in.

laureola. * D. bunches of about five flowers; axillary leaves spear-shaped, smooth.—Very happy effects have been experienced from this plant in rheumatic fevers. It operates as a brisk and rather severe purgative. It is an efficacious medicine in worm cases; and upon many accounts deserves to be better known to physicians; but in less skilful hands, it would be dangerous, as it is possessed of considerable acrimony. The whole plant has the same qualities, but the bark of the root is the strongest. Dr Alston fixes the outmost dose at ten grains.

774. DIRCA, or *Leather-wood.*
One species; viz. palustris. Virginia.

775. GNIDIA.
16 species; viz. pinifolia, radiata, filamentosa, carinata, scabra, simplex, capitata, lævigata, biflora, racemosa, tomentosa, argentea, imbricata, sericea, oppositifolia, daphnæfolia. Cape, Madagascar.

776. STELLERA, or *German Groundsel.*
Two species; viz. passerina, chamæiasme. Eur.

777. PASSERINA, or *Sparrow-wort.*
16 species; viz. filiformis, hirsuta, ericoides, nervosa, cephalophora, capitata, orientalis, ciliata, uniflora, grandiflora, canescens, spicata, laxa, stricta, anthylloides, pentandra. C. of G. Hope.

778. LACHNÆA.
Two species; viz. eriocephala, conglomerata. C. of G. Hope.

779. BÆCHEA.
Two species; viz. frutescens, densifolia. China.

ORDER II. DIGYNIA.

780. SCHMIDELIA.
One species; viz. racemosa. E. Indies.

781. GALENIA, or *Cape Jessamine.*
Two species; viz. africana, procumbens.

782. WEINMANNIA.
Six species; viz. glabra, hirta, tomentosa, trifoliata, racemosa, parviflora. Cape, Jamaica, New Zealand.

783. CODIA.
One species; viz. montana. New Caledonia.

784. MOEHRINGIA, or *Mountain Chickweed.*
One species; viz. muscosa. Alps, S. of Eur.

ORDER III. TRIGYNIA.

785. POLYGONUM, or *Knot-grass.*
43 species; viz. frutescens, grandiflorum, * bistorta, * viviparum, virginianum, lapathifolium, * amphibium, ocreatum, * hydropiper, filiforme, tinctorium, * minus, * persicaria, incanum, glabrum, barbatum, tomentosum, orientale, pensylvanicum, maritimum, * aviculare, bellardi, setosum, erectum, articulatum, divaricatum, alpinum, undulatum, sericeum, serratum, corymbosum, chinense, sagittatum, arifolium, crassifolium, perfoliatum, tartaricum, emarginatum, * fagopyrum, * convolvulus, dumetorum, scandens, multiflorum. Eur. E. Ind. China, N. Amer.

* P. flowers with cloven pistils; stipulæ somewhat fringed; leaves spear-shaped.—The whole plant has an acrid burning taste. It cures little aphthous ulcers in the mouth: It dyes wool yellow. The ashes of this plant mixed with soft soap, is a nostrum in a few hands for dissolving the stone in the bladder; but it may be reasonably questioned, whether it has any advantage over other semicaustic preparations of the vegetable alkali. Its acrimony rises in distillation; and the distilled water, drank to the amount of two or three half pints daily, has been found very effectual in some nephritic cases. Horses, cows, goats, sheep, and swine, refuse it. *hydropiper.*

* P. styles 2; spikes egg-oblong; leaves spear-shaped; stipulæ fringed.—Its taste is slightly acrid and astringent. Woollen cloth, dipped in a solution of alum, obtains a yellow colour from this plant. Goats, sheep, and horses eat it; cows and swine refuse it. *persicaria.*

* P. leaves egg-shaped, extended at the base along the leafstalks.—The root is one of the strongest vegetable astringents. The young shoots are eaten in herb-pudding in the north of England; and about Manchester they are substituted for greens, under the name of patience dock. *bistorta.*

* P.

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viviparum * P. leaves spear-shaped; spike terminating.—Plants cultivated for four years in a garden, constantly produced perfect seeds in July, and flowered as constantly a second time in September. These latter germs vegetated on the stem.

aviculare. * P. flowers axillary; leaves spear-shaped; stem trailing.—The seeds are useful for every purpose in which those of the next species are employed. Great numbers of small birds feed upon them. Cows, goats, sheep, horses, and swine eat it. The stubbles in Sweden are purpled over with this plant. It affords nourishment to the *chrysomela polygoni*.

fagopyrum. * P. leaves heart-arrow-shaped; stem nearly upright, without prickles; angles of the seeds equal.—This plant is very impatient of cold, dying at the very first attack of frost. The seeds furnish a nutritious meal, which is not apt to turn acid on the stomach. It is made into thin cakes in some parts of England, called *crumpits*. It is usual with farmers to sow a crop of buckwheat, and to plough it under when fully grown as a manure to the land. The seeds are excellent food for poultry. Sheep that eat this plant become unhealthful. As it flowers late in the summer, M. du Hamel, in his observations upon the management of bees, advises to move the hives in the autumn to a situation where plenty of this plant is sown. Cows, goats, and sheep eat it; swine and horses refuse it.

convolvulus. * P. leaves heart-shaped; stem twining, angular; flowers blunted.—The seeds of this plant are quite as good for use as those of the preceding species, are produced in greater quantity, and the plant bears cold better. Cows and goats eat it; sheep, swine, and horses refuse it. The *phalæna lubricipeda* is found upon several of the species.

786. COCCOLOBA, or *Sea-side Grape.*
13 species; viz. uvifera, australis, pubescens, diversifolia, flavescens, excoriata, nivea, punctata, obtusifolia, microstachya, emarginata, barbadensis, tenuifelia. W. Indies, S. America.

787. PAULLINIA, or *Supple-jack.*
14 species; viz. nodosa, curuvu, carthaginensis, caribæa, curassavica, barbadensis, polyphylla, tetragona, vespertilio, pinnata, tomentosa, cauliflora, japonica, diversifolia. E. and W. Indies, Japan, S. America.

788. SERIANA.
10 species; viz. sinuata, divaricata, caracasana, racemosa, spectabilis, mexicana, angustifolia, lupulina, lucida, triternata.

789. CARDIOSPERMUM, or *Heart-pea.*
Four species; viz. halicacabum, hirsutum, corindum, grandiflorum. E. and W. Indies, Brazil.

790. SAPINDUS, or *Soap-berry.*
10 species; viz. saponaria, longifolius, spinosus, laurifolius, emarginatus, rubiginosus, tetraphyllus, rigidus, arborescens, frutescens. E. and W. Indies, China.

791. PONÆA.
One species; viz. saponarioides. Guiana.

ORDER IV. TETRAGYNIA.

792. VERRA.
One species; viz. crenata.

793. PARIS, or *True Love*, or *One-berry.*
One species; viz. * quadrifolia.

quadrifolia. * P. cal. 4-leaved; petals 4, narrower; berry 4-celled.—The leaves and berries are said to partake of the properties of opium. The juice of the berries is useful in inflammations of the eyes. Linnæus says the roots will vomit as well as ipecacuanha, but it must be given in a double quantity. Europe.

794. ADOXA, or *Moschatel.*
One species; viz. * moschatellina. Europe.

795. ELATINE, or *Water-wort.*
Two species; viz. hydropiper, * alsinastrum. Eur.

796. HALORAGIS.
Two species; viz. cercodia, prostrata. New Zealand, New Caledonia.

797. FORSKOLEA.
Three species; viz. tenacissima, candida, angustifolia. Egypt, Teneriffe, Cape.

In the class Octandria are

70 Genera, including 493 Species, of which 30 are found in Britain.

CLASSIS IX.

ENNEANDRIA.

ORDO I. MONOGYNIA.

798. LAURUS. Cal. 0. Cor. 6-petala, calycina. Bacca 1-sperma. Nectarii glandulæ bisetæ.

800. PANKE. Cal. 4-fidus. Cor. 4-fida. Caps. monosperma.

799. ANACARDIUM. Cal. 5-partitus. Cor. 5-petala. Stamine decimo castrato. Nux receptaculo carnoso.

CLASS IX.

ENNEANDRIA.

ORDER I. MONOGYNIA.

L. No Cal. Cor. 6-petaled, cup or calyx-like. A berry, 1-seeded. The glands of the nectary bristled.
P. Cal. 4-cleft. Cor. 4-cleft. Caps 1-seeded.

A. Cal. 5-partite. Cor. 5-petaled. The 10th stamen without an anther. A nut with a fleshy receptacle.

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801. PLEGORHIZA. Cal. 0. Cor. 1-petala. Caps. 1-locul. 1-sperma.

802. CASSYTA. Cal. 0. Cor. 6-partita, calycina. Bacca 1-sperma. Nectarii glandulæ truncatæ.

† *Anacardium stamine decimo castrato. Amyris enneandra. Brownæa enneandra. Gardenia Thunbergia.*

ORDO II. TRIGYNIA.

803. RHEUM. Cal. 0. Cor. 6-fida. Sem. 1, triquetrum.

ORDO III. HEXAGYNIA.

804. BUTOMUS. Cal. 0. Cor. 6-petala. Caps. 6, polyspermæ.

P. No cal. Cor. 1-petaled. Caps. 1-celled, 1-seeded.

C. No cal. Cor. 6-partite, cup-like. Berry 1-seeded. The glands of the nectary lopped.

ORDER II. TRIGYNIA.

R. No cal. Cor 6-cleft. Seed 1, triangular.

ORDER III. HEXAGYNIA.

B. No cal. Cor. 6-petaled. Caps. 6, many-seeded.

ORDER I. MONOGYNIA.

798. LAURUS, or *Bay-tree.*

34 species; viz. cinnamomum, cassia, camphora, culilaban, montana, chloroxylon, glauca, pedunculata, caustica, nobilis, indica, fœtens, persica, borbonia, martinicensis, exaltata, alpigena, triandra, sanguinea, surinamensis, hexandra, salicifolia, coriacea, leucoxylon, membranacea, patens, parviflora, pendula, floribunda, lucida, umbellata, æstivalis, benzoin, sassafras. Of these we shall take notice of the following, as of considerable importance.

1. The nobilis, or ever-green bay-tree, is a native of Italy, and hath an upright trunk branching on every side from the bottom upward; with spear-shaped, nervous, stiff, evergreen leaves, three inches long and two broad; and small, yellowish, quadrifid, dicœcious flowers, succeeded by red berries in autumn and winter. Of this species there are varieties with broad, narrow, striped, or waved leaves. 2. The æstivalis, or deciduous bay, grows naturally in North America. It rises with an upright stem, covered with a purplish bark; having oblong, oval, acuminated, veined, deciduous leaves, two or three inches long, and half as broad, growing opposite; with small white flowers, succeeded by red berries. 3. The benzoin, or benjamin-tree, is also a native of North America; grows 15 or 20 feet high, divided into a very branchy head; with oval, acute, deciduous leaves, three or four inches long, and half as broad; and small yellowish flowers, not succeeded by berries in this country. 4. The sassafras is a native of the same country. It hath a shrub-like straight stem, garnished with both oval and three-lobed, shining, deciduous leaves, of different sizes, from three or six inches long, and near as broad, with small yellowish flowers, succeeded by blackish berries, but not in this country. 5. The indica, or Indian bay tree, rises with an upright straight trunk, branching regularly, 20 or 30 feet high: adorned with very large, spear-shaped, plane, nervous, evergreen leaves on reddish footstalks; and bunches of small whitish green flowers, succeeded by large oval black berries which do not ripen in this country. 6. The borbonia, or Carolina red bay tree, rises with an upright straight stem, branching 15 or 20 feet high; with large spear-shaped, evergreen leaves, transversely veined; and long bunches of flowers on red footstalks, succeeded by large blue berries sitting in red cups. 7. The camphora, or camphire tree, grows naturally in the woods of the western parts of Japan, and in the adjacent islands. The root smells stronger of camphire than any of the other parts, and yields it in greater plenty. The bark of the stalk is outwardly somewhat rough; but in the inner surface smooth and mucous, and therefore easily separated from the wood, which is dry and of a white colour. The leaves stand upon slender footstalks, have an entire undulated margin, running out into a point: have the upper surface of a lively and shining green, the lower herbaceous and silky; and are furnished with a few lateral nerves, which stretch archways to the circumference, and frequently terminate in small warts; a circumstance peculiar to this species of laurus. The flowers are produced on the tops of footstalks, which proceed from the armpits of the leaves; but not till the tree has attained considerable age and size. The flower stalks are slender, branched at the top, and divided into very short pedicles, each supporting a single flower. These flowers are white, and consist of six petals, which are succeeded by a purple and shining berry of the size of a pea, and in figure somewhat top-shaped. It is composed of a soft pulpy substance that is purple, and has the taste of cloves and camphire; and of a nucleus or kernel of the size of a pepper, that is covered with a black, shining, oily corticle, of an insipid taste. 8. The cinnamomum, or cinnamon tree, is a native of Ceylon. It hath a large root, and divides into several branches, covered with a bark, which on the outer side is of a grayish brown, and on the inside has a reddish cast. The wood of the roots is hard, white, and has no smell. The body of the tree, which grows to the height of 20 or 30 feet, is covered, as well as its numerous branches, with a bark which at first is green and afterwards red. The leaf is longer and narrower than the common bay tree; and it is three-nerved, the nerves vanishing towards the top. When first unfolded, it is of a flame colour: but after it has been for some time exposed to the air, and grows dry, it changes to a deep green on the upper surface, and to

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a lighter on the lower. The flowers are small and white, and grow in large bunches at the extremity of the branches: they have an agreeable smell, something like that of the lily of the valley. The fruit is shaped like an acorn, but is not so large. 9. The cassia, or base cinnamon, has lanceolated leaves, triple-nerved. 10. The persea, avocado pear tree, or alligator pear, rises to a considerable height, with a straight trunk, of which the bark and wood are of a grayish colour. The leaves are long, oval, pointed, of a substance like leather, and of a beautiful green colour. The flowers are produced in large knots or clusters at the extremities of the branches, and consist each of six petals disposed in the form of a star, and of a dirty white or yellow colour, with an agreeable odour, which diffuses itself to a considerable distance. It is a native of the West Indies. The persea begins to bear two years and a half, or at most three years, after being planted; and, like most of the trees in warm climates, bears twice a year. The other species of this genus are possessed of no remarkable properties.

The first species are propagated by layers, or by the berries. In order to raise a quantity of these trees by layers, some stools should be planted for the purpose; and after these are shot about a yard high, the branches must be brought down to the ground in the winter, all the preceding summer's shoots laid on it, and pegged down, being first slit in the joint, and the leaves taken off, which would otherwise be under ground. In one year's time these layers will have taken root; and in the spring they should be taken up, and planted in the nursery a foot asunder, in rows two feet distance. After they are planted out, if the weather should prove dry, they must be constantly watered; for without such care, it is difficult to make this tree grow. After they have taken well to the ground, they will require no farther trouble than keeping them clean from weeds, and digging between the rows each winter, till they are finally planted out. 2. In order to raise this tree from the berries, they ought to hang on the trees till about January before they are gathered. A well-sheltered spot of ground for the seminary must be made choice of: and having the mould smooth and fine, they should be sown soon after they are gathered, in beds or drills, rather more than half an inch deep. Towards the close of the spring the plants will come up, and during summer must be duly attended, by watering and weeding. In the winter following, their sheltered situation must not be trusted to, to defend them from the frost: Furze bushes, or some such things, ought to be stuck in rows between the beds or drills, to guard them from the black frosts. Indeed, without this precaution, if the winter should prove very frosty, few of the young seedlings will be alive in spring. During the following summer, weeding and watering must be observed, and the winter after that they should be defended with covering as before; for they will be still in danger of being destroyed by severe frosts. In the ensuing spring, the strongest may be taken out of the seed-beds, and planted in the nursery way; though, if they have not by that time made good shoots, it will be advisable to let them remain in their beds till the third spring; for a small plant of this kind is with more difficulty made to grow than one which is larger. When they are planted in the nursery, the distance which should be allowed them is the same as the layers, a foot asunder and two feet distance in the rows; and this will not be found too close; for notwithstanding the greatest care is exerted in planting them in the nursery, even making choice of rainy and cloudy weather, which must always be observed in setting them out, many of them will be lost by being transplanted. After they are thus planted out in the nursery, whether layers or seedlings, they must be still watered in dry weather, kept free from weeds, and the rows dug between every winter. You will even find, that those plants which suffer least by being transplanted will have met with a check, which they will not recover in two or three years; and till they have acquired new strength they should not be taken from the nursery; but when they appear to be good stiff plants, having the year before made a vigorous shoot, they will be then proper plants for planting out where they are to remain. Holes should be got ready for their reception; and as soon as the first autumnal rains fall, the work should be set about, especially if the land be gravelly or dry; but if it be moist, the spring will do as well. Being now planted at one yard distance, they will make a poor progress for two or three years more; but after this, when they have overcome all these difficulties, they will grow very fast, and arrive to be good trees in a few years. Although this tree flourishes best in old gardens, where the soil has been made rich and deep, and loves the shade, Hanbury tells us, "it thrives nevertheless exceedingly well in our hottest gravels and sands; and after it has surmounted the hardships of transplanting, will grow in such situations extremely fast, and arrive to a large bulk.

The propagation of the three next sorts of trees may be performed two or three ways: 1. By the seeds. These we receive from the places where the trees grow naturally, in the spring. They should be preserved in sand; and as soon as they arrive, should be sown in largish pots an inch deep. The soil for their reception should be taken from a rich pasture at least a year before, with the sward. It should also be laid in a heap, and frequently turned, until the sward is grown rotten, and the whole appears well mixed and fine. If the pasture from whence it was taken near the surface is a sandy loam, this is the best compost for these seeds; if not, a small addition of drift or sea sand should be added, and well mixed with the other mould. After filling the pots with this soil, the seeds should be sown an inch deep; and then they should be plunged into common mould up to the rim. If the soil be naturally moist, it will keep them cooler, and be better; and if the place be well sheltered and shaded, it will be better still. Nothing more than weeding, which must be constantly observed during the summer, will be necessary; and in this station they may remain until the March following: about the middle of which month having prepared a good hot-bed, the pots should be taken up and plunged therein. Soon after the seeds will come up: and when the young plants have sufficiently received the benefit of this bed, they should be inured by degrees to the open air. Weeding and watering must be observed during the summer; and at the approach of the cold weather in the autumn, they should be removed under a hotbed frame, or some

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cover, to be protected from the frosts during the winter. In the spring, when this danger is over, they should resume their first station; namely, the pots should be plunged up to the rim, as when the seeds were first sown; and if this place be well sheltered, they may remain there all winter: if not, and severe frosts threaten, they should be taken up and placed under cover as before. After they have been thus managed three years from the seeds, they should be taken out of the pots with care, and planted in the nursery ground at small distances, where they may remain until they are strong enough to be finally set out. By sowing the seeds in pots, and assisting them by a hotbed, a year at least is saved; for they hardly ever come up, when sown in a natural border, under two years from the seeds; nay, they have been known to remain three, and even some plants to come up the fourth year after sowing; which at once shows the preference of the former practice, and should caution all who have not such convenience, not to be too hasty in disturbing the beds when the seeds are sown in the natural ground; as, especially if they are not well preserved in mould or sand, these may be some years before they appear. Indeed, it is the long time we are in obtaining these plants, either by seeds, layers, &c. that makes them at present so very scarce amongst us. 2. These plants may also be increased by layers; but very slowly; for they will be two and sometimes three, or even four years, before they have struck out good roots; though the benjamin tree is propagated the fastest by this method. The young twigs should be laid in the ground in the autumn; and it will be found that twisting the wire round the bud, so as in some degree to stop the progress of the sap, and taking away with a knife a little of the bark, is a more effectual method of obtaining good roots soon than by the slit or twisting, especially when practised on the sassafras tree. 3. Plants of those sorts are likewise sometimes obtained by suckers, which they will at all times throw out, and which may be often taken off with pretty good roots; but when they are weak, and with bad roots, they should be planted in pots, and assisted by a moderate heat in a bed: with such management they will be good plants by the autumn, and in the spring may be planted out anywhere. 4. Cuttings of these trees, when planted in a good bark bed, and duly watered, will also oftentimes grow. When this method is practised, and plants obtained, they must be inured by degrees to the open air, till they are hardy enough to be finally planted out.

The Indian bay, the camphire, the avocado, and the cinnamon tree, require the treatment common to greenhouse plants; the latter, however, is rather a stove plant in this country.—Of its culture or propagation in its native places, no particular account has been given by botanical writers; but it must now become an important consideration with us, since the island of Ceylon, where cinnamon chiefly grows, now belongs to Great Britain. Of the advantages promised by this acquisition we are indebted for the first accounts to Dr Wright in 1787; from whom also we learn, that its propagation is very easy, and its culture requires little care, as more particularly noticed below. Since that time, some observations by Dr Dancer, relative to its cultivation, have appeared in the Transactions of the Society of Arts, &c. These observations confirm, without adding any thing essential to, the concise notice of Dr Wright. We are informed, that as the tree "puts out numerous side branches, with a dense foliage, from the very bottom of the trunk; this furnishes an opportunity of obtaining plenty of layers, and facilitates the propagation of the tree, as it does not perfect its seeds in any quantity under six or seven years; when it becomes so plentifully loaded, that a single tree is sufficient almost for a colony. It seems to delight in a loose moist soil, and to require a southern aspect; the trees, thus planted, flourishing better than others growing in loam, and not so well exposed to the sun. When healthy, it is (from layers) of pretty quick growth, reaching in *eight* years the height of fifteen or twenty feet, is very spreading, and furnished with numerous branches of a fit size for decortication. The seeds, however, are a long time in coming up, and the plants make small progress for the first year or two." It is added, that "the birds appear to be very fond of the berries, and will probably propagate this tree in the same way they do many others everywhere over the island; so that in a short time it will grow spontaneously, or without cultivation." The age for decortication, said above to be eight years, it will be observed, is different from that specified below for the trees in Ceylon.

Evelyn says, he has seen bay trees near 30 feet high, and almost two feet in diameter; and enumerates the bay amongst useful trees. Hanbury catches at this idea, and tells us in general terms, that "it will grow to 30 feet in height, with a trunk of two feet in diameter;" and accordingly he arranges it among his forest trees: he acknowledges, however, at the same time, that the wood is of little value. The bay *is* nevertheless a fine aromatic and a beautiful evergreen: It is said to be the true *laurus* or laurel of the ancients, with which they adorned the brows of their successful generals. Like the holly, box, and laurel, the bay will bear the shade and drip of taller trees; and it is, upon the whole, a very desirable, as being a very ornamental, evergreen.

The leaves and berries of this tree have a moderately strong aromatic smell, and a warm, bitterish, pungent taste: the berries are stronger in both respects than the leaves, and afford in distillation a larger quantity of essential aromatic oil; they yield also an almost insipid oil to the press, in consequence of which they prove unctuous in the mouth. They are warm carminatives, and sometimes exhibited in this intention against flatulent colics, and likewise in hysterical disorders. Their principal use in the present practice is in glysters, and some external applications. The deciduous bay, in a moist rich soil, in which it principally delights, will grow to be about 16 feet high; but in some soils, that are possessed of the opposite qualities, it will hardly arrive at half that height. The flowers are succeeded in May by large red berries, which never ripen in England: so that notwithstanding the leaves in summer are very pretty, and the colour of the bark makes a variety in winter, it is principally the scarcity of this plant which makes it valuable.

The *benzoin* tree will grow to a much larger size than the other, and its branches are more numerous.

They

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They are smooth, and of a fine light green colour. The leaves on their upper surface are smooth and of a fine light green colour, but their under surface is venose, and of a whitish cast. When bruised, they emit a fine fragrance. This tree was formerly mistaken for that which produces the drug called *benzoin*; which is now known to be obtained from a species of styrax.

The *sassafras* will grow to nearly the height of the others, though the branches are not so numerous. Its bark is smooth, and of a red colour, which beautifully distinguishes it in winter; whilst the fine shining green of its leaves constitutes its greatest beauty in summer. In these, indeed, there is a variety, and a very extraordinary one. Some are large and of an oval figure; others are smaller, and of the same shape; whilst others again are divided into three lobes, so as to resemble the leaves of some sorts of the fig tree. In America, the sassafras generally stands single in the woods, and along the fences round the fields. It flowers in May before the leaves come out; and being entirely covered with them, it is distinguished at a great distance by their beautiful yellow colour.

The root of the sassafras has a fragrant smell, and a sweetish, aromatic, subacrid taste: the bark tastes much stronger than any other part, and the small twigs stronger than the large pieces. It is a warm aperient and corroborant, and frequently employed with good success for purifying and sweetening the blood and juices. For these purposes, infusions made from the rasped root or bark may be drank as tea. In some constitutions indeed, such liquors are, by their fragrance, apt, on first taking them, to affect the head; but in such cases they may be advantageously freed from their flavour by boiling. A decoction of sassafras, boiled down to the consistence of an extract, proves simply bitterish and subastringent. Hoffman assures us, that he has frequently given this extract to the quantity of a scruple at a time, with remarkable success, for strengthening the tone of the viscera in cachexies; as also in the decline of intermittent fevers and in hypochondriacal spasms. Sassafras yields in distillation an extremely fragrant oil of a penetrating pungent taste, so ponderous (notwithstanding the lightness of the drug itself) as to sink in water. Rectified spirit extracts the whole taste and smell of sassafras; and elevates nothing in evaporation: hence the spirituous extract proves the most elegant and efficacious preparation, as containing the virtue of the root entire.

The bark of this tree is used by the women in Pennsylvania and other parts of North America in dyeing worsted a fine lasting orange colour, which does not fade in the sun. They use urine instead of alum in dyeing; and boil the dye in a brass boiler, because in an iron vessel it does not yield so fine a colour. The wood is made use of for posts belonging to the enclosures, for it is said to last a long time in the ground: but it is likewise said, that there is hardly any kind of wood which is more attacked by worms than this when it is exposed to the air without cover; and that in a short time it is quite worm-eaten through and through. On cutting some part of the sassafras tree, or its shoots, and holding it to the nose, it has a strong but pleasant smell. Some people peel the root, and boil the peel with the beer which they are brewing, because they believe it wholesome. For the same reason, the peel is put into brandy either whilst it is distilling, or after it is made. Professor Kalm informs us, that a decoction of the root of sassafras in water, drank every morning, is used with success in the dropsy. When part of a wood is destined for cultivation, the sassafras trees are commonly left upon it, because they have a very thick foliage, and afford a cool shade to the cattle during the great heats. Some people get their bedposts made of sassafras wood, in order to expel the bugs; for its strong scent, it is said, prevents those vermine from settling in them. For two or three years together this has the desired effect, or about as long as the wood keeps its strong aromatic smell; but after that time it has been observed to lose its effect. In Pennsylvania some people put chips of sassafras into their chests, where they keep all sorts of woollen stuffs, in order to expel the moths (or larvæ of caterpillars of moths or tinies) which commonly settle in them in summer. The root keeps its smell for a long while: Professor Kalm saw one which had lain five or six years in the drawer of a table, and still preserved the strength of its scent. The people also gather its flowers, and use them as tea.

The *persea*, or *alligator pear-tree*, is cultivated universally in the West Indies by all ranks of people. The fruit is pear-shaped, and from one to two pounds in weight. On removing a green skin or covering, we come to a yellow butyraceous substance; and in the heart find a large round seed or stone, which is unequal in the surface, and exceedingly hard and woody. This fruit is ripe in August and September, and constitutes one of the most agreeable articles of diet for six or eight weeks to the negroes. These pears, with a little salt and a plantain or two, afford a hearty meal. They are also served up at the tables of white people as choice fruit. When the pear is ripe, the yellow or eatable substance is firmer than butter, and tastes somewhat like butter or marrow: hence it is called by some the *vegetable marrow*. But however excellent this fruit is when ripe, it is very dangerous when pulled and eaten before maturity. Dr Wright says, he has repeatedly known it to produce fever and dysentery, which were removed with difficulty. The leaves of this tree, and those of the bead vine or wild liquorice, are made into pectoral decoctions by the common people. The large stone is used for marking linen. The cloth is tied or held over the stone, and the letters are pricked out by a needle through the cloth and into the seed. The stain is a reddish brown, which never washes out.—The buds of the alligator tree are said to be used with success in ptisans against the venereal disease. An infusion of them in water, drank in the morning fasting, is strongly recommended for dislodging coagulated blood in the stomach, produced by a fall or a severe stroke on that important entrail. "The wild boars in the East Indies (says Labat) eat greedily of the mammees and avocado pears, which give their flesh a luscious and most agreeable savour."

Cassia. The bark of this species is known in the shops by the name of *cassia lignea*. This bark, which is imported from different parts of the East Indies and from China, has a very near resemblance to the cinnamon; though distinguishable from it by being of a thicker

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thicker and coarser appearance, and by its breaking short and smooth, while the cinnamon breaks fibrous and shivery. It resembles cinnamon still more exactly in its aromatic flavour than in its external appearance; and seems only to differ from it in being somewhat weaker, in abounding more with a viscous mucilaginous matter, and in being less astringent. Accordingly, it has not only a place in the Edinburgh Pharmacopœia, but is also the basis of a distilled water. It is perhaps surprising that the London college have given it no place in their lists. But although it does not enter their Pharmacopœia, yet we may venture to assert, that it will not be neglected by the apothecaries. At present it is very common with many of them to substitute the cassia in every case for the more expensive article cinnamon: and indeed almost the whole of what is at present sold under the title either of simple or spirituous cinnamon water is entirely prepared from cassia; and not even entirely from the bark, but from a mixture of the bark and buds.

Cinnamon is the under bark of the *cinnamomum*. The best season for separating it from the outer bark, which is gray and rugged, is the spring, when the sap flows in the greatest abundance. It is cut into thin slices, and exposed to the sun, and curls up in drying. The old trees produce a coarse kind of cinnamon; the spice is in perfection only when the trees are not older than three or four years. When the trunk has been stripped of its bark, it receives no further nourishment; but the root is still alive, and continues to throw out fresh shoots. The fruit of the tree is shaped like an acorn, but is not so large. Its seed, when boiled in water, yields an oil which swims at top, and takes fire. If left to cool, it hardens into a white substance, of which candles are made, which have an agreeable smell, and are reserved for the use of the king of Ceylon. The cinnamon is not reckoned excellent unless it be fine, smooth, brittle, thin, of a yellow colour, inclining to red, fragrant, aromatic, and of a poignant yet agreeable taste. The connoisseurs give the preference to that, the pieces of which are long but slender. That which comes to us is generally mixed with the cassia bark; but this last is easily distinguished. Cinnamon splinters in breaking, and has a roughness along with its aromatic flavour; while the cassia breaks over smooth, and has a mucilaginous taste. Cinnamon is a very elegant and useful aromatic, more grateful both to the palate and stomach than most other substances of this class. By its astringent quality it likewise corroborates the viscera, and proves of great service in several kinds of alvine fluxes, and immoderate discharges from the uterus.

The cinnamon plant, with other valuable ones, was taken in a French ship by Admiral Rodney in the last war, and presented by him to the assembly of Jamaica. One of the trees was planted in the botanic garden in St Thomas in the East; the other by Hinton East, Esq. in his noble garden at the foot of the Blue Mountains. From these parent trees some hundreds of young trees are already produced from layers and cuttings, and dispersed to different parts of the country, in all which it thrives luxuriantly with little trouble: we may therefore, hope it will soon be a valuable addition to our commerce. Upon comparing the parts of the tree with the description and figure given by Burman and other botanists, it appears to be the real Ceylon cinnamon, and of the best kind, called by the natives *Rasle Coronde*: but the specimens of bark taken put it out of all doubt, being, in the opinion of the best judges, of an equal, if not superior, quality to any imported from India. The smallest bit of the bark, Dr Wright assures us, is quite a cordial. The cinnamon we have from Holland, he observes, is often inert, and gives room to suspect that it has been subjected to a slight process in distillation.

In regard to the trees growing in Jamaica, Dr Dancer informs us, in his paper already quoted, that "The best cinnamon bark, according to the different trials I have made, is taken from the small branches, of about an inch diameter, the larger limbs not being so easily decorticated, and not yielding so good or so strong a cinnamon. The smaller twigs, or those that have not acquired a cineritious bark, are too full of sap and mucilage, and have little *aroma*. It is the *liber*, or inner bark, that constitutes the cinnamon; from which the two external barks must be carefully and entirely separated, or they vitiate the flavour of the cinnamon; to do which with dexterity, and to raise the bark from the wood, requires some practice. The bark being separated, the smaller pieces are to be placed within the larger: which, by exposure to the sun or the air, presently coil up, and require no further preparation. A dry season is the proper one for taking the bark, as it is found to be weakened after long or heavy rains. Cinnamon, though more retentive of its virtues than any of the other spices, yet requires to be protected when taken, from the air and moisture, by close packing in cedar chests. The leaves of this tree, whether recent or dried, are so strongly impregnated with an *aroma*, as to afford a good succedaneum for the bark both in cookery and medicine. Distilled, they give an excellent simple and spirituous water, and an essential oil. Powdered, they are a good aromatic species, or mareschal perfume."

Camphor, though solid, is the essential oil of the *laurus camphora*; and is obtained from it by distillation in the East Indies. (See the article CAMPHORA.) —The tree is another of the captured plants given to the inhabitants of Jamaica; and, if cultivated with care, will also be an useful acquisition.

The abbé Grosier informs us, that in China some of these trees are found above 100 cubits in height, and so thick that 20 persons cannot enclose them. The tree is there called *tchang*; and it is said that the trunk, when old, emits sparks of fire, but of so subtle a nature as not even to injure the hair of those who are near it. Common camphire costs only a penny the ounce at Pe-king; but it is inferior to that of Borneo, in the judgment even of the Chinese.

The manner in which some authors have spoken of camphire (the abbé observes), gives us reason to conclude that they have been entirely ignorant of the process employed to obtain this salutary gum. The camphire does not drop to the earth, like the gums of certain resinous trees, which are preserved by discharging that part of their substance which is too oily; neither does it distil from the top to the bottom of the tree through an incision made in it. The Chinese would practise this method could it be employed with success; for it is very common in China to make such kind

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kind of incisions in resinous trees. The method used by the Chinese for obtaining camphire is as follows.—They take some branches fresh from the *tehung*, chop them very small, and lay them to steep in spring-water for three days and three nights. After they have been soaked in this manner, they are put into a kettle, where they are boiled for a certain time, during which they keep continually stirring them with a stick made of willow. When they perceive that the sap of these small chips adheres sufficiently to the stick in the form of white frost, they strain the whole, taking care to throw away the dregs and refuse. This juice is afterwards poured gently into a new earthern bason well varnished, in which it is suffered to remain one night. Next morning it is found coagulated, and formed into a solid mass. To purify this first preparation, they procure some earth from an old earthen wall, which, when pounded, and reduced to a very fine powder, they put into the bottom of a bason made of red copper; over this layer of earth they spread a layer of camphire, and continue thus until they have laid four strata. The last, which is of very fine earth, they cover up with the leaves of the plant *po ho*, or penny-royal; and over the whole they place another bason, joining it very closely to the former by means of a kind of red earth that cements their brims together. The bason thus prepared is put over a fire, which must be managed so as to keep up an equal heat: experience teaches them to observe the proper degree. But above all they must be very attentive lest the plaster of fat earth which keeps the basons together should crack or fall off; otherwise the spirituous part would evaporate, and ruin the whole process. When the basons have been exposed to the necessary heat, they are taken off and left to cool; after which they are separated, and the sublimated camphire is found adhering to the cover. If this operation be repeated two or three times, the camphire is found purer and in larger pieces. Whenever it is necessary to use any quantity of this substance, it is put between two earthen vessels, the edges of which are surrounded with several bands of wet paper. These vessels are kept for about an hour over an equal and moderate fire: and when they are cool, the camphire is found in its utmost perfection and ready for use. This method of procuring camphire, even from the heart of the tree, may be practised in all seasons of the year; which would not be the case (our author observes), were it extracted like other resinous substances that only flow during a certain short space of time. Besides, by lopping the branches of the camphire tree, less hurt is done to it than by making incisions, which are always hazardous.

799. ANACARDIUM, or *Cashew-nut*, or *Acajout*.
One species; viz. occidentale. E. and W. Indies.

800. PANKE.
Two species; viz. tinctoria, sonchifolia. Chili.

801. PLEGORRHIZA.
One species; viz. adstringens. Chili.

802. CASSYTA.
Two species; viz. filiformis, corniculata. Egypt, E. Indies, S. America.

ORDER II. TRIGYNIA.

803. RHEUM, or *Rhubarb*.
Eight species; viz. rhaponticum, undulatum, palmatum, compactum, tartaricum, ribes, hybridum, leucorrhizum. Siberia, Levant, Tartary, India, China.

The *rheum palmatum*, which is of the dock kind, grows spontaneously in China, and endures the colds of our own climate. Two sorts of rhubarb are met with in the shops. The first is imported from Turkey and Russia, in roundish pieces, freed from the bark, with a hole through the middle of each; they are externally of a yellow colour, and on cutting, appear variegated with lively reddish streaks. The other, which is less esteemed, comes principally from China, in longish pieces, harder, heavier, and more compact than the foregoing. The first sort, unless kept very dry, is apt to grow mouldy and worm-eaten; the second is less subject to these inconveniences. Some of the more industrious artists are said to fill up the worm holes with certain mixtures, and to colour the outside of the damaged pieces with powder of the finer sorts of rhubarb, and sometimes with cheaper materials; this is often so nicely done, as effectually to impose upon the buyer, unless he very carefully examines each piece. The marks of good rhubarb are, that it be firm and solid, but not flinty; that it be easily pulverable, and appear, when powdered, of a fine bright yellow colour; that upon being chewed, it impart to the spittle a saffron tinge, without proving slimy or mucilaginous in the mouth. Its taste is subacrid, bitterish, and somewhat astringent; the smell lightly aromatic.

Rhubarb is a mild cathartic, which operates without violence or irritation, and may be given with safety even to pregnant women and to children. In some people, however, it always occasions severe griping. Besides its purgative quality, it is celebrated for an astringent one, by which it strengthens the tone of the stomach and intestines, and proves useful in diarrhœa, and disorders proceeding from a laxity of the fibres. Rhubarb, in substance, operates more powerfully as a cathartic than any of the preparations of it. Watery tinctures purge more than the spirituous ones; whilst the latter contain, in greater proportion, the aromatic, astringent, and corroborating virtues of the rhubarb. The dose, when intended as a purgative, is from a scruple to a dram or more.

The Turkey rhubarb is, among us, universally preferred to the East India sort, though this last is, for some purposes, at least equal to the other; it is manifestly more astringent, but has somewhat less of an aromatic flavour. Tinctures drawn from both, with rectified spirit, have nearly the same taste; on distilling off the menstruum, the extract left from the tincture of the East India rhubarb, proved considerably the strongest. They are both the produce of the same climate, and probably the roots of the same plant, taken up at different times, or cured in a different manner.

Rhubarb is now raised in Britain equal to any that is imported.

The officinal preparations of this drug are a watery and

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and a vinous infusion, a simple and compound tincture. It is also an ingredient in different compositions, such as the *elixir ex aloe et rheo*, the *pilulæ stomachicæ*, and some others.

Order III. HEXAGYNIA.

804. Butomus, or *Flowering rush.*
One species; viz. * umbellatus.

* B.—Neither cows, horses, sheep, swine, or goats, will eat it. It is an ornament to the banks of our rivers and marshy ditches. Europe. *umbellatus.*

In the class Enneandria are
7 Genera, including 49 Species, of which one only is found in Britain.

CLASSIS X.

DECANDRIA.

Ordo I. MONOGYNIA.

Sect. I. *Flores polypetali irregulares.*

805. Sophora. Cor. papilion. vexillo adscendente. Lomentum moniliforme.
806. Podalyria. Cor. papilion. vexillo adscendente. Legumen ventricosum polyspermum.
807. Pultenæa. Cor. papilion. Alæ vexillo breviores. Legumen dispermum.
808. Anagyris. Cor. papilion. vexillo brevi recto. Carina alis longiore.
809. Cercis. Cor. papilion. alis vexilliformibus. Nect. gland. styliformis, sub germine.

810. Bauhinia. Cor. patens, unguiculata, adscendens. Petala lanceolata.
811. Hymenæa. Cor. subæqualis. Legum. lignosum, pulpa farinosa.
829. Myroxylon. Cor. petalo supremo latiore. Legumen 1-spermum, apice dilatatum.
812. Parkinsonia. Cor. petalo infimo reniformi. Legum. teres, tortuosum.
815. Cæsalpinia. Cor. petalo infimo pulchriore. Cal. laciniæ inæquales. Legum. compressum.
828. Toluifera. Cor. petalo infimo majore. Cal. campanulatus.
813. Cassia. Cor. inequalis. Anth. rostratæ. Lomentum planum.
814. Cubæa. Cor. subæqualis, petalis 2 deflexis. Legumen coriaceum, ventricosum. Semina subreniformia.
816. Guilandina. Cor. subæqualis, calyci insidens. Legum. rhombeum. Sem. ossea.
817. Hyperanthera. Cor. subæqualis. Legumen 3-valve. Sem. alata.
837. Gærtnera. Cor. subæqualis. Cal. 4-partitus. Samara quadrialata.
851. Gomphia. Cor. subæqualis. Baccæ plures receptaculo magno insertæ.
824. Dictamnus. Cor. patula. Filam. pulverulenta. Caps. 5, connexæ. Sem. arillata.
866. Rhodora. Cor. inæqualis tripetala. Cal. 5-dentatus. Caps. 5-loculares.

CLASS X.

DECANDRIA.

Order I. MONOGYNIA.

Sect. I. *Flowers polypetalous, irregular.*

S. Cor. papilionaceous or butterfly-shaped. The standard ascending. The lomentum bracelet-shaped.
P. Cor. papilionaceous. The standard ascending. A leguminous plant, bellied, many-seeded.
P. Cor. papilionaceous. Wings shorter than the standard. A leguminous plant, 2-seeded.
A. Cor. papilionaceous. A short straight standard. The keel of the wing long.
C. Cor. papilionaceous; with standard-shaped wings. The glands of the nectary style-shaped, under the germen.
B. Cor. expanding, clawed, ascending. Petals spear-shaped.
H. Cor. nearly equal. Leguminous, woody, with a farinaceous pulp.
M. Cor. with the last leaf broader. Leguminous, 1-seeded, dilated at the extremity.
P. Cor. with the lowest petal kidney-shaped. Leguminous, tapering, twisted.
C. Cor. with the lowest petal beautiful. Cal. unequal segments. Leguminous, compressed.
T. Cor. lowest leaf larger. Cal. bells-shaped.

C. Cor. unequal. Anthers beaked. Lomentum flat.
C. Cor. nearly equal, with 2 leaves bent downwards. Leguminous, bark-like, bellied. Seeds nearly kidney-shaped.
G. Cor. nearly equal, sitting in the cal. Leguminous, diamond-shaped. Seeds bony, i. e. shining.
H. Cor. nearly equal. Leguminous, 3-valved. Seeds winged.
G. Cor. nearly equal. Cal. 4-partite. Seed-vessel 4-winged.
G. Cor. nearly equal. Berries, several inserted in a large receptacle.
D. Cor. open. Filaments dusty. Caps. 5, connected. Seeds coated.
R. Cor. unequal, 3-petaled. Cal. 5-toothed. Caps. 5-celled.

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Sect. II. *Flores polypetali, æquales.*

820. CYNOMETRA. Cal. 4-phyllus; lacin. oppos. major. Legum. 1-spermum, carnosum.

831. PROSOPIS. Cal. hæmisphericus, 4-dentatus. Legum. polyspermum.

818. SCHOTIA. Cal. 5-fidus, æqualis. Legum. compressum, polyspermum.

832. CADIA. Cal. 5-fidus. Petala obcordata. Legum. polyspermum.

836. ADENANTHERA. Antheris glandula insidens. Leg. compressum membranaceum.

830. HÆMATOXYLON. Pistilli stigma emarginatum. Legumen valvis navicularibus.

839. GILIBERTIA. Nectar. tubulosum truncatum. Antheræ sessiles. Caps. 4-locularis.

840. TRICHILIA. Nectar. tubulosum, 5-dentatum. Caps. 3-locularis, 3-valvis. Sem. baccata.

841. TURRÆA. Nectar. tubulosum, 10-dentatum. Caps. 5-cocca. Sem. bina.

845. MELIA. Nect. tubulosum, 10-dentatum. Drupa nuce 10-loculari.

842. SANDORICUM. Nect. tubulosum, 10-dentatum. Drupa nucibus 5.

843. SWIETENIA. Nect. tubulosum, 10-dentatum. Caps. lignosa, 5-valvis. Sem. imbricata, margine membranaceo.

819. GUAIACUM. Cal. laciniæ 2 exteriores minores. Caps. carnosa, 3 s. 5-locularis, angulata.

827. RUTA. Germen punctis 10 melliferis. Caps. 5-fida, 5-locularis, polysperma.

848. TRIBULUS. Pistilli stylus nullus. Caps. 5, connexæ, polyspermæ.

847. FAGONIA. Cor. ungues calyci insertæ. Caps. 5-locularis, 10-valvis, 1-sperma.

846. ZYGOPHYLLUM. Nect. squamæ 10 staminiferæ. Caps. 5-locularis, polysperma.

850. ZWINGERA. Caps. 5, coriaceæ, non-dehiscentes.

849. QUASSIA. Caps. 5, bivalves, 1-spermæ, insertæ receptaculo carnoso.

861. CERATOPETALUM. Cor. 5-petala, pinnatifida. Cal. 5-fidus, staminiferus. Caps. 2-locularis.

852. THRYALLIS. Cor. 5-petala. Caps. tricocca.

835. EKEBERGIA. Cor. 4-petala. Bacca 5-sperma.

857. SCHOUSBOEA. Cor. 5-petala calyci inserta. Bacca inserta 5-gona monosperma.

826. PETALOMA. Cor. 5-petala inter calycis lacinias inserta. Bacca 1-locularis.

853. LIMONIA. Cor. 5-petala. Bacca 3-sperma.

844. COOKIA. Cor. 5-petala. Pomum 5-loculare, loculis monospermis.

858. HEISTERIA. Cor. 5-petala. Drupa insidens calyci colorato grandifacto.

859. QUISQUALIS. Cor. 5-petala, calyci insidens filiformi.

* 854. MONOTROPA. Cal. corollinus, basi gibbus. Caps. 5-locularis, monosperma.

* 872. CLETHRA. Pistilli stigmata tria. Caps. 3-locul. polysperma.

* 873. PYROLA. Antheræ sursum bicornes. Caps. 5-locul. polysperma.

865. LEDUM. Cor. plana, 5-partita. Caps. 5-locul. polysperma.

Sect. II. *Flowers polypetalous, equal.*

C. Cal. 4-leaved; largest segments opposite. Leguminous, 1-seeded, fleshy.

P. Cal. hemispherical, 4-toothed. Leguminous, many-seeded.

S. Cal. 5-cleft, equal. Leguminous, compressed, many-seeded.

C. Cal. 5-cleft. Petals heart-shaped reversed. Leguminous, many-seeded.

A. Gland sitting in the anthers. Leguminous, compressed, membranaceous.

H. Stigma of the pistil notched at the end. Leguminous, with boat-shaped valves.

G. Nectary tubular lopped. Anthers sitting. Caps. 4-celled.

T. Tubular nectary, 5-toothed. Caps. 3-celled, 3-valved. Seeds berried.

T. Nectary tubular, 10-toothed. Caps. 5-celled. Seeds double.

M. Nectary tubular, 10-toothed. Drupe with a 10-celled nut.

S. Nectary tubular, 10-toothed. Drupe with 5 nuts.

S. Nectary tubular, 10-toothed. Caps. woody, 5-valved. Seeds tiled, with a membranous border.

G. Two outer segments of the cal. small. Caps. fleshy, 3 or 5-celled, angular.

R. Germen with 10 honey-bearing points. Caps. 5-cleft, 5-celled, many-seeded.

T. No style of the pistil. Caps. 5, connected, many-seeded.

F. Claws of the cor. inserted in the cal. Caps. 5-celled, 10-valved, 1-seeded.

Z. Nectary of 10 stamen-bearing scales. Caps. 5-celled, many-seeded.

Z. Caps. 5, bark-like, not gaping.

Q. Caps. 5, 2-valved, 1-seeded, inserted in a fleshy receptacle.

C. Cor. 5-petaled, wing-cleft. Cal. 5-cleft, bearing the stamens. Caps. 2-celled.

T. Cor. 5-petaled. Caps. 3-celled.

E. Cor. 4-petaled. Berry 5-seeded.

S. Cor. 5 petals inserted in the calyx. Berry inferior, 5-gon, 1-seeded.

P. Cor. 5 petals inserted between the segments of the cal. Berry 1-celled.

L. Cor. 5-petaled. Berry 3-seeded.

C. Cor. 5-petaled. Apple 5-celled, with 1-seeded cells.

H. Cor. 5-petaled. Drupe sitting in the cal. coloured, enlarged.

Q. Cor. 5-petaled, sitting in a thread-shaped cal.

* M. Cal. corol-like, bulging at the base. Caps. 5-celled, 1-seeded.

* C. 3 stigmas of the pistil. Caps. 3-celled, many-seeded.

* P. Anthers 2-horned upwards. Caps. 5-celled, many-seeded.

L. Cor. flat, 5-partite. Caps. 5-celled, many-seeded.

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855. Dionæa. Cal. 5-phyllus. Stigma fimbriatum. Caps. 1-locularis. Sem. basi capsulæ.

833. Murraya. Bacca 1-sperma. Cor. 5-petala. Nectarium margine cingens germen.

834. Bergera. Bacca 2-sperma. Cor. 5-petala. Stigma turbinatum.

862. Melastoma. Cor. calyci insidens. Anther. refractæ. Bacca 2-locularis, calyce vestita.

863. Meriania. Cor. calyci insidens. Antheræ refractæ. Caps. 5-locularis, dissepimentis contrariis.

856. Jussieua. Cor. 4 s. 5-petala. Caps. infera.

His confundenda sunt Rhexiæ nonnullæ. Conocarpus racemosa. Combretum decandrum, alternifolium. Jacquinia racemosa. Amyris decandra. Geranio aliquot. Lythrum cordifolium, ciliatum. Melanium. Grislea tomentosa. Anacardium occidentale.

Sect. III. *Flores monopetali, æquales.*

822. Panzera. Petalum unicum laterale. Cal. 4-partitus. Legumen.

825. Nicandra. Cor. tubulosa, 10-fida. Cal. 4-fidus, inæqualis. Bacca 3-locularis.

823. Codon. Cor. campanulata, 10-fida. Cal. 10-partitus. Caps. polysperma.

875. Inocarpus. Cor. tubulosa, 5-fida. Cal. 2-fidus. Drupa 1-sperma.

838. Strigilia. Cor. 5-fida. Nectar. 10-partitum. Fructus 6-locularis.

* 868. Andromeda. Cor. campanulata, rotunda. Caps. 5-locularis.

867. Rhododendron. Cor. infundibulif. Stam. declinata. Caps. 5-locularis.

864. Kalmia. Cor. limbo subtus 4-corniculato. Caps. 5-locularis.

869. Epigæa. Cal. exterior, 3-phyllus. Interior 5-phyllus. Caps. 5-locularis.

870. Gualtheria. Cal. exterior, 2-phyllus. Interior 5-fidus. Caps. 5-locul. calyce baccato.

* 871. Arbutus. Cor. ovata, basi diaphana. Bacca 5-locularis.

874. Styrax. Cor. infundibulif. Drupa disperma.

Vaccinia nonnulla. Gardenia Thunbergia.

Sect. IV. *Flores apetali, seu incompleti.*

860. Dais. Cor. 1-petala. Involucr. 4-phyllum, multiflorum.

878. Aquilaria. Cal. 5-fidus. Nectar. 5-fidum, lobis bifidis. Caps. 2-locularis, 2-valvis.

879. Augea. Cal. 5-partit. Nect. 10-dentatus. Caps. 10-locul.

876. Samyda. Cal. 5-partitus. Nectar. 10-fidum. cingens germen staminiferum. Caps. baccata, uniloc ularis, 4-valvis.

877. Casearia. Cal. 5-phyllus. Nect. 5-phyllum, foliolis cum filamentis alternantibus. Caps. baccata, 1-locul. 3-valvis.

881. Bucida. Cal. 5-partitus. Bacca 1-sperma.

821. Crudia. Cal. 4-partitus. Cor. 0. Samara orbiculata.

D. Cal. 5-leaved. Stigma fringed. Caps. 1-celled. Seeds at the base of the caps.

M. Berry 1-seeded. Cor. 5-petaled. Nectary surrounding the germen with a border.

B. Berry 2-seeded. Cor. 5-petaled. Stigma turbaned.

M. Cor. sitting in the cal. Anthers bent back. Berry 2-celled, covered with a cal.

M. Cor. sitting in the cal. Anthers bent back. Caps. 5-celled, with partitions opposite.

J. Cor. 4 or 5-petaled. Caps. inferior.

Sect. III. *Flowers 1-petaleus, equal.*

P. One lateral petal. Cal. 4-partite. Leguminous.

N. Cor. tubular, 10-cleft. Cal. 4-cleft, unequal. Berry 3-celled.

C. Cor. bell-shaped, 10-cleft. Cal. 10-partite. Caps. many-seeded.

I. Cor. tubular, 5-cleft. Cal. 2-cleft. Drupe 1-seeded.

S. Cor. 5-cleft. Nectary 10-partite. Fruit 6-celled.

* A. Cor. bell-shaped, round. Caps. 5-celled.

R. Cor. funnel-shaped. Stamens bent downward. Caps. 5-celled.

K. Cor. with a border beneath. Caps. 5-celled.

E. Exterior cal. 3-leaved. Interior 5-leaved. Caps. 5-celled.

G. Exterior cal. 2-leaved. Interior 5-cleft. Caps. 5-celled, with a berried cal.

* A. Cor. oval, with a transparent base. Berry 5-celled.

S. Cor. funnel-shaped. Drupe 2-seeded.

Sect. IV. *Flowers without petals, or incomplete.*

D. Cor. 1-petaled. Involucrum 4-leaved, many-flowered.

A. Cal. 5-cleft. Nectary 5-cleft, with cleft lobes. Caps. 2-celled, 2-valved.

A. Cal. 5-partite. Nectary 10-toothed. Caps. 10-celled.

S. Cal. 5-partite. Nectary 10-cleft, surrounding a germen bearing the stamens. Caps. berried, 1-celled, 4-valved.

C. Cal. 5-leaved. Nect. 5-leaved, leaflets alternating with the filaments. Caps. berried, 1-celled, 3-valved.

B. Cal. 5-partite. Berry 1-seeded.

C. Cal. 4-partite. No cor. Seed-vessel round and flat.

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880. COPAIFERA. Cal. 0. Cor. 4-petala. Legumen 1-spermum.

Stellera chamæjasme. Conocarpus racemosa. Forskolea.

C. No cal. Cor. 4-petaled. Leguminous, 1-seeded.

ORDO II. DIGYNIA.

ORDER II. DIGYNIA.

* 890. SCLERANTHUS. Cor. 0. Cal. 5-fidus, inferus. Sem. 2.

* S. No cor. Cal. 5-cleft, inferior. Seeds 2.

885. TRIANTHEMA. Cor. 0. Caps. circumscissa.

T. No cor. Cal. cut round.

* 886. CHRYSOSPLENIUM. Cor. 0. Cal. superus. Caps. 2-locularis, 2-rostris.

* C. No cor. Cal. superior. Caps. 2-celled, with 2 beaks.

882. ROYENA. Cor. 1-petala. Cal. ventricosus. Caps. 4-sperma, 4-valvis.

R. cor. 1-petaled. Cal. bulging. Caps. 4-seeded, 4-valved.

883. HYDRANGEA. Cor. 5-petala. Cal. 5-fidus, superus. Caps. 2-locul. 2-rostris, circumscissa.

H. Cor. 5-petaled. Cal. 5-cleft, superior. Caps. 2-celled, 2-beaked, cut round.

* 887. SAXIFRAGA. Cor. 5-petala. Cal. 5-partitus. Caps. 1-locularis, 2-rostris.

* S. Cor. 5-petaled. Cal. 5-partite. Caps. 1-celled, 2-beaked.

888. TIARELLA. Cor. 5-petala. Cal. corolliferus. Caps. bivalvis, altera majore.

T. Cor. 5-petaled. Cal. bearing the cor. Caps. 2-valved, unequal valves.

889. MITELLA. Cor. 5-petala. Cal. corolliferus. Caps. bivalvis. Petala pectinata.

M. Cor. 5-petaled. Cal. bearing the cor. Caps. 2-valved. Petals comb-shaped.

884. CUNONIA. Cor. 5-petala. Cal. 5-phyllus. Caps. 2-locularis, acuta.

C. Cor. 5-petaled. Cal. 5-leaved. Caps. 2-celled, acute.

891. GYPSOPHILA. Cor. 5-petala. Cal. 5-partit. campanulatus. Caps. 1-locul. globosa.

G. Cor. 5-petaled. Cal. 5-partite, bell-shaped. Caps. 1-celled, globular.

* 892. SAPONARIA. Cor. 5-petala. Cal. tubulosus, basi nudus. Caps. 1-locul. oblonga.

* S. Cor. 5-petaled. Cal. tubular, naked at the base. Caps. 1-celled, oblong.

* 893. DIANTHUS. Cor. 5-petala. Cal. tubulosus, basi squamosus. Caps. 1-locul. oblonga.

* D. Cor. 5-petaled. Cal. tubular, scaly at the base. Caps. 1-celled, oblong.

ORDO III. TRIGYNIA.

ORDER III. TRIGYNIA.

900. BRUNNICHIA. Caps. 1-sperma. Cor. 0. Cal. 5-fidus.

B. Caps. 1-seeded. No cor. Cal. 5-cleft.

* 897. ARENARIA. Caps. 1-locul. Pet. integra, patentia.

* A. Caps. 1-celled. Petals entire, expanding.

* 896. STELLARIA. Caps. 1-locul. Pet. 2-partita, patentia.

* S. Caps. 1-celled. Pet. 2-partite, expanding.

899. DEUTZIA. Caps. 3-locul. 3-rostrata. Pet. integra.

D. Caps. 3-celled, 3-beaked. Petals entire.

* 894. CUCUBALUS. Caps. 3-locul. Pet. bifida, fauce nuda.

* C. Caps. 3-celled. Pet. 2-cleft, with a naked mouth.

* 895. SILENE. Caps. 3-locul. Pet. bifida, fauce coronata.

* S. Caps. 3-celled. Pet. 2-cleft, with a crowned mouth.

* 898. CHERLERIA. Caps. 3-locul. Nectar. petaloidea calyce minora.

* C. Caps. 3-celled. Nectary petal-like, less than the calyx.

901. GARIDELLA. Caps. 3, distinctæ. Pet. calycina. Nectar. bilabiata.

G. 3 distinct capsules. Petals cup-like. Nectary 2-lipped.

906. ERYTHROXYLON. Drupa 1-sperma. Pet. basi squama instructa.

E. Drupe 1-seeded. Pet. at the base, scaled.

902. MALPIGHIA. Drupa 3-sperma. Pet. 5, unguiculata. Cal. glandulosus.

M. Drupe, 3-seeded. Petals 5, clawed. Cal. glandular.

903. BANISTERIA. Samaræ 3, unialatæ. Pet. 5, unguiculata. Cal. glandulosus.

B. Seed-vessels 3, one-winged. Pet. 5, clawed. Cal. glandular.

904. HIRÆA. Samaræ, 3, alis binis oppositis, s. ala circumdatæ. Pet. 5, unguiculata. Cal. eglandulosus.

H. Seed-vessels 3, pairs opposite, or surrounded with a wing. Pet. 5, clawed. Cal. not glandular.

905. TRIOPTERIS. Samaræ 3, 3 s. 4-alatæ. Pet. unguiculata. Cal. glandulosus.

T. 2 seed-vessels, 3 or 4-winged. Petals clawed. Cal. glandular.

Tamaris Germanica.

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Ordo IV. PENTAGYNIA.

911. Onestis. Caps. 5, monospermæ. Cor. 5-petala.
* 912. Cotyledon. Caps. 5 ad nectaria. Cor. 1-petala.
* 913. Sedum. Caps. 5 ad nectaria. Cor. 5-petala.
914. Penthorum. Caps. 5-loba. Cor. petala rariora.
915. Bergia. Caps. 5-locul. 5-valvis; valvis horizontaliter descendentibus.
908. Ionquetia. Caps. 1-locul. 5-sperma. Pet. integra. Cal. 5-phyllus.
* 922. Spergula. Caps. 1-locul. polysperma. Pet. integra. Cal. 5-phyllus.
* 921. Cerastium. Caps. 1-locul. Pet. 2-fida. Cal. 5-phyllus.
* 919. Agrostemma. Caps. 1-locul. oblonga. Cal. tubulosus, coriaceus.
* 920. Lychnis. Caps. 3-locul. oblonga. Cal. tubulosus, membranaceus.
* 918. Oxalis. Caps. 5-locularis, angulata. Cor. basi subcohærens.
910. Roberghia. Drupa nuce 1-loculari. Cal. 1-phyllus.
909. Spondias. Drupa nuce 5-loculari. Cal. 1-phyllus.
907. Averrhoa. Pomum 5-loculare. Cal. 5-phyllus.
917. Grielum. Sem. 5 distincta mutica. Cor. 5-petala. Styli nulli.
916. Suriana. Sem. 5, subrotunda. Cor. 5-petala. Styli filiformes, laterales.

Adoxia. Coriaria. Geranio. Drosera Lusitanica.

Ordo V. DECAGYNIA.

923. Neurada. Cal. 5-partitus. Cor. 5-petala. Caps. 10-cocca.
924. Phytolacca. Cal. 5-phyllus, corollinus. Cor. nulla. Bacca 10-cocca.

Order IV. PENTAGYNIA.

O. Caps. 5, 1-seeded. Cor. 5-petaled.

* C. Caps. 5 to the nectaries. Cor. 1-petaled.

* S. Caps. 5 to the nectaries. Cor. 5-petaled.
P. Caps. 5-lobed. Petals rare.

B. Caps. 5-celled, 5-valved, the valves horizontally descending.
I. Caps. 1-celled, 5-seeded. Petals entire. Cal. 5-leaved.
* S. Caps. 1-celled, many-seeded. Pet. entire. Cal. 5-leaved.
* C. Caps. 1-celled. Pet. 2-cleft. Cal. 5-leaved.

* A. Caps. 1-celled, oblong. Cal. tubular, bark-like.

* L. Caps. 3-celled, oblong. Cal. tubular, membranaceous.
* O. Caps. 5-celled, angular. Cor. adhering to the base beneath.
R. Drupe, with a 1-celled nut. Cal. 1-leafed.

S. Drupe, with a 5-celled nut. Cal. 1-leafed.

A. A 5-celled apple. Cal. 5-leaved.

G. 5 distinct awnless seeds. Cor. 5-petaled. No styles.
S. Seeds 5, nearly round. Cor. 5-petaled.

Order V. DECAGYNIA.

N. Cal. 5-partite. Cor. 5-petaled. Caps. 10-celled.
P. Cal. 5-leaved, corol-like. Cor. none. Berry 10-celled.

Order I. MONOGYNIA.

805. Sophora.

Nine species; viz. tetraptera, microphylla, flavescens, alopecuroides, tomentosa, occidentalis, japonica, heptaphylla, monosperma. Levant, Africa, West Indies, New Zealand.

806. Podalyria.

15 species; viz. capensis, aurea, argentea, genistoides, ternata, australis, tinctoria, alba, lupinoides, trifoliata, calyptrata, biflora, myrtillifolia, hirsuta, buxifolia.

807. Pultenæa.

Six species; viz. stipularis, paleacea, binophylla, juncea, villosa, daphnoides.

808. Anagyris, or *Stinking-bean Trefoil.*

One species; viz. fœtida. Spain, Italy.

809. Cercis, or *Judas-tree.*

Two species; viz. siliquastrum, canadensis. S. Europe, Levant, N. America.

810. Bauhinia, or *Mountain Ebony.*

15 species; viz. scandens, parviflorum, racemosa, aculeata, divaricata, aurita, porrecta, ungulata, variegata, candida, purpurea, tomentosa, acuminata, gujanesis, rubescens. Egypt, E. and W. Indies.

811. Hymenæa, or *Locust-tree.*

Three species; viz. courbaril, venosa, verrucosa. W. Indies.

812. Parkinsonia, or *Jerusalem Thorn.*

One species; viz. aculeata. W. Indies.

813.

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813. Cassia, or *Wild Senna.*

50 species; viz. diphylla, absus, viminea, bacillaris, tagera, tora, bicapsularis, emarginata, obtusifolia, sennoides, acuminata, corymbosa, longisiliqua, falcata, servicea, occidentalis, planisiliqua, patula, lineata, atomaria, pilosa, arborescens, senna, ruscifolia, biflora, chinensis, multiglandulosa, hirsuta, tomentosa, serpens, mexicana, angustifolia, ligustrina, florida, stipulacea, alata, marilandica, fastigiata, frondosa, tenuissima, virgata, sophera, bracteata, auriculata, brevifolia, mollis, javanica, grandis, nigricans, polyphylla, chamæcrista, glandulosa, mimosoides, microphylla, flexuosa, capensis, fistula, nictitans, procumbens. Egypt, East and West Indies, America.

The fruit of the *cassia fistula* is a cylindrical pod, scarcely an inch in diameter; a foot or more in length. The outside is a hard brown bark: the inside is divided by thin transverse woody plates, covered with a soft black pulp, of a sweetish taste, with some degree of acrimony. There are two sorts of this drug in the shops; one brought from the East Indies, the other from the West; the canes or pods of the latter are generally large, rough, thick-rinded, and the pulp nauseous; those of the former are less, smoother, the pulp blacker, and of a sweeter taste; this sort is preferred to the other. Such pods should be chosen as are weighty, new, and do not make a rattling noise (from the seeds being loose within them) when shaken. The pulp should be of a bright shining black colour, and a sweet taste, not harsh, which happens from the fruit being gathered before it has grown fully ripe, or sourish, which it is apt to turn upon keeping. It should neither be very dry nor very moist, nor at all mouldy, which from its being kept in damp cellars, or moistened, in order to increase its weight, it is very subject to be. Greatest part of the pulp dissolves both in water and in rectified spirit, and may be extracted from the cane by either. The shops employ water, boiling the bruised pod therein, and afterwards evaporating the solution to a due consistence.

The pulp of cassia is a gentle laxative medicine, and frequently given, in a dose of some drams in costive habits. Some direct a dose of two ounces, or more as a cathartic, in inflammatory cases where the more acrid purgatives have no place; but in these large quantities it generally nauseates the stomach, produces flatulencies, and sometimes griping of the bowels, especially if the cassia be not of a very good kind: these effects may be prevented by the addition of aromatics, and exhibiting it in a liquid form. Some say it does excellent service in the painful tension of the belly, which sometimes follows the imprudent use of antimonials; and that it may be advantageously acuated with the more acrid purgatives or antimonial emetics, or employed to abate their force. Vallisnieri relates, that the purgative virtue of this medicine is remarkably promoted by manna: that a mixture of four drams of cassia, and two of manna, purges as much as 12 drams of cassia, or 32 of manna alone. Sennertus observes, that the urine is apt to be turned of a green colour, by the use of cassia, and sometimes, where a large quantity has been taken, blackish. This drug gives name to an officinal electuary, and is an ingredient also in another.

814. Cubæa.

Two species; viz. paniculata, trigona. Guiana.

815. Cæsalpinia, or *Brasiletto.*

Nine species; viz. bijuga, pulcherrima, elata, coriaria, brasiliensis, echinata, sappan, crista, mimosoides. E. and W. Indies.

816. Guilandina, or *Bonduc*, or *Nickar-tree.*

Five species; viz. bonduc, bonducella, nuga, paniculata, axillaris. E. and W. Indies.

817. Hyperanthera, or *Nephritic-wood.*

Four species; viz. decandra, moringa, semidecandra, cochinchinensis. Egypt, Ceylon, N. America.

818. Schotia.

One species; viz. speciosa. C. of G. Hope.

819. Guaiacum, or *Lignum-vitæ*, *Pockwood.*

Three species; viz. dubium, officinale, sanctum. Africa, China, W. Indies.

The wood of the *guaiacum officinale* is very ponderous, of a close compact texture; the outer part is of a yellow colour, the heart of a deep blackish green, or variegated with black, green, pale, and brown colours; the bark is thin, smooth, externally of a dark grayish hue: both have a lightly aromatic, bitterish, pungent taste; the bark is somewhat the weakest. The resin, which exudes from incisions made in the trunk of the tree, is brought to us in irregular masses, usually friable, of a dusky greenish, and sometimes of a reddish cast, with pieces of the wood among them: its taste is more acrid and pungent than that of the wood or bark.

Their general virtues are those of a warm stimulating medicine: they strengthen the stomach and other viscera; and remarkably promote the urinary and cuticular discharge. Hence, in cutaneous defedations, and other disorders, proceeding from obstructions of the excretory glands, and where sluggish serous humours abound, they are eminently useful; rheumatic and other pains have often been relieved by them. They are also laxative. The resin is the most active of these drugs; and the efficacy of the others depends upon the quantity of this part contained in them. The resin is extracted from the wood in part by watery liquors, but much more effectually by spirituous ones. The watery extract of this wood kept in the shops, proves not only less in quantity, but considerably weaker, than one made with spirit. This last extract is of the same quality with the native resin, and differs from that brought to us only in being purer. The gum or extracts are given from a few grains to a scruple or half a dram; which last dose proves, for the most part, considerably purgative. The officinal preparations of guaiacum are, an extract of the wood, a solution of the gum in rectified spirit of wine, and a solution in volatile spirit, and an empyreumatic oil distilled from the wood.

Guaiac, in form of decoction, has been said to cure the venereal disease; and in this country it is frequently used as an adjuvant to mercury. The resin, dissolved in rum, or combined with water by means of mucilage or the yolk of eggs, or in the form of volatile tincture or elixir, is much employed in gout and chronic rheumatism. The tincture or elixir has been

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been given to the extent of half an ounce twice a-day, and is sometimes usefully combined with laudanum.

820. CYNOMETRA.
Two species; viz. cauliflora, ramiflora.

821. CRUDIA.
Two species; viz. spicata, aromatica. Guiana.

822. PANZERA.
One species; viz. falcata. Carolina.

823. CODON.
One species; viz. royeni. C. of G. Hope.

824. DICTAMNIS, or *Fraxinella, White Dittany.*
One species; viz. albus. Germ. France, Italy.

The *dictamnus albus* grows wild in the mountainous parts of France, Italy, and Germany. From thence the cortical part of the root, in a dry state, rolled up in little quills, is sometimes brought to us. It is of a white colour, of a weak, not very agreeable smell, and of a durable bitter, lightly pungent taste. It has been recommended as an alexipharmac, a tonic, and an anthelmintic; but it is very seldom used, and has no place in the London Pharmacopœia.

825. NICANDRA.
One species; viz. amara. Guiana.

826. PETALOMA.
Two species; viz. myrtilloides, muriri. W. Indies, Guiana.

827. RUTA, or *Rue.*
Seven species; viz. graveolens, montana, chalepensis, pinnata, patavina, linifolia, fruticulosa. S. Eur. Africa.

The *ruta graveolens* is a small shrubby plant met with in gardens, where it flowers in June, and holds its green leaves all the winter. We frequently find in the markets a narrow-leaved sort, which is cultivated by some in preference to the other, on account of its leaves appearing variegated during the winter with white streaks.

Rue has a strong ungrateful smell, and a bitterish penetrating taste. The leaves, when in full vigour, are extremely acrid, insomuch as to inflame and blister the skin if much handled. With regard to their medicinal virtues, they are powerfully stimulating, attenuating, and detergent. And hence, in cold phlegmatic habits, they quicken the circulation, dissolve tenacious juices, open obstructions of the excretory glands, and promote the fluid secretions. The writers on the materia medica, in general, have entertained a very high opinion of the virtues of this plant. Boerhaave is full of its praises; particularly of the distilled oil and the distilled water, cohobated or re-distilled several times from fresh parcels of the herb: after somewhat extravagantly commending other waters prepared in this manner, he adds, with regard to that of rue, that the greatest commendations he can bestow upon it fall short of its merit. "What medicine (says he) can be more efficacious for promoting sweat and perspiration, for the cure of the hysteric passion and of epilepsies, and for expelling poison." Whatever service rue may be of in the two last cases, it undoubtedly has its use in the others; the cohobated water, however, is not the most efficacious preparation of it. An extract, made by rectified spirit, contains, in a small compass, the whole virtues of the rue; this menstruum taking up by infusion all the pungency and flavour of the plant, and elevating nothing in distillation. With water its peculiar flavour and warmth arise; the bitterness, and a considerable share of the pungency, remaining behind.

The only officinal preparation of rue now retained in our pharmacopœias is the extract; but it is an ingredient in the compound powder of myrrh and some other compositions.

828. TOLUIFERA, or *Balsam of Tolu tree.*
One species; viz. balsamum. Carthagena.

The *toluifera balsamum* flows from a tree growing in Tolu in the Spanish West Indies; from whence the balsam is brought to us in little gourd shells. It is of a yellowish brown colour inclining to red; in consistence thick and tenacious; by age it grows hard and brittle, without suffering any great loss of its more valuable parts. The smell of this balsam is extremely fragrant, somewhat resembling that of lemons; its taste warm and sweetish, with little of the pungency, and nothing of the nauseous relish, which accompany the other balsams. It has the same general virtues with the balsamum rahasiri, but is much milder; and for some purposes, particularly as a corroborant in gleets and seminal weaknesses, is supposed to be more efficacious.

829. MYROXYLON, or *Balsam of Peru.*
Three species; viz. peruiferum, pedicellatum, frutescens. Mexico, Peru.

The *myroxylon peruiferum*, as brought to us, is nearly of the consistence of thin honey, of a reddish brown colour, inclining to black, an agreeable aromatic smell, and a very hot biting taste. Distilled with water, it yields a small quantity of a fragrant essential oil of a reddish colour; and in a strong fire, without addition, a yellowish red oil.

Balsam of Peru is a very warm aromatic medicine, considerably hotter and more acrid than copaiva. Its principal effects are to warm the habit, to strengthen the nervous system, and attenuate viscid humours. Hence its use in some kinds of asthmas, gonorrhœas, dysenteries, suppressions of the uterine discharges, and other disorders proceeding from a debility of the solids, or a sluggishness or inactivity of the juices. It is also employed externally for cleansing and healing wounds and ulcers, and sometimes against palsies and rheumatic pains.

This balsam does not unite with water, milk, expressed oils, animal fats or wax; it may be mingled in the cold with this last, and likewise with the sebaceous substance called *expressed oil of mace;* but if the mixture be afterwards liquefied by heat, the balsam separates and falls to the bottom. It may be mixed with water into the form of an emulsion, after the same manner as the balsam of Copaiva. Alkaline lixivia dissolve great part of it; and rectified spirit the whole.

It is an ingredient in several officinal compositions, in some of which it has rather a bad than a good effect.

There is another sort of balsam of Peru of a white colour, and considerably more fragrant than the former. This is very rarely brought to us. It is said to be the produce of the same plant which yields the common or black balsam, and to exude from incisions made

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made in the trunk; while the former is alleged to be obtained by boiling. Besides the white, there is also a third kind, commonly called the *red* or *dry*. This is supposed to obtain a different state from the white, merely in consequence of the treatment to which it is subjected, after it is got from the tree. In its fragrance it in some degree approaches to the balsam of Gilead, held in so high esteem among the eastern nations; but it is very rarely in use in Britain, and almost never to be met with in our shops.

830. HÆMATOXYLON, or *Logwood.*

One species; viz. campechianum. Campeachy, S. America.—This species is brought chiefly from Campeachy in the bay of Honduras. It is usually in large logs, very compact and hard, of a red colour, and an astringent sweet taste. It has been for a long time used by the dyers, but not till very lately as a medicine; a decoction of it, and the extract, are in use in our hospitals, and said to have proved very serviceable in diarrhœa. It frequently tinges the stools, and sometimes the urine. The extract is now received into the shops, and it is found to be a very useful astringent.

831. PROSOPIS.

One species; viz. spicigera. India.

832. CADIA.

One species; viz. purpurea. Arabia.

833. MURRAYA.

One species; viz. exotica. E. Indies, New Guinea.

834. BERGERA.

One species; viz. koenigii.

835. EKEBERGIA.

One species; viz. capensis. C. of G. Hope.

836. ADENANTHERA, or *Base Flower-fence.*

Three species; viz. pavonina, falcata, scandens. India.

837. GÆRTNERA.

One species; viz. racemosa. India.

838. STRIGILIA.

One species; viz. racemosa. Peru.

839. GILIBERTIA.

Four species; viz. decandra, ovata, heterophylla, oppositifolia. Isles of Bourbon and Mauritius.

840. TRICHILIA.

12 species; viz. hirta, spondoides, emetica, glabra, pallida, moschata, spectabilis, alliacea, heterophylla, trifoliata, nervosa, spinosa. Jam. Hisp. S. Amer.

841. TURRÆA.

Five species; viz. virens, pubescens, maculata, sericea, lanceolata. E. Indies.

842. SANDORICUM.

One species; viz. indicum. India.

843. SWIETENIA, or *Mahogany Tree.*

Three species; viz. mahogoni, febrifuga, chloroxylon. W. Indies.

844. COOKIA.

One species; viz. punctata. New Holland, China.

845. MELIA, or *Bead-tree.*

Four species; viz. azedarach, sempervivens, composita, azadirachtah. Spain, Syria, E. Indies.

846. ZYGOPHYLLUM, or *Bean-caper.*

14 species; viz. simplex, cordifolium, labago, fœtidum, maculatum, coccineum, album, morgiana, microphyllum, sessilifolium, spinosum, æstuans, lanatum, arboreum. Syria, Cape, Caucasus, S. America.

847. FAGONIA.

Four species; viz. cretica, hispanica, arabica, indica. Spain, Crete, Arabia, India.

848. TRIBULUS, or *Caltrops.*

Four species; viz. maximus, lanuginosus, terrestris, cistoides. S. of Europe, Cape, Jamaica.

849. QUASSIA, or *Simarouba Bark.*

Three species; viz. amara, simaruba, excelsa. W. Indies, Cayenne, Guiana.

850. ZWINGERA.

One species; viz. amara. Guiana.

851. GOMPHIA.

Five species; viz. angustifolia, nitida, jabotapita, lævigata, laurifolia. W. Indies

852. THRYALLIS.

One species; viz. brasiliensis. Brazil.

853. LIMONIA.

Eight species; viz. monophylla, trifoliata, acidissima, lucida, mauritiana, pentaphylla, madagascarensis, minuta. E. Indies.

854. MONOTROPA, or *Birds-nest.*

Two species; viz. *hypopithus, uniflora. N. of Europe, N. America.

855. DIONÆA, or *Venus's Fly-trap.*

One species; viz. muscipula. N. America.

856. JUSSIEUA, or *Tree-primrose.*

12 species; viz. repens, tenella, linearis, linifolia, peruviana, hirta, pubescens, octovalvis, suffruticosa, acuminata, inclinata, erecta. India, America.

857. SCHOUSBOEA.

One species; viz. coccinea. Martinico.

858. HEISTERIA.

One species; viz. coccinea. Martinico.

859. QUISQUALIS.

One species; viz. indica. India.

860. DAIS.

Three species; viz. conitifolia, disperma, octandra. Cape, India.

861. CERATOPETALUM.

One species; viz. gummiferum.

862. MELASTOMA, or *American Gooseberry.*

85 species; viz. calyptrata, crocea, patens, crenata, rigida, decussata, montana, procera, adscendens, aspera, ledifolia, strigosa, holosericea, velutina, sessilifolia, ramiflora, glabra, chrysophylla, quadrangularis, trinervia, repens, grossularioides, parviflora, succosa, arborescens, longifolia, prasina, agrestis, scandens, alata, flavescens, hirta, spicata, acinodendron, cymosa, grandiflora, elegans, rufescens, rubra, majeta, heterophylla, physiphora, purpurea, argentea, elata, impetiolaris, fragilis, coriacea, grossa, malabathrica, strigillosa, tamonea, albicans, capitata, splendens, lævigata, crispata, hirsuta, microphylla, micrantha, capillaris, rubens, glabrata, glandulosa, hirtella, triflora, octandra, divaricata, tetrandra, fascicularis, angustifolia, purpurascens,

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purascens, alpina, verticillata, acuminata, lateriflora, elæagnoides, scabrosa, virgata, umbrosa, hispida, sessiliflora, pilosa, discolor, coccinea. America, West Indies.

863. MERIANIA.

Two species; viz. leucantha, purpurea.

864. KALMIA, or *Dwarf American Laurel.*

Four species; viz. latifolia, angustifolia, glauca, hirsuta. N. Amer.

865. LEDUM, or *Marsh Cistus.*

Three species; viz. palustre, latifolium, buxifolium. N. Eur. N. Amer.

866. RHODORA.

One species; viz. canadensis. N. Amer.

867. RHODODENDRON, or *Dwarf Rose-bay.*

10 species; viz. ferrugineum, dauricum, camtschaticum, hirsutum, chamæcistus, caucasicum, chrysanthum, ponticum, maximum, punctatum. Siberia, Alps, Gibraltar, Levant, N. Amer.

The *rhododendron chrysanthum* is a native plant of Siberia, where a weak infusion of it is used as tea. The Siberians use a kind of decoction of it in rheumatism and gout. They put about two drams of the dried shrub in an earthen pot with about ten ounces of boiling water, keeping it near a boiling heat for a night, and this they take in the morning. It is said to occasion heat, thirst, a degree of delirium, and a peculiar creeping-like sensation in the parts affected. The use of liquids is not allowed during its operation, as this is apt to induce vomiting. In a few hours the pain and disagreeable symptoms are relieved; and it is said, two or three doses generally complete the cure. The powder has also been used in doses of a few grains.

Hitherto it has been so little employed in Britain, that it has no place in the London Pharmacopœia: but in some cases, in which it has been used at Edinburgh, it has been productive of good effects; and accordingly it is now introduced into the Edinburgh Pharmacopœia, as well as into the *Pharmacopœia Rossica*, where it had first a place.

868. ANDROMEDA, or *Base Heath.*

26 species; viz. tetragona, ericoides, hypnoides, lycopodioides, empetrifolia, myrsinites, mariana, ferruginea, fasciculata, jamaicensis, octandra, pulverulenta, * polifolia, salicifolia, buxifolia, japonica, paniculata, arborea, racemosa, catesbæi, axillaris, coriacea, acuminata, rupestris, anastomosans, calyculata. N. Eur. Amer. Cape, Jam.

869. EPIGÆA, or *Trailing Arbutus.*

Two species; viz. repens, cordifolia. Virginia, Canada.

870. GUALTHERIA.

Two species; viz. procumbens, antipoda.

871. ARBUTUS, or *Strawberry Tree.*

18 species; viz. *unedo, laurifolia, andrachne, ferruginea, acadiensis, * alpina, * uva ursi, mucronata, microphylla, pumila. Europe, N. America, Terra del Fuego.

unedo. * A. stem tree-like; leaves smooth, bluntly serrated; panicle terminating; berries with many seeds.—It is a beautiful ornament to our shrubberies, not only on account of its foliage and flowers, but of its fruit, which is pleasing to the eye, though not grateful to the taste. The country people, however, in Ireland eat it, but always drink water after.

alpina. * A. stem trailing; leaves wrinkled, somewhat serrated, and fringed with hairs.—The berries have something of the flavour of black currants, but they are not so good. Goats refuse it.

uva ursi. * A. stems trailing; leaves oblong egg-shaped, very entire, veined like net-work underneath.—The berries of this plant are insipid, pulpy, and mealy. The plant is much used in Sweden, to dye an ash colour, and to tan leather. Half a dram of the powdered leaves, given every, or every other day, has been found useful in calculous cases. It was first used for this purpose at Montpelier, and afterwards by Dr De Haen at Vienna, who relates several cases, in which it proved of the greatest service. Its success in England has been uncertain. Sometimes the patients found no relief, but thought their complaints rather aggravated than alleviated; while, in other calculous and nephritic cases, the symptoms have been almost entirely removed. Perhaps, upon the whole, we shall find it no better than other vegetable astringents; some of which have been long used by the country people in gravelly complaints, and with very great advantage, though hitherto unnoticed by the regular practitioners. Horses, cows, goats, and sheep, refuse it.

872. CLETHRA.

Four species; viz. aluifolia, paniculata, arborea, tinifolia. N. Amer. Jam. Madeira.

873. PYROLA, or *Winter-green.*

Six species; viz. * rotundifolia, * minor, * secunda, umbellata, maculata, * uniflora. N. Europe, Asia, America.

874. STYRAX, or *Storax-tree.*

Four species; viz. * officinale, grandifolium, benzoin, lævigatum. Italy, Levant, S. Carolina.

The *styrax officinale* is an odoriferous resinous substance, exuding from a tree growing in the warmer climates.

It has been customary to distinguish three sorts of storax, though only one is usually met with in the shops.

1. *Styrax calamita*, or *storax in the cane;* so called from its having been formerly brought inclosed in reeds from Pamphylia. It is either in small distinct tears, of a whitish or reddish colour, or in larger masses composed of such.

2. *Storax in the lump*, or *red storax.* This is in masses of a uniform texture, and yellowish red or brownish colour; though sometimes, likewise, interspersed with a few whitish grains. Of this sort, there has been some lately to be met with in the shops, under the name of *storax in the tear.*

3. The common storax of the shops, is in large masses, considerably lighter and less compact than the foregoing; it appears, upon examination, to be composed of a resinous juice, mixed with saw-dust. For what purpose this addition is made, it is difficult to say; but it can scarcely be supposed to be done with any fraudulent view, since the saw-dust appears at sight. This common storax is much less esteemed than the two first sorts; though, when freed from the woody matter, it proves superior in point of fragrance to either of them.

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Rectified spirit, the common menstruum of resins, dissolves the storax, leaving the wood behind; nor does this tincture lose considerably of its valuable parts, in being inspissated to a solid consistence; whilst aqueous liquors elevate almost all the fragrancy of the storax.

Storax is one of the most agreeable of the odoriferous resins, and may be exhibited to great advantage in languors, and debilities of the nervous system; it is not, however, much used in common practice.

875. Inocarpus.

One species; viz. edulis. Otaheite.

876. Samyda.

Nine species; viz. nitida, macrophylla, multiflora, villosa, glabrata, spinescens, pubescens, serrulata, polyandra. West Indies, S. America.

877. Casearia.

12 species; viz. spinosa, nitida, ramiflora, hirta, parviflora, parvifolia, sylvestris, macrophylla, serrulata, elliptica, ovata, hirsuta. Jamaica, S. America.

878. Aquilaria.

One species; viz. ovata. West Indies.

879. Augea.

One species; viz. capensis.

880. Copaifera, or *Balsam of Capivi Tree.*

One species; viz. officinalis. Brazil, Antilles.

The tree which produces this balsam is a native of the Spanish West India islands, and of some parts of the continent of South America. It grows to a large size, and the balsamum copaiva flows, under the form of a resinous juice, from incisions made in the trunk.

The juice is clear and transparent, of a whitish or pale yellowish colour, an agreeable smell, and a bitterish pungent taste. It is usually about the consistence of oil, or a little thicker; when long kept, it becomes nearly as thick as honey, retaining its clearness; but has not been observed to grow dry or solid, as most of the other resinous juices do. We sometimes meet with a thick sort of balsam of copaiva, which is not at all transparent, or much less so than the foregoing, and generally has a portion of turbid watery liquor at the bottom. This sort is probably either adulterated by the mixture of other substances, or has been extracted by coction from the bark and branches of the tree; its smell and taste are much less pleasant than those of the genuine balsam.

Pure balsam of copaiva dissolves entirely in rectified spirit, especially if the menstruum be previously alkalized; the solution has a very fragrant smell. Distilled with water, it yields a large quantity of a limpid essential oil, and in a strong heat, without addition, a blue oil.

The balsam of copaiva is a useful corroborating detergent medicine, accompanied with a degree of irritation. It strengthens the nervous system, tends to loosen the belly; in large doses proves purgative, promotes urine, and cleans and heals exulcerations in the urinary passages, which it is supposed to perform more effectually than any of the other balsams. Fuller observes, that it gives the urine an intensely bitter taste, but not a violet smell, as the turpentines do.

This balsam has been principally celebrated in gleets and the fluor albus, and externally as a vulnerary.—The author above mentioned recommends it likewise in dysenteries, in scorbutic cachexies, in diseases of the breast and lungs, and in an acrimonious or putrescent state of the juices: he says, he has known very dangerous coughs, which manifestly threatened a consumption, cured by the use of this balsam alone; and, that notwithstanding its being hot and bitter, it has good effects, even in hectic cases. Most physicians seem now, however, to consider balsams and resins too stimulant to be ventured on in phthisical affections.

The dose of this medicine rarely exceeds 20 or 30 drops, though some direct 60, or more. It may be conveniently taken in the form of an elæosaccharum, or in that of an emulsion, into which it may be reduced by triturating it with almonds, or rather with a thick mucilage of gum arabic, till they are well incorporated, and then gradually adding a proper quantity of water.

881. Bucida.

Two species; viz. buceras, capitata. Jamaica.

Order II. DIGYNIA.

882. Royena, or *African Bladder-nut.*

Seven species; viz. lucida, villosa, pallens, glabra, hirsuta, polyandra, angustifolia. C. of G. Hope.

883. Hydrangea.

Four species; viz. arborescens, hortensis, radiata, quercifolia. Virginia, Carolina.

884. Cunonia.

One species; viz. capensis. C. of G. Hope.

885. Trianthema, or *Horse Purslain.*

Seven species; viz. monogyna, crystallina, pentandra, fruticosa, humifusa, anceps, decandra. Egypt, India, Jamaica.

886. Chrysosplenium, or *Golden Saxifrage.*

Two species; viz. * alternifolium, * oppositifolium N. Europe, Canada.

887. Saxifraga, or *Saxifrage.*

49 species; viz. cotyledon, aizoon, mutata, pensylvanica, hieracifolia, androsacea, caesia, burseriana, sedoides, tenella, brysides, bronchealis, * stellaris, crassifolia, * nivalis, bellardi, davurica, sarmentosa, punctata, * umbrosa, hirsuta, cuneifolia, geum, * oppositifolia, aspera, * hirculus, * aizoides, autumnalis, rotundifolia, * granulata, bulbifera, * cernua, rivularis, geranioides, ajugifolia, sibirica, rupestris, * tridactylites, petræa, adscendens, * moschata, muscoides, cæspitosa, tricuspidata, cymbalaria, hederacea, orientalis, cuneata, * hypnoides.

888. Tiarella, or *American Sanicle.*

Two species; viz. cordifolia, trifoliata. North of Asia and America.

889. Mitella, or *Base American Sanicle.*

Three species; viz. diphylla, cordifolia, nuda. N. of Asia, America.

890. Scleranthus, or *Knawel, German Knot-grass.*

Three species; viz * annuus, * perennis, * polycarpus. Europe.

* S. calyx, segments thornless, tapering to a point, open when the fruit is ripe.—The Swedes and Germans *annuus.*

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are said to receive the vapour arising from a decoction of it into their mouths to cure the toothach. Goats and sheep eat it; cows refuse it.

perennis. * S. cal. segments blunts, closed when the fruit is ripe. —The Polish cochineal (*coccus polonicus*) is found upon the roots in the summer months.

891. Gypsophila.

13 species; viz. repens, prostrata, paniculata, viscosa, adscendens, altissima, arenaria, struthium, fastigiata, perfoliata, muralis, rigida, saxifraga. Europe.

892. Saponaria, or *Soap-wort.*

Nine species; viz. * officinalis, vaccaria, cretica, porrigens, illyrica, ocymoides, orientalis, lutea, bellidifolia. Europe.

The *saponaria officinalis* grows wild, though not very common, in low wet places, and by the sides of running waters; a double-flowered sort is frequent in our gardens. The leaves have a bitter not agreeable taste; agitated with water, they raise a saponaceous froth, which is said to have nearly the same effects with solutions of soap itself in taking out spots from clothes and the like. The roots taste sweetish, and somewhat pungent, and have a light smell like those of liquorice; digested in rectified spirit, they yield a strong tincture, which loses nothing of its taste or flavour in being inspissated to the consistence of an extract. This elegant root has not come much into practice among us, though it promises from its sensible qualities to be a medicine of considerable utility. It is much esteemed by the German physicians as an aperient, corroborant, and sudorific, and preferred by the college of Wirtemberg, by Stahl, Neumann and others, to sarsaparilla.

893. Dianthus, or *Pink, Carnation.*

32 species; viz. * barbatus, carthusianorum, atrorubens, ferrugineus, * armeria, japonicus, * prolifer, diminutus, *caryophyllus, sylvestris, pomeridianus, *deltoides, albens, crenatus, chinensis, monspeliacus, libanotis, plumarius, crinitus, superbus, attenuatus, purgens, virgineus, arenarius, repens, *caesius, cespitosus, scaber, alpinus, pumilus, arboreus, juniperinus. Europe, Cape, China, America.

Of the species called *caryophyllus*, or *clove july-flower*, a great variety is met with in our gardens; those made use of in medicine ought to be of a deep crimson colour and a pleasant aromatic smell, somewhat like that of cloves; many sorts have scarce any smell at all. The *caryophylla rubra* are said to be cardiac and alexipharmac. Simon Paulli relates that he has cured many malignant fevers by the use of a decoction of them, which he says powerfully promotes sweat and urine, without greatly irritating nature, and also raises the spirits and quenches thirst. At present the flowers are chiefly valued for their pleasant flavour, which is entirely lost even by light coction; hence the college direct the syrup, which is the only officinal preparation of them, to be made by infusion.

Order III. TRIGYNIA.

894. Cucubalus, or *Berry-bearing Chickweed.*

18 species; viz. *behen, fabarius, viscosus, stellatus, aegyptiacus, italicus, multiflorus, fruticulosus, tartaricus, sibiricus, catholicus, mollissimus, * otites, parviflorus, reflexus, saxifragus, spergulifolius, polygonoides. Europe, Egypt, and North America.

* C. cal. nearly globular, smooth, with a net-work of *behen.* veins; leaves egg-spear-shaped, glaucous, smooth.—The leaves boiled have something of the flavour of pease, and proved of great use to the inhabitants of the island of Minorca in the year 1685, when a swarm of locusts had destroyed the harvest. The Gothlanders apply the leaves to erysipelatous eruptions.

895. Silene, or *Viscous Campion.*

56 species; viz. *anglica, lusitanica, *quinquevulnera, ciliata, sericea, nocturna, gallica, cerastoides, mutabilis, chlorantha, *nutans, amoena, paradoxa, fruticosa, bupleuroides, longiflora, gigantea, crassifolia, viridiflora, * conoidea, * conica, bellidifolia, dichotoma, vespertina, behen, stricta, pendula, baccifera, *maritima, procumbens, *noctiflora, ornata, undulata, virginica, antirrhina, sedoides, apetala, rubella, inaperta, clandestina, portensis, cretica, muscipula, polyphylla, * armeria, orchidea, aegyptiaca, catesbaei, cordifolia, chlorafolia, alpestris, rupestris, saxifraga, vallesia, pumila, * acaulis. Eur. Persia, Africa, N. Amer.

896. Stellaria, or *Greater Chickweed.*

17 species; viz. * nemorum, dichotoma, radians, bulbosa, *holostea, *graminea, palustris, crassifolia, alsine, undulata, *cerastoides, multicaulis, humifusa, biflora, groenlandica, arenaria, scapigera. Eur. N. America.

897. Arenaria, or *Sandwort.*

36 species; viz. * peploides, tetraquetra, biflora, lateriflora, * trinervia, ciliata, balearica, multicaulis, * serpillifolia, procumbens, polygonoides, triflora, montana, * rubra, * media, bavarica, gypsophiloides, cucubaloides, dianthoides, saxatilis, caespitosa, *verna, hispida, verticillata, * juniperina, * tenuifolia, * laricifolia, recurva, lanceolata, striata, filifolia, fasciculata, austriaca, grandiflora, liniflora, gerardi. Europe.

898. Cherleria.

One species; viz. * sedoides. Alps of Austria, Switzerland.

899. Deutzia.

One species; viz. scabra. Japan.

900. Brunnichia.

One species; viz. cirrhosa. Bahama isles.

901. Garidella, or *Cretan Fennel flower.*

One species; viz. nigellastrum. S. France, Italy, Crete.

902. Malpighia, or *Barbadoes Cherry.*

20 species; viz. glabra, biflora, pumicifolia, fagifolia, glandulosa, tuberculata, nitida, armeniaca, dubia, urens, angustifolia, canescens, crassifolia, spicata, altissima, verbascifolia, lucida, coriacea, aquifolia, coccifera. W. Indies, America.

903. Banisteria.

24 species; viz. angulosa, palmata, sagittata, auriculata, ciliata, emarginata, quapara, sinemariensis, purpurea, microphylla, chrysophylla, laurifolia, longifolia, dichotoma, ovata, fulgens, heterophylla, brachiata. W. Indies, Guiana.

904. Hiraea.

Three species; viz. reclinata, odorata, pinnata. Carthagena.

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905. TRIOPTERIS.

Eight species; viz. jamaicensis, indica, ovata, rigida, acutifolia, acuminata, buxifolia, citrifolia. Jamaica, Hispaniola.

906. ERYTHROXYLON.

12 species; viz. arcolatum, hypericifolium, buxifolium, ferrugineum, rufum, havanense, coca, sideroxyloides, squamatum, macrophyllum, laurifolium, longifolium. West Indies.

ORDER IV. PENTAGYNIA.

907. AVERRHOA.

Two species; viz. bilimbi, carambola. India.

908. JONCQUETIA.

One species; viz. paniculata. Guiana.

909. SPONDIAS, or *Hog-plumb.*

Four species; viz. mombin, myrobalanus, mangifera, dulcis. West Indies, South America.

910. ROBERGIA.

One species; viz. frutescens. Guiana.

911. ONESTIS.

Four species; viz. glabra, polyphylla, corniculata, trifolia. Isle of Madagascar.

912. COTYLEDON, or *Navel-wort.*

24 species; viz. orbiculata, paniculata, fascicularis, cuneata, spuria, purpurea, teretifolia, cacalioides, reticulata, pupillaris, mamillaris, hemisphærica, triflora, coccinea, malacophyllum, serrata, * umbilicus, * lutea, lanceolata, lanciniata, alternans, nudicaulis, hispanica, viscosa. Sib. France, Spain, Cape, East Indies.

913. SEDUM, or *Lesser Houseleek, Stonecrop.*

29 species; viz. verticillatum, * telephium, anacampseros, divaricatum, aizoon, hybridum, populifolium, stellatum, alsinefolium, cepæa, libanoticum, * dasyphyllum, * reflexum, virens, * rupestre, saxatile, quadrifidum, hispanicum, lineare, coeruleum, * album, * acre, * sexangulare, * anglicum, annuum, pubescens, * villosum, atratum, nudum. Europe, Madeira, Japan.

telephium. * S. leaves flattish, serrated; corymbus leafy; stem upright.—A decoction of the leaves in milk is a forcible diuretic. It has been given with success to cure the piles. Cows, goats, sheep, and swine, eat it. Horses refuse it.

acre. * S. leaves nearly egg-shaped, growing to and sitting, bulging, nearly upright, alternate; tuft with three divisions.—This species of sedum is a small perennial, succulent, evergreen plant; growing in great abundance on the tops of walls and roofs of houses. It has a faint smell, and at first an herbaceous taste; but it afterwards shows considerable acrimony, exciting a sense of biting heat in the mouth and fauces. In its recent state it shows very active powers, proving emetic, purgative, and diuretic. The expressed juice taken, to the quantity of a table spoonful, has been said to prove a very drastic medicine; but the plant in its dried state shows little or no activity. In this country it is hardly employed, and has no place in our pharmacopœias. Its activity, however, points it out as a subject deserving attention. Goats eat it; cows, horses, sheep, and swine, refuse it.

rupestre. * S. leaves awl-shaped in five rows, crowded, loose at the base; flowers in tufts.—Both this and the *S. reflexum* are cultivated in Holland and Germany, to mix with lettuces in salads. It is acrid to the taste.

914. PENTHORUM.

One species; viz. sedoides. Virginia.

915. BERGIA.

Two species; viz. verticillata, glomerata. Cape of Good Hope.

916. SURIANA.

One species; viz. maritima. Jamaica.

917. GRIELUM.

One species; viz. tenuifolium. Ethiopia.

918. OXALIS, or *Wood-sorrel.*

93 species; viz. monophylla, lepida, rostrata, asinina, lanceæfolia, leporina, crispa, fabæfolia, laburnifolia, sanguinea, ambigua, undulata, fuscata, glandulosa, tricolor, rubro-flava, flaccida, exaltata, variabilis, grandiflora, sulphurea, purpurea, breviscapa, speciosa, * acetosella, magellanica, marginata, pulchella, obtusa, lanata, truncatula, strumosa, punctata, luteola, macrogonya, fallax, tenella, minuta, pusilla, compressa, sericea, megalorrhiza, tetraphylla, violacea, caprina, cernua, dentata, livida, ciliaris, arcuata, linearis, cuneata, cuneifolia, glabra, bifida, filicaulis, longiflora, nutans, convexula, versicolor, elongata, reclinata, polyphylla, tenuifolia, macrostylis, hirta, tubiflora, secunda, multiflora, rubella, rosacea, repens, reptatrix, disticha, incarnata, conorrhiza, crenata, lateriflora, dillenii, stricta, * corniculata, plumieri, pentantha, rhombifolia, rosea, barrelieri, burmanni, tomentosa, lupinifolia, pectinata, flabellifolia, flava, sensitiva. S. Europe, Cape, North America.

acetosella. * O. stalk with one flower; leaves three together; leafets inversely heart-shaped, hairy.—An infusion of the leaves is an agreeable liquor in ardent fevers, and boiled with milk they make an agreeable whey. Sheep, goats, and swine eat it. Cows are not fond of it. Horses refuse it. The juice is gratefully acid. The London college directs a conserve to be made of the leaves, beaten with thrice their weight of fine sugar. The expressed juice depurated, properly evaporated, and set in a cool place, affords a crystalline acid salt in considerable quantity, which may be used whenever vegetable acids are wanted. It is employed to take iron moulds out of linen, and is sold under the name of essential salt of lemons. We are lately assured, that the leaves and stalks wrapped in a cabbage leaf, and macerated in warm ashes until reduced to a pulp, have been successfully applied to scrophulous ulcers. This poultice should remain on the sore 24 hours, and be repeated four times. Afterwards the ulcer is to be dressed with a poultice made of the roots of the meadow-sweet bruised, and mixed up with the scum of sour butter-milk.

919. AGROSTEMMA, or *Rose Campion, Wild Lychnis.*

Four species; viz. * githago, coronaria, flos jovis, cœli-rosa. Europe.

920. LYCHNIS, or *Campion.*

11 species; viz. chalcedonica, * flos cuculis, coronata, quadridentata, * viscaria, alpina, magellanica, sibirica,

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sibirica, beta, * dioica, apetala. Russia, Alps of Europe, China.

921. CERASTIUM, or *Mouse-ear Chickweed.*
20 species; viz. perfoliatum, * vulgatum, anomalum, * viscosum, * semidecandrum, pentandrum, * arvense, lineare, dichotomum, longifolium, * alpinum, repens, strictum, suffruticosum, maximum, * aquaticum, dioicum, * latifolium, * tomentosum, manticum. Eur.

922. SPERGULA, or *Spurrey.*
Seven species; viz. * arvensis, pentandra, nodosa, laricina, saginoides, * subulata, glabra. Europe.

arvensis. * S. leaves in whirls; flowers with more than five stamens; stems thick at the joints.—Poultry are fond of the seeds; and the inhabitants of Finland and Norway make bread of them when their crops of corn fail. Experience shows it to be very nutritious to the cattle that eat it. Horses, sheep, goats, and swine eat it. Cows refuse it.

ORDER V. DECAGYNIA.

923. NEURADA.
One species; viz. procumbens. Numidia, Egypt.

924. PHYTOLACCA, or *American Nightshade.*
Six species; viz. octandra, stricta, abyssinica, decandra, icosandra, dioica. East Indies, Africa, America.

In the class Decandria are

119 Genera, which include 987 Species. Of these 84 are found in Britain.

CLASSIS XI.

DODECANDRIA (A).

ORDO I. MONOGYNIA.

927. BOCCONIA. Cor. o. Cal. 2-phyllus, inferus. Caps. 2-valvis, 1-sperma.

* 925. ASARUM. Cor. o. Cal. 3-fidus, superus. Caps. 6-locularis.

955. STERCULIA. Cor. o. Cal. 5-partit. Nectar. staminiferum. Germen pedicellatum. Caps. 5.

931. RHIZOPHORA. Cor. 4-partita. Cal. 4-partitus, inferus. Sem. 1, clavatum, receptaculo carnoso.

938. GARCINIA. Cor. 4-petala. Cal. 4-phyllus, inferus. Bacca 8-sperma, coronata.

943. CRATÆVA. Cor. 4-petala. Cal. 4-fidus, inferus. Bacca 2-locularis, pedicellata.

928. DODECAS. Cor. 4-petala. Cal. 4-fidus. Caps. 1-locul. 4-valvis.

932. CRENÆA. Cor. 4-petala. Cal. 4-fidus. Caps. 5-locularis, polysperma.

939. HALESIA. Cor. 4-fida. Cal. 4-dentatus superus. Pericarp. 4-spermum, 4-angulatum.

933. APACTIS. Cor. 4-petala. Cal. o. Stam. 16.

926. TORNEX. Cor. 5-petala. Cal. o. Involucrum 4 s. 5-phyllum, 5-12-florum. Bacca 1-sperma.

945. EURYA. Cor. 5-petala. Cal. duplex. Caps. 5-locularis.

944. TRIUMFETTA. Cor. 5-petala. Cal. 5-phyllus, inferus. Caps. 4-locul. 2-sperma, muricata.

946. PEGANUM. Cor. 5-petala. Cal. 5-phyllus, inferus. Caps. 3-locul. Stam. 15.

954. KLEINHOFIA. Cor. 5-petala. Cal. 5-phyll.

CLASS XI.

DODECANDRIA.

ORDER I. MONOGYNIA.

B. No cor. Cal. 2-leaved, inferior. Caps. 2-valved, 1-seeded.

* A. No cor. Cal. 3-cleft, superior. Caps. 6-celled.

S. No cor. Cal. 5-partite. Nectary bearing the stamens. Germ. on a pedicle. Caps. 5.

R. Cor. 4-parted. Cal. 4-parted, inferior. Seed 1, club-shaped, in a fleshy receptacle.

G. Cor. 4-petaled. Cal. 4-leaved, inferior. Berry 8-seeded, crowned.

C. Cor. 4-petaled. Cal. 4-cleft, inferior. Berry 2-celled, with a pedicle.

D. Cor. 4-petaled. Cal. 4-cleft. Caps. 1-celled, 4-valved.

C. Cor. 4-petaled. Cal. 4-cleft. Caps. 5-celled, many-seeded.

H. Cor. 4-cleft. Cal. 4-toothed, superior. Seed-vessel 4-seeded, 4-angled.

A. Cor. 4-petaled. No cal. Stam. 16.

T. Cor. 5-petaled. No cal. Involucrum 4 or 5-leaved, 5-12-flowers. Berry 1-seeded.

E. Cor. 5-petaled. Cal. double. Caps. 5-celled.

T. Cor. 5-petaled. Cal. 5-leafed, inferior. Caps. 4-celled, 2-seeded, covered with sharp points.

P. Cor. 5-petaled. Cal. 5-leafed, inferior. Caps. 3-celled. Stamens 15.

K. Cor. 5-petaled. Cal. 5-leafed. Nectary bear-

(A) Thus far the classes have received their denomination from the number of stamens contained in the flowers. The name given to the present class would seem to imply, that the flowers arranged under it contained only 12 stamens: but it is in fact an assemblage of plants, whose flowers contain from 11 to 19 stamens, inclusive.

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Nectar. staminiferum. Germen pedicillatum. Caps. 5-angularis, inflata.

948. NITHRARIA. Cor. 5-petala. Cal. 5-fidus, inferus. Drupa 1-sperma. Stam. 15.

941. ARISTOTELIA. Cor. 5-petala. Cal. 5-partitus. Bacca 3-locularis.

937. GRANGERIA. Cor. 5-petala. Cal. 5-fidus. Drupa monosperma.

936. VATICA. Cal. 5-petala. Anth. 15, quadriloculares; loculis interioribus brevioribus.

947. HUDSONIA. Cor. 5-petala. Cal. 3-phyllus, inferus. Caps. 1-locularis, 3-valvis, 3-sperma.

942. CANELLA. Cor. 5-petala. Cal. 3-lobus, inferus. Bacca 1-locul. 2 s. 4-sperma. Nectarium antheriferum.

949. PORTULACA. Cor. 5-petala. Cal. 2-fidus, inferus. Caps. 1-locul. circumscissa.

950. TALINUM. Cor. 5-petala. Cal. 2-phyllus. Caps. 1-locularis, trivalvis. Sem. arillata.

* 951. LYTHRUM. Cor. 6-petala. Cal. 5-fidus, inferus. Caps. 2-locularis.

952. CUPHEA. Cor. 6-petala, inæqualis. Cal. 6-dentatus, inæqualis. Caps. 1-locul. ante maturitatem dehiscens.

953. GINORIA. Cor. 6-petala. Cal. 6-fidus, inferus. Caps. 1-locul. 4-valvis.

934. BLAKEA. Cor. 6-petala. Cal. 6-phyllus. Flos superus, indivisus. Caps. 6-locularis. Antheræ connexæ.

929. AGATHOPHYLLUM. Cor. 6-petala. Cal. truncatus. Drupa monosperma.

935. BEFARIA. Cor. 7-petala. Stam. 14. Bacca exsucca, 7-locularis.

930. BASSIA. Cor. 8-fida. Stam. 16. Drupa 5-sperma.

940. DECUMARIA. Cor. 10-petala. Cal. 10-phyllus, superus.

Cleome viscosa dodecandra. Chlora dodecandra. Samyda pubescens, serrulata. Rivina octandra. Passerina capitata.

ORDO II. DIGYNIA.

956. HELIOCARPUS. Cor. 4-petala. Cal. 4-phyllus. Caps. 2-locul. 1-sperma, compresso-radiata.

* 957. AGRIMONIA. Cor. 5-petala. Cal. 5-fidus. Sem. 1 s. 2.

ORDO III. TRIGYNIA.

* 958. RESEDA. Cor. petalis multifidis. Cal. partitus. Caps. 3-locularis, hians.

960. VISNEA. Cor. petalis ellipticis. Cal. 5-phyll. Nux.

* 959. EUPHORBIA. Cor. petalis peltatis. Cal. ventricosus. Caps. 3-cocca.

ORDO IV. TETRAGYNIA.

962. APONOGETON. Cor. 0. Cal. 0. Caps. 4.

961. CALLIGONUM. Cor. 0. Cal. 5-partitus. Nux monosperma.

Tormentilla erecta. Resedæ aliquot.

ing stamens. Germ. on a pedicle. Caps. 5-angular, inflated.

N. Cor. 5-petaled. Cal. 5-cleft, inferior. A drupe, 1-seeded. Stamens 15.

A. Cor. 5-petaled. Cal. 5-partite. Berry 3-celled.

G. Cor. 5-petaled. Cal. 5-cleft. Drupe 1-seeded.

V. Cor. 5-petaled. Anth. 15, 4-celled, the inner cells shorter.

H. Cor. 5-petaled. Cal. 3-leaved, inferior. Caps. 1-celled, 3-valved, 3-seeded.

C. Cor. 5-petaled. Cal. 3-lobed, inferior. Berry 1-celled, 2 or 4-seeded. Nectary bearing the anthers.

P. Cor. 5-petaled. Cal. 2-cleft, inferior. Caps. 1-celled, cut round.

T. Cor. 5-petaled. Cal. 2-leaved. Caps. 1-celled, 3-valved. Seeds coated.

* L. Cor. 6-petaled. Cal. 12-cleft, inferior. Caps. 2-celled.

C. Cor. 6-petaled, unequal. Cal. 6-toothed, unequal. Caps. 1-celled, opening before maturity.

G. Cor. 6-petaled. Cal. 6-cleft, inferior. Caps. 1-celled, 4-valved.

B. Cor. 6-petaled. Cal. 6-leaved. Flower superior, undivided. Caps. 6-celled. Anthers united at the base.

A. Cor. 6-petaled. Cal. lopped. Drupe 1-seeded.

B. Cor. 7-petaled. Stam. 14. Berry dry, 7-celled.

B. Cor. 8-cleft. Stamens 16. Drupe 5-seeded.

D. Cor. 10-petaled. Cal. 10-leaved, superior.

ORDER II. DIGYNIA.

H. Cor. 4-petaled. Cal. 4-leaved. Caps. 2-celled, 1 seed, compressed, radiated.

* A. Cor. 5-petaled. Cal. 5-cleft. Seeds 1 or 2.

ORDER III. TRIGYNIA.

* R. Cor. with many-cleft petals. Cal. partite. Caps. 3-celled, gaping.

V. Cor. with elliptical petals. Cal. 5-leaved. A nut.

* E. Cor. with target-shaped petals. Cal. bellied. Caps. 3-celled.

ORDER IV. TETRAGYNIA.

A. No cor. No cal. Caps. 4.

C. No cor. Cal. 5-partite. A 1-seeded nut.

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Order V. PENTAGYNIA.

963. Glinus. Cor. 0. nisi setulæ. Cal. 5-phyllus. Caps. 5-locul.

964. Blackwellia. Cor. 15-petala. Cal. 5-fid. Caps. 1-locul. polysperma.

Reseda purpurascens.

Ordo VI. DODECAGYNIA.

* 965. Sempervivum. Cor. 12-petala. Cal. 12-partitus. Caps. 12.

Alisma cordifolia.

Order V. PENTAGYNIA.

G. No cor. except little bristles. Cal. 5-leaved. Caps. 5-celled.

B. Cor. 15-petaled. Cal. 5-cleft. Caps. 1-celled, many-seeded.

Order VI. DODECAGYNIA.

* S. Cor. 12-petaled. Cal. 12-partite. Caps. 12.

Order I. MONOGYNIA.

925. Asarum, or *Asarabacca.*

Three species; viz. * europæum, canadense, virginicum. Europe, N. America.

europæum. * A. leaves kidney-shaped, blunt, in pairs.—This is a very low plant, growing naturally in France, Italy, and other warm countries. It grows readily in our gardens, and although the dried roots have been generally brought from the Levant, those of our own growth do not seem to be weaker. Both the roots and leaves have a nauseous, bitter, acrimonious, hot taste. Their smell is strong, and not very disagreeable. Given in substance from half a dram to a dram, they evacuate powerfully both upwards and downwards. It is said, that tinctures made in spirituous menstrua, possess both the emetic and cathartic virtues of the plant: that the extract, obtained by inspissating these tinctures, acts only by vomiting, and with great mildness: that an infusion in water proves cathartic, rarely emetic: that aqueous decoctions, made by long boiling, and the watery extract, have no purgative or emetic quality, but prove good diaphoretics, diuretics, and emmenagogues. The principal use of this plant among us is as a sternutatory. The root of asarum is perhaps the strongest of all the vegetable errhines, white hellebore itself not excepted. Snuffed up the nose in the quantity of a grain or two, it occasions a large evacuation of mucus, and raises a plentiful spitting. The leaves are considerably milder, and may be used to the quantity of three, four, or five grains. Geoffrey relates, that after snuffing up a dose of this errhine at night, he has frequently observed the discharge from the nose to continue for three days together; and that he has known a paralysis of the mouth and tongue cured by one dose. He recommends this medicine in stubborn disorders of the head, proceeding from viscid tenacious matter, in palsies, and soporific distempers. The leaves are the principal ingredient in the *pulvis sternutatorius*, or *pulvis asari compositus*, as it is now termed, of the shops.

926. Tornex.

Three species; viz. japonica, tetranthera, sebifera. Arabia.

927. Bacconia.

Two species; viz. frutescens, cordata.

928. Dodecas.

One species; viz. surinamensis. Surinam.

929. Agathophyllum.

One species; viz. aromaticum. East Indies.

930. Bassia.

Three species; viz. longifolia, latifolia, obovata. Malabar.

931. Rhizophora, or *Mangrove-candle of India.*

Five species; viz. conjugata, gymnorhiza, candel, mangle, cylindrica. India, Malabar, Moluccas.

932. Crenæa.

One species; viz. maritima. Guiana.

933. Apactis.

One species; viz. japonica. Japan.

934. Blakea.

Three species; viz. trinervia, triplinervia, pulverulenta. Jamaica, Surinam.

935. Befaria.

Two species; viz. resinosa, æstuans. New Granada.

936. Vatica.

One species; viz. chinensis. China.

937. Grangeria.

One species; viz. borbonica. Isle of Bourbon.

938. Garcinia, or *Mangostan.*

Four species; viz. mangostana, celebica, cambogia, cornea. East Indies.

939. Halesia, or *Snow-drop Tree.*

Two species; viz. tetraptera, diptera. Carolina.

940. Decumaria.

Two species; viz. barbara, sarmentosa. Carolina.

941. Aristotelia.

One species; viz. macqui. Chili.

942. Canella, or *White Cinnamon.*

One species; viz. alba. West Indies.

The bark of the *canella alba* is brought to us rolled into

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into long quills, thicker than cinnamon, and both outwardly and inwardly of a whitish colour, lightly inclining to yellow. It is the produce of a tall tree, growing in great plenty in the low lands in Jamaica, and other American islands. Infusions of it in water are of a yellowish colour, and smell of the canella; but they are rather bitter than aromatic. Tinctures in rectified spirit have the warmth of the bark, but little of its smell. Proof spirit dissolves the aromatic, as well as bitter matter of the canella, and is therefore the best menstruum. The canella is the interior bark, freed from an outward thin rough one, and dried in the shade. The shops distinguish two sorts of canella, differing from each other in the length and thickness of the quills; they are both the bark of the same tree, the thicker being taken from the trunk, and the thinner from the branches. This bark is a warm pungent aromatic, not of the most agreeable kind, nor are any of the preparations of it very grateful. *Canella alba* is often employed where a warm stimulant to the stomach is necessary, and as a corrigent of other articles. It is now, however, little used in composition by the London college, the only officinal formula which it enters being the *pulvis aloeticus*; but with the Edinburgh college it is an ingredient in the *tinctura amara*, *vinum amarum*, *vinum rhei*, &c. It is useful as covering the taste of some other articles.

943. CRATÆVA, or *Garlick-pear*.
Five species; viz. gynandra, tapia, obovata, religiosa, marmelos. E. and W. Indies.

944. TRIUMFETTA, or *Bur-bark Tree*.
11 species; viz. lappula, glandulosa, bartramia, velutina, procumbens, hirta, semitriloba, grandiflora, macrophylla, rhombeæfolia, annua. E. and W. Indies, Brasil.

945. EURYA.
One species; viz. japonica. Japan.

946. PEGANUM, or *Wild Syrian Rue*.
Four species; viz. harmala, erithmifolium, retusum, dauricum. Siberia, Spain, Syria.

947. HUDSONIA.
One species; viz. ericoides. Virginia.

948. NITRARIA.
Two species; viz. schoberi, tridentata. Siberia.

949. PORTULACA, or *Purslane*.
Five species; viz. oleracea, pilosa, quadrifida, halimoides, meridiana. Europe, Cape, India, Amer.
The *portulaca oleracea* is cultivated in gardens for culinary uses. The seeds are ranked among the lesser cold seeds, and have sometimes been employed in emulsions and the like, along with the others of that class.

950. TABINUM.
Seven species; viz. triangulare, crassifolium, anacampseros, patens, cuneifolium, decumbens, fruticosum.

951. LYTHRUM, or *Willow-herb*.
16 species; viz. * salicaria, virgatum, acuminatum, trifiorum, verticillatum, petiolatum, racemosum, ciliatum, pemphis, dipetalum, lineare, parsonia, melanium, cordifolium, * hyssopifolia, thymifolia. Europe, N. America, W. Indies.

952. CUPHEA.
One species; viz. viscosissima. America.

953. GINORIA.
One species; viz. americana. America.

954. KLEINHOFIA.
One species; viz. hospita. E. Indies.

955. STERCULIA.
Eight species; viz. lanceolata, balanghas, crinita, cordifolia, colorata, urens, platanifolia, fœtida. Arabia, East and West Indies, China.

ORDER II. DIGYNIA.

956. HELIOCARPUS, or *Sun-weed*.
One species; viz. americana. Vera Cruz.

957. AGRIMONIA, or *Agrimony*.
Five species; viz. * eupatoria, odorata, repens, parviflora, agrimonoides. Europe, N. America.
* A. stem-leaves winged, the odd leaflet on a leafstalk; fruit hispid.—The Canadians are said to use an infusion of the roots in burning fevers, and with great success. An infusion of six ounces of the crown of the root, in a quart of boiling water, sweetened with honey, and half a pint of it drank three times a-day, Dr Hill says, is an effectual cure for the jaundice. He advises to begin with a vomit, afterwards to keep the bowels soluble, and to continue the medicine as long as any symptoms of the disease remain. Sheep and goats eat it. Cows, horses, and swine refuse it. The flowers fresh gathered smell like apricots. *eupatoria*.

ORDER III. TRIGYNIA.

958. RESEDA, or *Mignonette, Base-rocket*.
13 species; viz. * luteola, canescens, glauca, dipetala, purpurascens, sesamoides, fruticulosa, alba, undata, * lutea, phyteuma, mediterranea, odorata. S. Europe, Egypt, Cape.
* R. leaves spear-shaped, entire, with a tooth on each side the base; cal. 4-cleft.—This plant affords a most beautiful yellow dye for cotton, woollen, mohair, silk, and linen, and is that which is most commonly used by the dyers for that purpose, as it gives the brightest dye. Blue cloths dipped in a decoction of it become green. The yellow colour of the paint called *Dutch pink* is got from this plant. The colouring quality resides in the stems and roots, and it is cultivated in sandy soils, rich soil making the stalk hollow and not so good. Cattle will not eat it, but sheep sometimes browse it a little. *luteola*.

959. EUPHORBIA, or *Bura, Thorny-plant, Spurge*.
124 species; viz. antiquorum, canariensis, virosa, heptagona, mammillaris, cereiformis, officinarum, triaculeata, nereifolia, hystrix, tribuloides, stellata, cucumerina, meloformis, caput medusæ, tuberculata, anacantha, clava, bupleurifolia, lophogona, mauritanica, piscatoria, balsamifera, tirucalli, laurifolia, pyrifolia, lithymaloides, heterophylla, cyathophora, nudiflora, cotinifolia, mellifera, glabrata, linarifolia, linifolia, cuneata, ocymoidea, lævigata, origanoides, atoto, hypericifolia,

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ricifolia, prostrata, rosea, maculata, scordifolia, picta, hirta, pilulifera, brasiliensis, hyssopifolia, thymifolia, parviflora, canescens, chamæsyce, granulata, * peplis, polygonifolia, linearis, graminea, ipecacuanhæ, portulacoides, adiantoides, myrtifolia, imbricata, elliptica, rubra, herniariæfolia, * peplus, falcata, * exigua, obliterata, spathulata, micrantha, dracunculoides, tuberosa, lathyris, terracina, diffusa, apios, læta, genistoides, spinosa, epithymoides, villosa, dulcis, ambigua, carniolica, angulata, pithyusa, * portlandica, saxatilis, * paralias, juncea, aleppica, pinea, segetalis, provincialis, * helioscopia, pubescens, serrata, * verrucosa, glauca, punicea, corollata, corallioides, pilosa, orientalis, squamosa, * platyphyllos, literata, esula, gerardiana, * cyparissias, nicacensis, myrsinites, palustris, pallida, emarginata, * hiberna, salicifolia, dendroides, amygdaloides, sylvatica, * characias. Eur. Asia. Afr. Am.

The *Euphorbia officinarum*, or gummi-resinous substance, is a spontaneous exudation from a large oriental tree. It is brought to us immediately from Barbary, in drops of an irregular form, some of which, upon being broken, are found to contain little thorns, small twigs, flowers, and other vegetable matters; others are hollow, without any thing in their cavity. The tears are in general of a pale yellow colour externally, somewhat white withinside; they easily break between the fingers. Slightly applied to the tongue, they affect it with a very sharp biting taste; and upon being held for some time in the mouth, prove vehemently acrimonious, inflaming and ulcerating the fauces, &c. Euphorbium is extremely troublesome to pulverize, the finer part of the powder, which flies off, affecting the head in a violent manner. The acrimony of this substance is so great, as to render it absolutely unfit for internal use; several correctors have been contrived to abate its virulence, but the best of them are not to be trusted to; and as there seems to be no real occasion for it, unless for some external purposes, some think that it ought to be expunged from the catalogue of internal medicines; and accordingly, it has now no place in the London or Edinburgh pharmacopœias; but it is still retained in most of the foreign ones, and is sometimes used as a sternutatory.

characias * E. umbel with many spokes, spokes forked; involucellums perforated, notched at the end; leaves very entire; stem shrub-like.—The powdered leaves in doses of 15 to 25 grains operate as a purge. The juice of every species of spurge is so acrid, that it corrodes and ulcerates the body wherever it is applied; so that physicians have seldom ventured to use it internally. Warts or corns anointed with the juice presently disappear. A drop of it put into the hollow of a decayed and aching tooth, destroys the nerve, and consequently removes the pain. Some people rub it behind the ears, that it may blister and by that means give relief.

960. VISNEA.

One species; viz. mocanera. Canary isles.

ORDER IV. TETRAGYNIA.

961. CALLIGONUM.

Three species; viz. polygonoides, comosum, pallosia. Russia, Siberia.

962. APONOGETON.

Four species; viz. monostachyon, crispum, distachyon, angustifolium. Cape, E. Indies.

ORDER V. PENTAGYNIA.

963. GLINUS.

Three species; viz. lotoides, setiflorus, dictamnoides. Spain, Levant, Egypt.

964. BLACKWELLIA.

Three species; viz. integrifolia, paniculata, axillaris. W. Indies.

ORDER VI. DODECAGYNIA.

965. SEMPERVIVUM, or *House-leek*.

14 species; viz. arboreum, canariense, glutinosum, glandulosum, * tectorum, globiferum, villosum, tortuosum, stellatum, arachnoideum, hirtum, montanum, sediforme, monanthos. Eur. Canaries, Madeira.

tectorum. * S. leaves fringed; offsets expanding.—The juice of this plant either applied by itself, or mixed with cream, gives present relief to burns, and other external inflammations. Mixed with honey, it is a useful application in aphthous cases. Sheep and goats eat it.

In the class Dodecandria are

41 Genera, including 273 Species, of which 18 are found in Britain.

CLASSIS XII.

ISOCANDRIA (B).

ORDO I. MONOGYNIA.

966. CACTUS. Cal. superus, 1-phyllus. Cor. multifida. Bacca 1-locul. polysperma.

CLASS XII.

ICOSANDRIA.

ORDER I. MONOGYNIA.

C. Cal. superior, 1-leaved. Cor. many-cleft. Berry 1-celled, many-seeded.

972.

(B) Although this is called the class of twenty stamens, because the flowers arranged under it generally contain about

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972. EUGENIA. Cal. superus, 4-partitus. Cor. 4-petala. Bacca 1-locul. 1-sperma.

967. PHILADELPHUS. Cal. superus, 5 s. 4-partitus. Cor. 5 s. 4-petala. Stigma 4-fidum. Caps. 5-4-locul. polysperma.

968. LEPTOSPERMUM. Cal. superus, 5-fidus. Petala 5-unguiculata, staminibus longiora. Stigma capitatum. Caps. 4 s. 5-locularis.

969. FABRICIA. Cal. superus, 5-fidus. Petala 5 sessilia. Stigma capitatum. Caps. multilocularis.

970. METROSIDEROS. Cal. superus, 5-fidus. Petala 5. Stam. longissima exserta. Stigma simplex. Caps. 3 s. 4-locularis.

971. PSIDIUM. Cal. superus, 5-fidus. Cor. 5-petala. Bacca 1-locul. polysperma.

973. MYRTUS. Cal. superus, 5-fidus. Cor. sub 5-petala. Bacca 3-locul. polysperma.

980. PUNICA. Cal. superus, 5-fidus. Cor. 5-petala. Pomum 10-loculare, polyspermum.

985. ROBINSONIA. Cal. superus, 5-dentatus. Petala 5. Bacca striata, 7-locul.

974. CALYPTRANTHES. Cal. superus, truncatus, operculo tectus. Cor. 0. Bacca 1-locul. 1-4-sperma.

975. EUCALYPTUS. Cal. superus, truncatus, operculo tectus. Cor. 0. Caps. 4-locul. polysperma.

978. FOETIDIA. Cal. superus, 4-fidus. Cor. 0. Caps. 4-locul. lignosa.

986. SONNERATIA. Cal. inferus, 6-fidus. Pet. 6. Bacca multilocularis, loculis polyspermis.

981. AMYGDALUS. Cal. inferus, 5-fidus. Cor 5-petala. Drupa, nucleo foraminoso.

* 982. PRUNUS. Cal. inferus, 5-fidus. Cor. 5-petala. Drupa, nucleo integro.

984. CHRYSOBALANUS. Cal. inferus, 5-fidus. Cor. 5-petala. Drupa sulcata.

976. BANARA. Cal. inferus, 4-fidus. Petala 4. Bacca 1-locul. polysperma.

977. ANTHERYLIUM. Cal. inferus, 5-partitus. Petala 4. Caps. 1-locularis, 3-valvis, polysperma.

979. SCOLOPIA. Cal. inferus, 3 s. 4-partitus. Pet. 3 s. 4. Bacca 1-locularis. Semina arillata.

Cleome icosandra.

E. Cal. superior, 4-partite. Cor. 4-petaled. Berry 1-celled, 1-seeded.

P. Cal. superior, 5 or 4-partite. Cor. 5 or 4-petaled. Stigma 4-cleft. Caps. 5 or 4-celled, many-seeded.

L. Cal. superior, 5-cleft. Petals 5-clawed, longer than the stamens. Stigma with a little head. Caps. 4 or 5-celled.

F. Cal. superior, 5-cleft. Petals 5, sitting. Stigma with a little head. Caps. many-celled.

M. Cal. superior, 5-cleft. Petals 5. Very long protruded stamens. Stigma simple. Caps. 3 or 4-celled.

P. Cal. superior, 5-cleft. Cor. 5-petaled. Berry 1-celled, many-seeded.

M. Cal. superior, 5-cleft. Cor. nearly 5-petaled. Berry 3-celled, many-seeded.

P. Cal. superior, 5-cleft. Cor. 5-petaled. An apple, 10-celled, many-seeded.

R. Cal. superior, 5-toothed. Petals 5. Berries striped, 7-celled.

C. Cal. superior, lopped, covered with a lid. No cor. Berry 1-celled, 1 to 4-seeded.

E. Cal. superior, truncated, covered with a lid. No cor. Caps. 4-celled, many-seeded.

F. Cal. superior, 4-cleft. No cor. Caps. 4-celled, woody.

S. Cal. inferior, 6-cleft. Petals 6. Berry many-celled, with many-seeded cells.

A. Cal. inferior, 5-cleft. Cor. 5-petaled. Drupe with a kernel full of holes.

* P. Cal. inferior, 5-cleft. Cor. 5-petaled. Drupe with an entire kernel.

C. Cal. inferior, 5-cleft. Cor. 5-petaled. Drupe furrowed.

B. Cal. inferior, 4-cleft. Petals 4. Berry 1-celled, many-seeded.

A. Cal. inferior, 4-partite. Petals 4. Caps. 1-celled, 3-valved, many-seeded.

S. Cal. inferior, 3 or 4-partite. Petals 3 or 4. Berry 1-celled. Seeds coated.

ORDO II. DIGYNIA.

ORDER II. DIGYNIA.

* 987. CRATÆGUS. Cal. superus, 5-fidus. Cor. 5-petala. Bacca 2-sperma.

988. WALDSTEINIA. Cal. 10-fidus, laciniis alternis. Petala 5. Semina 2, obovata.

* C. Cal. superior, 5-cleft. Cor. 5-petaled. Berry 2-seeded.

W. Cal. 10-cleft, with alternate segments. Petals 5. Seeds 2, nearly oval.

ORDO III. TRIGYNIA.

ORDER III. TRIGYNIA.

* 989. SORBUS. Cal. superus, 5-fidus. Cor. 5-petala. Bacca 3-sperma.

990. SESUVIUM. Cal. inferus, 5-fidus. Cor. nulla. Caps. 3-locularis, circumscissa.

† *Spiræa opulifolia.*

* S. Cal. superior, 5-cleft. Cor. 6-petaled. Berry 3-seeded.

S. Cal. inferior, 5-cleft. Cor. 0. Caps. 3-celled, cut round.

ORDO

about that number; yet the mark or character of the class is not to be taken merely from the number of stamens, but from attending also to the following circumstances: 1. The calyx, consisting usually of one concave leaf; 2. Petals, fixed by claws to the inside of the calyx; and, lastly, Stamens, more than 19, standing upon the petals or the calyx, but not upon the receptacle. Very few are poisonous.

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Ordo IV. PENTAGYNIA.

993. Tetragonia. Cal. superus, 5 s. 4-fidus. Cor. 0. Peric. nucleo 5 s. 4-loculari.

991. Mespilus. Cal. superus, 5-fidus. Cor. 5-petala. Bacca 5-sperma.

* 992. Pyrus. Cal. superus, 5-fidus. Cor. 5-petala. Pomum 5-loculare, polyspermum.

994. Mesembryanthemum. Cal. superus, 5-fidus. Cor. multifida, Caps. carnosa, locularis, polysperma.

995. Aizoon. Cal. inferus, 5-fidus. Cor. 5-petala. Caps. plures congestæ.

* 996. Spiræa. Cal. inferus, 5-fidus. Cor. 5-petala. Caps. plures congestæ.

Ordo V. POLYGYNIA.

* 997. Rosa. Cal. 5-fidus. Cor. 5-petala. Cal. baccatus, polyspermus.

* 998. Rubus. Cal. 5-fidus. Cor. 5-petala. Bacca composita.

* 1001. Tormentilla. Cal. 8-fidus. Cor. 4-petala. Sem. 8, mutica.

* 1003. Dryas. Cal. 8-fidus. Cor. 8-petala. Sem. plurima arista lanata.

* 999. Fragaria. Cal. 10-fidus. Cor. 5-petala. Sem. plurima supra receptaculum baccatum, decidua.

* 1000. Potentilla. Cal. 10-fidus. Cor. 5-petala. Sem. plurima mutica.

* 1002. Geum. Cal. 10-fidus. Cor. 5-petala. Sem. plurima. Arista genic ulata.

* 1004. Comarum. Cal. 10-fidus. Cor. 2-petala. Sem. plurima supra receptaculum carnosum, persistens.

1005. Calycanthus. Cal. squamosus, corollinus. Cor. 0. Sem. caudata calyce.

Spiræa filipendula, ulmaria. Phytolacca icosandra. Mesembryanthema aliquot.

Order IV. PENTAGYNIA.

T. Cal. superior, 5 or 4-cleft. No cor. A seed vessel with a kernel 5 or 4-celled.

M. Cal. superior, 5-cleft. Cor. 5-petaled. Berry 5-seeded.

* P. Cal. superior, 5-cleft. Cor. 5-petaled. An apple, 5-celled, many-seeded.

M. Cal. superior, 5-cleft. Cor. many-cleft. Caps. fleshy, celled, many-seeded.

A. Cal. inferior, 5-cleft. Cor. 5-petaled. Caps. several, heaped together.

* S. Cal. inferior, 5-cleft. Cor. 5-petaled. Caps. several heaped together.

Order V. POLYGYNIA.

* R. Cal. 5-cleft. Cor. 5-petaled. Cal. berry-like, many-seeded.

* R. Cal. 5-cleft. Cor. 5-petaled. Berry compound.

* T. Cal. 8-cleft. Cor. 4-petaled. Seeds 8, awnless.

* D. Cal. 8-cleft. Cor. 5-petaled. Seeds many, with a woolly awn.

* F. Cal. 10-cleft. Cor. 5-petaled. Seeds many, upon a berried receptacle, deciduous.

* P. Cal. 10-cleft. Cor. 5-petaled. Seeds many, awnless.

* G. Cal. 10-cleft. Cor. 5-petaled. Seeds many. Awn knee-jointed.

* C. Cal. 10-cleft. Cor. 5-petaled. Seeds many, above a fleshy receptacle, permanent.

C. Cal. scaly, corol-like. No cor. Seeds with a tailed cup.

Order I. MONOGYNIA.

966. Cactus, or *Melon Thistle.*

24 species; viz. mamillaris, melocactus, pitajaya, heptagonus, tetragonus, hexagonus, pentagonus, repandus, lanuginosus, peruvianus, royeni, grandiflorus, flagelliformis, parasiticus, triangularis, moniliformis, opuntia, ficus indica, tuna, cochenillifer, curassavicus, phyllanthus, pereskia, portulacifolius. West Indies, America.

967. Philadelphus, or *Mock Orange, Syringa.*

Two species; viz. coronarius, inodorus. S. Eur. Carolina, New South Wales.

968. Leptospermum

Has 12 species; viz. scoparium, thea, flavescens, attenuatum, lanigerum, pubescens, parvifolium, arachnoideum, juniperinum, baccatum, ambiguum, virgatum. New Holland.

969. Fabricia

Has two species; viz. myrtifolia, lævigata. New Holland.

970. Metrosideros.

14 species; viz. hispida, floribunda, costata, diffusa, villosa, florida, glomulifera, angustifolia, ciliata, linearis, lanceolata, saligna, viminalis, capitata. N. Holland, N. Zealand, C. of G. Hope.

971. Psidium, or *Guara*, or *Bay Plum.*

Three species; viz. pyriferum, pomiferum, decaspermum. East and West Indies.

972. Eugenia, or *Pomey Rose, Yamboe.*

Seven species; viz. malaccensis, jambos, pseudo-psidium, uniflora, cotinifolia, acutangula, racemosa. E. Indies, Jamaica, S. America.

973. Myrtus, or *Myrtle.*

14 species; viz. communis, brasiliana, biflora, angustifolia, lævis, lucida, cumini, dioica, chytraculia, zuzyginum, zeylanica, androsæmoides, caryophyllata, pimenta. S. Europe, Asia, Africa, America.—The *myrtus communis* is an evergreen shrub, growing in Italy, and cultivated in our botanic gardens. The leaves and berries have been sometimes made use of as astringents,

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astringents, but not at present regarded. The pimento is the fruit of a large tree growing spontaneously in the mountainous parts of Jamaica, called by Sir Hans Sloane, *myrtus arborea aromatica, foliis laurinis*. The smell of this spice resembles a mixture of cinnamon, cloves, and nutmegs; its taste approaches to that of cloves, or a mixture of the three foregoing; whence it has received the name of *all-spice*. The shops have been for some time accustomed to employ this aromatic as a succedaneum to the more costly spices, and from them it has been introduced into our hospitals.

Pimento is now in our pharmacopœias the basis of a distilled water, a spirit, and an essential oil; and these are not unfrequently employed, where aromatics are indicated.

974. CALYPTRANTHES.

Six species; viz. suzygium, guineensis, caryophyllifolia, jambolana, chrytraculia, rigida. Jamaica, Guinea, East Indies.

975. EUCALYPTUS.

12 species; viz. robusta, pilularis, tereticornis, resinifera, capitellata, saligna, botryoides, hæmastoma, piperita, obliqua, corymbosa, paniculata. N. Holland.

976. BANARA.

One species; viz. fagifolia. Cayenne.

977. ANTHERYLIUM.

One species; viz. rohrii. W. Indies.

978. FOETIDIA.

One species; viz. mauritiana. Isle Mauritius.

979. SCOLOPIA.

One species; viz. pusilla. Ceylon.

980. PUNICA, or *Pomegranate-tree*.

Two species; viz. granatum, nana. Spain, Italy, Barb. W. Indies.—The pomegranate is a low tree, or rather shrub, growing wild in Italy, and other countries in the south of Europe: it is sometimes met with in our gardens; but the fruit, for which it is chiefly valued, rarely comes to such perfection as in warmer climates. This fruit has the general qualities of the other sweet summer fruits, allaying heat, quenching thirst, and gently loosening the belly. The rind is a strong astringent, and as such, is occasionally made use of. The flowers are of an elegant red colour, in appearance resembling a dried red rose. Their taste is bitterish and astringent. They are recommended in diarrhœas, dysenteries, and other cases where astringent medicines are proper.

981. AMYGDALUS, or *Almond tree*.

Four species; viz. persica, communis, pumila, nana. Persia, Jordan, Barbary.—The flowers of the *amygdalus persica* have an agreeable smell, and a bitterish taste. Distilled without any addition, by the heat of a water bath, they yield one-sixth their weight, or more, of a whitish liquor; which, as Mr Bolduc observes, communicates to a large quantity of other liquids, a flavour like that of the kernels of fruits. An infusion in water, of half an ounce of the fresh-gathered flowers, or a dram of them when dried, sweetened with sugar, proves for children an useful laxative and anthelmintic; the leaves of the tree are, with this intention, somewhat more efficacious, though less agreeable. The fruit has the same quality with the other sweet fruits, that of abating heat, quenching thirst, and gently loosening the belly.

The almond of the *amygdalus communis*, is a flattish kernel, of a white colour, covered with a thin brownish skin, of a soft sweet taste, or a disagreeable bitter one. The skins of both sorts are unpleasant, and covered with an acrid powdery substance; they are very apt to become rancid on keeping, and to be preyed on by a kind of insect which eats out the internal part, leaving the almond to appearance entire. To these circumstances regard ought to be had, in the choice of them.

The fruit which affords these kernels, is the produce of a tree nearly resembling the peach. The eye distinguishes no difference betwixt the trees which produce the sweet and bitter, or betwixt the kernels themselves; it is said that the same tree has, by a difference in culture, afforded both.

Both sorts of almonds yield, on expression, a large quantity of oil, which has no smell, or any particular taste; this oil separates, likewise, upon boiling the almonds in water, and is gradually collected on the surface; but on triturating the almonds with water, the oil and water unite together, by the mediation of the other matter of the kernel, and form an unctuous milky liquor.

Sweet almonds are of greater use in food than as medicines, but they are reckoned to afford little nourishment; and when eaten in substance, are not easy of digestion, unless thoroughly comminuted. They are supposed, on account of their soft unctuous quality, to obtund acrimonious juices in the primæ viæ. Peeled sweet almonds, eaten six or eight at a time, sometimes give present relief in the heartburn.—Bitter almonds have been found poisonous to dogs, and sundry other animals; and a water distilled from them, when made of a certain degree of strength, has had the same effects. Nevertheless, when eaten, they appear innocent to men, and have been not unfrequently used as medicines. Boerhaave recommends them in substance, as diuretics which heat but moderately, and which may therefore be ventured upon in acute diseases.

The oils obtained by expression from both sorts of almonds, are in their sensible qualities the same. The general virtues of these oils are, to blunt acrimonious humours, and to soften and relax the solids; hence their use, internally, in tickling coughs, heat of urine, pains and inflammations; and externally in tension, and rigidity of particular parts.—The milky solutions of almonds in watery liquors, commonly called emulsions, contain the oil of the subject, and participate in some degree of its emollient virtue; but have this advantage above the pure oil, that they may be given in acute or inflammatory disorders, without danger of the ill effects which the oil might sometimes produce; since emulsions do not turn rancid or acrimonious by heat, as all the oils of this kind in a little time do. Several unctuous and resinous substances, of themselves not miscible with water, may, by trituration with almonds, be easily mixed with it into the form of an emulsion; and are thus excellently fitted for medicinal use. In this form camphor and the resinous purgatives may be commodiously taken. The only officinal preparations of almonds, are the expressed oil and emulsion. The com-

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mon emulsion, or the *lac amygdala*, as it is now called by the London college, is prepared from the sweet almond alone; but in the emulsion of the Edinburgh college, a small proportion of bitter almonds is added, which has a much better effect in improving its taste, than the sugar added by the London college.—An emulsion formed entirely of bitter almonds, taken to the quantity of a pint or two daily, is said to have been given in obstinate intermittents with success.

982. Prunus, or *Plum-tree.*

22 species; viz. * padus, virginiana, canadensis, lusitanica, lauro-cerasus, elliptica, paniculata, mahaleb, armeniaca, sibirica, pumila, * cerasus, * avium, pensylvanica, * domestica, * insititia, * spinosa, aspera, japonica, glandulosa, incisa, tomentosa. Europe, N. Amer. W. Indies.

padus. * P. flowers in bunches; leaves deciduous with two glands at the base on the under side.—This plant grows well in woods, groves, or fields, but not in a moist soil. It bears lopping, and suffers the grass to grow under it. The fruit is nauseous; but bruised and infused in wine or brandy, it gives it an agreeable flavour. A strong decoction of the bark is used by the Finlanders to cure venereal complaints, which practice is corroborated by the testimony of M. Broerland. He directs six ounces of the dry, or eight of the fresh bark, to be boiled in eight to four pints of water. The dose is four ounces, four times a-day. It alone cures the slighter infections, and combined with mercury facilitates the cure of the severer states of the disease; and a decoction of the berries is sometimes given with success in the dysentery. The wood being smooth and tough, is made into handles for knives and whips. Sheep, goats, and swine eat it. Cows are not fond of it. Horses refuse it.

cerasus. * P. umbels mostly on short fruitstalks; leaves egg-spear-shaped, smooth, doubled together.—This plant loves a sandy soil and an elevated situation. The gum that exudes from this tree is equal to gum arabic. It is said, that more than 100 men during a siege were kept alive for near two months, without any other sustenance than a little of this gum taken into the mouth sometimes and suffered gradually to dissolve. The common people eat the fruit either fresh or dried; and it is frequently infused in brandy for the sake of its flavour. The wood is hard and tough. It is used by the turner, and is formed into chairs, and stained to imitate mahogany. This tree is the original stock from which many of the cultivated kinds are derived.

avium. * P. umbels sitting; leaves egg-spear-shaped, downy underneath, doubled together.—This plant grows best in a rich soil on the side of hills, unmixed with other trees. It bears cropping, and suffers the grass to grow under it. In Hertfordshire there is a cultivated variety called *carrons*, which are larger and much finer flavoured than the common sort.

domestica * P. fruitstalks mostly solitary; leaves spear-egg-shaped, coiled; branches thornless.—This plant loves a lofty exposure, and is favourable to pasturage. The varieties have probably originated from the red and white cultivated plums, either sown by design or accident. The cultivated garden plums are derived from this species. The bark dyes yellow. Its medical effects are to abate heat and gently loosen the belly; which they perform by lubricating the passage, and softening the excrement. They are of considerable service in costiveness, accompanied with heat and irritation, which the more stimulating cathartics would tend to aggravate. Where prunes are not of themselves sufficient, their effects may be promoted by joining with them a little rhubarb or the like; to which may be added some carminative ingredient, to prevent their occasioning flatulencies.

insititia. * P. fruitstalks in pairs; leaves egg-shaped, slightly woolly, coiled; branches with thorns.—The fruit is acid, but so tempered by a sweetness and roughness, as not to be unpleasant, particularly after it is mellowed by the frosts. A conserve is prepared by mixing the pulp with thrice its weight of sugar. The bark of the root and branches is considerably styptic. An infusion of the flowers, sweetened with sugar, is a mild purgative, not improper for children.

spinosa. * P. fruitstalks solitary; leaves spear-shaped, smooth; branches thorny.—This plant is not well adapted to grow in hedges, because it spreads its roots wide, and encroaches upon the pasturage; but it makes a good dead fence. The wood is hard and tough, and is formed into teeth for rakes and walking-sticks. From some effects which have been repeatedly observed to follow the prick of the thorns, there is reason to believe there is something poisonous in them, particularly in autumn. The tender leaves dried are sometimes used as a substitute for tea, and are thought the best substitute that has yet been tried. The fruit bruised and put into wine, gives it a beautiful red colour, and a pleasant subacid roughness. An infusion of a handful of the flowers is a safe and easy purge. The bark powdered, in doses of two drams, will cure some agues. Letters written upon linen or woollen with the juice of the fruit will not wash out. Sheep, goats, and horses eat the leaves. The different species of Prunus furnish nourishment to various insects.

983. Plinia.

Two species; viz. crocea, pendunculata. Surinam, Brazil.

984. Chrysobalanus, or *Cocoa Plum.*

One species; viz. icaco. W. Indies, S. America.

985. Robinsonia.

One species; viz. melianthifolia. Guiana.

986. Sonneratia.

One species; viz. acida. East Indies, China.

Order II. DIGYNIA.

987. Cratægus, or *Wild Service Tree.*

15 species; viz. * avia, * torminalis, coccinea, viridis, punctata, crus galli, tomentosa, indica, * oxyacantha, monogyna, azarolus, maura, villosa, lævis, glabra. Europe, India, N. America.

avia. * C. leaves egg-shaped, cut, serrated, cottony underneath.—It loves dry hills and open exposures, and flourishes either in gravel or clay. It bears lopping, and permits the grass to grow. The wood, being hard, tough, and smooth, is used for axle-trees, wheels, walking sticks, carpenters and other tools. The fruit is eatable when mellowed by the autumnal frosts, and an ardent spirit may be distilled from it. It seldom bears a good crop of fruit two years together. Sheep and

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and goats eat it. The wood affords an excellent charcoal for the makers of gunpowder.

oxyacantha. * C. leaves mostly 3-cleft; segments blunt, serrated.—Upon account of the stiffness of its branches, the sharpness of its thorns, its roots not spreading wide, and its capability of bearing the severest winters without injury, this plant is universally preferred for making hedges, whether to clip or to grow at large. The wood is tough, and is formed into axle-trees and handles for tools. The berries are the winter food of thrushes and many other birds. Its different species afford nourishment to various insects.

988. WALDSTENIA.

One species; viz. geoides. Hungary.

ORDER III. TRIGYNIA.

989. SORBUS, or *Service-tree.*

Three species; viz. * aucuparia, * hybrida, * domestica. Europe.

aucuparia. * S. leaves winged, smooth on both sides.—It grows either in woods or open fields, but best on the sides of hills and in fertile soil. It will not bear lopping. Plants grow well in its shade. The wood is soft, tough, and solid. It is converted into tables, spokes for wheels, shafts, chairs, &c. The roots are formed into handles for knives and wooden spoons. The berries, dried and reduced to powder, make wholesome bread; and an ardent spirit may be distilled from them, which has a fine flavour, but it is small in quantity. The berries too, infused in water, make an acid liquor somewhat like perry, which is drank by the poorer people in Wales. In Germany, the fowlers use the berries to entice the redwings and fieldfares into nooses of hair, suspended in the woods; hence its trivial name.

domestica. * S. leaves winged, woolly underneath.—The fruit is mealy and austere, not much unlike the medlar. The wood is valuable for making mathematical rulers and excisemen's gauging sticks.

990. SESUVIUM.

One species; viz. portulacastrum. W. Indies.

ORDER IV. PENTAGYNIA.

991. MESPILUS, or *Medlar-tree.*

Eight species; viz. pyracantha, * germanica, arbutifolia, amelanchia, chamæ-mespilus, canadensis, japonica, gotoncaster. Europe, N. America.

germanica * M. thornless; leaves spear-shaped, cottony underneath; flowers solitary, sitting.—Many people are fond of the fruit when it becomes soft by keeping; it is somewhat austere, and binds the bowels.

992. PYRUS, or *Pear-tree.*

Nine species; viz. * communis, pollveria, * malus, baccata, coronaria, cydonia, nivalis, salicifolia, japonica.

communis. * P. leaves serrated, smooth; flowers forming a corymbus.—This plant loves a fertile soil and sloping ground; but will not thrive well in moist bottoms. It stands the severest winters, and does not destroy the grass. The wood is light, smooth, and compact; it is used by turners, and to make joiners tools; and for picture frames to be stained black. The leaves afford a yellow dye, and may be used to give a green to blued cloths. The fruit is austere: but when cultivated, highly grateful, as is proved by the great variety of excellent pears, which the industry of mankind has raised, for they all originate from this. The juice of the fruit fermented, is called *perry*, large quantities of which are raised in Worcestershire and Herefordshire for that purpose. The Squash, the Oldfield, and the Barland perrys are reckoned the best, and are little inferior to wine. Horses, cows, sheep, and goats, eat the leaves, which afford nourishment to various insects.

malus. * P. leaves serrated; flowers in umbels, sitting.—This plant flourishes better on declivities and in shady places, than in open exposures or boggy lands. Grass, and even corn, will grow beneath it. It is much used as a stock, on which to ingraft the better kind of apples, because its fruits are neither killed by frost nor eaten by field-mice. The bark affords a yellow dye. The wood is tolerably hard; it turns very clean, and when made into cogs for wheels obtains a polish and wears a long time. The acid juice of the fruit is called by the country people *verjuice*, and is much used in sprains and in other cases, as an astringent or repellent. With a proper addition of sugar, it is probable, that a very grateful liquor might be made with the juice, but little inferior to old hock. Horses, cows, sheep, and goats eat it. Swine are very fond of the fruit.

The fruit of the *pyrus cydonia* have a very austere acid taste; taken in small quantity, they are supposed to restrain vomiting and alvine fluxes, and, more liberally, to loosen the belly. The seeds abound with a mucilaginous substance of no particular taste, which they readily impart to watery liquors; an ounce will render three pints of water thick and ropy, like the white of an egg. A mucilage of the seeds is kept in the shops. A syrup of the fruit had formerly a place, but is now rejected.

993. TETRAGONIA.

Seven species; viz. fruticosa, herbacea, ivæfolia, hirsuta, spicata, expansa, japonica. Cape, Peru, New Zealand.

994. MESEMBRYANTHEMUM, or *Fig-marygold.*

50 species; viz. nodiflorum, crystallinum, copticum, geniculiflorum, noctiflorum, splendens, umbellatum, expansum, tripolium, calamiforme, apetalum, criniflorum, cordifolium, bellidifolium, deltoides, barbatum, hispidum, villosum, scabrum, emarginatum, uncinatum, spinosum, tuberosum, tenuifolium, stipulaceum, crassifolium, glomeratum, loreum, filamentosum, falcatum, forficatum, edule, bicolorum, serratum, micans, glaucum, corniculatum, tortuosum, pomeridianum, veruculatum, papulosum, pinnatifidum, rostratum, ringens, dolabriforme, difforme, albidum, linguæforme, pugioniforme, capillare. Greece, Cape, New Zealand.

995. AIZOON.

Ten species; viz. canariense, hispanicum, lanceolatum, sarmentosum, paniculatum, perfoliatum, glinoides, secundum, fruticosum, rigidum. Spain, Cape, Canary.

996. SPIRÆA, or *Spiked Willow, Dropwort.*

18 species; viz. lævigata, * salicifolia, tomentosa, callosa,

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callosa, hypericifolia, chamædrifolia, incisa, crenata, argentea, triloba, opulifolia, sorbifolia, aruncus, * filipendula, * ulmaria, lobata, palmata, trifoliata. Europe, N. America.

filipendula * S. leaves interruptedly winged; leafets strap-spear-shaped, irregularly serrated, very smooth; flowers in tufts.—The tuberant pea-like roots of this plant, dried and reduced to powder, make a kind of bread, which in times of scarcity is not to be despised. Hogs are very fond of them. When expanded and enlarged by cultivation, it is a beautiful addition to the flower-garden.

ulmaria. * S. leaves interruptedly winged; leafets egg-shaped, double serrated, hoary underneath; flowers in tufts.—The flowers, infused in boiling water, give it a fine flavour, which rises in distillation. Sheep and swine eat it. Goats are extremely fond of it. Cows and horses refuse it.

Order V. POLYGYNIA.

997. Rosa, or *Rose.*

21 species; viz. eglanteria, * rubiginosa, cinnamomea, * arvensis, pimpinellifolia, * spinosissima, rugosa, carolina, * villosa, sinica, sempervivens, centifolia, gallica, pumila, alpina, canina, collina, indica, pendulina, alba, multiflora. Europe, Persia, China, N. America.

spinosissima. * R. germens and fruitstalks smooth; stem and leaf-stalks fully set with straight prickles; leafets circular, smooth.—The ripe fruit is eaten by children; it has a grateful subacid taste. The juice of it, diluted with water, dyes silk and muslin of a peach colour, and, with the addition of alum, a deep violet; but it has very little effect on woollen and linen. Its dwarfish growth, and the singular elegance of its little leaves, which resemble those of the upland burnet, entitle it to a place in the flower-garden.

canina. * R. germens and footstalks smooth; stem and leaf-stalks prickly.—A perfumed water may be distilled from the blossoms. The pulp of the berries, beat up with sugar, makes the conserve of hips of the London dispensatory. Mixed with wine, it is an acceptable treat in the north of Europe. Several birds feed upon the berries. The leaves of every species of rose, but especially of this, are recommended as a substitute for tea, giving out a fine colour, a sub-astringent taste, and a grateful smell, when dried, and infused in boiling water. It is a difficult matter to say, which are species, and which are varieties only, in this genus; some think that there are no certain limits prescribed by nature. Various insects are nourished by the different species; and those mossy prickly excrescences which are frequently found upon the branches of roses, especially upon the last species, are the habitations of the *cynips rosæ*. This excrescence was formerly in repute as a medicine, and was kept in the shops under the name of *bedeguar*. An infusion of the full blown blossoms of all the roses, especially the paler kinds, is purgative; but the petals of the red roses, gathered before they expand, and dried, are astringent.

The *rosa centifolia* is an elegant flower, common in our gardens. Its smell is very pleasant and almost universally admired; its taste bitterish and subacrid. In distillation with water, it yields a small portion of butyraceous oil, whose flavour exactly resembles that of the roses. This oil, and the distilled water, are very useful and agreeable cordials. Hoffman strongly recommends them as of a singular efficacy for raising the strength, cheering and recruiting the spirits and allaying pain; which they perform without raising any heat in the constitution, rather abating it when inordinate. Damask roses, besides their cordial aromatic virtue, which resides in their volatile parts, have a mildly purgative one, which remains entire in the decoction left after the distillation; this with a proper quantity of sugar forms an agreeable laxative syrup, which has long kept its place in the shops.

The *rosa gallica* has very little of the fragrance of the foregoing pale sort, and instead of its purgative quality, a mild gratefully astringent one, especially before the flower has opened: this is considerably improved by hasty exsiccation; but both the astringency and colour are improved by slow drying. In the shops there are prepared a conserve, an infusion, a honey, and a syrup of this flower.

998. Rubus, or *Raspberry.*

20 species; viz. * idæus, occidentalis, hispidus, parvifolius, jamaicensis, triphyllus * cæsus, * fruticosus, canadensis, odoratus, moluccanus, palmatus, villosus, incisus, japonicus, trifidus, * saxatilis, * arcticus, * chamæmorus, dalibarda. North Europe, Asia, America.

* R. leaves winged with five or three leafets, stem prickly; leaf-stalk channelled.—The fruit of this plant is extremely grateful as nature presents it, but made into a sweetmeat with sugar, or fermented with wine, the flavour is improved. It is fragrant, subacid, and cooling. It dissolves the tartarous concretions of the teeth; but for this purpose it is inferior to the strawberry. The white berries are sweeter than the red, but they are generally contaminated by insects. The fresh leaves are the favourite food of kids. *idæus.*

* R. leaves winged with three or five leafets; stem and leaf-stalks prickly; panicle oblong.—The berries when ripe are black, and do not eat amiss with wine. The green twigs are of great use in dyeing woollen, silk, and mohair black. Cows and horses eat it. Sheep are not fond of it. Silk worms will sometimes feed upon the leaves in defect of those of the mulberry. *fruticosus.*

* R. leaves simple, lobed; stem without prickles, with one flower; male and female flowers on different plants.—The berries are not unpleasant, and held to be an excellent antiscorbutic. The Norwegians pack them up in wooden vessels and send them to Stockholm, where they are served up in desserts or made into tarts. The Laplanders bury them under the snow, and thus preserve them fresh from one year to another. They bruise and eat them with the milk of the rein deer. In the Highlands of Scotland also they are sometimes brought to table with the dessert. *chamæmorus.*

999. Fragaria, or *Strawberry.*

Three species; viz. * vesca, monophylla, * sterilis. North of Europe, America.

* F. leaves three together; runners creeping.—The berries eaten either alone or with sugar, or with milk, are universally esteemed a most delicious fruit. They are grateful, cooling, subacid, juicy, and have a delightful smell. Taken in large quantities, they seldom disagree *vesca.*

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disagree with the stomach. They promote perspiration, impart a violet scent to the urine, and dissolve the tartarous incrustations upon the teeth. People afflicted with the gout or stone, have found great relief from using them largely. The bark of the root is astringent. Sheep and goats eat it. Cows are not fond of it. Horses and swine refuse it.

1000. POTENTILLA, or *Cinquefoil.*

31 species; viz. * fruticosa, * anserina, seracea, multifida, fragarioides, * rupestris, bifurca, pimpinelloides, pensylvanica, supina, recta, argentea, intermedia, hirta, stipularis, opaca, * verna, * aurea, astracanica, canadensis, * alba, caulescens, elusiana, nitida, valderia, * reptans, monspeliensis, norvegica, nivea, grandiflora, subacaulis. Europe, North America.

fruticosa. * P. leaves winged, stem-shrub-like.—The beautiful appearance of its numerous flowers has gained it admittance into gardens. Besoms are made of it. Cows, horses, goats, and sheep eat it. Swine refuse it.

anserina. * P. leaves winged, serrated; stem creeping; fruit-stalks with one flower.—The leaves are mildly astringent. Dried and powdered they have been given with success in agues. The usual dose is a meal spoonful of the powder every three hours between the fits. The roots in the winter time eat like parsnips. Swine are fond of them. Cows, horses, goats, and swine eat it. Sheep refuse it.

reptans. * P. leafets five together, stem creeping; fruit-stalks one-flowered.—The red cortical part of the root is mildly astringent and antiseptic. A decoction of it is a good gargle for loose teeth and spongy gums. Horses, cows, goats, and sheep, eat it.

1001. TORMENTILLA, or *Tormentil.*

Two species; viz. erecta, * reptans. Europe.—The tormentil is found wild in woods and on commons; it has long slender stalks, with usually seven long narrow leaves at a joint; the root is for the most part crooked and knotty, of a blackish colour in the outside, and reddish within. This root has an austere styptic taste, accompanied with a slight kind of aromatic flavour; it is one of the most agreeable and efficacious of the vegetable astringents, and is employed with good effect in all cases where medicines of this class are proper. It is more used both in extemporaneous prescription, and officinal composition, than any of the other strong vegetable astringents. It is an ingredient in the two compound powders of chalk. A tincture made from it with rectified spirit, possesses the whole astringency and flavour of the root, and loses nothing of either in inspissating.

1002. GEUM, or *Avens, Herb-bennet.*

Eight species; viz. virginianum, * urbanum, canadense, japonica, * rivale, hybridum, montanum, reptans. Europe, North America.

* G. flowers upright; fruit globular, woolly; awns hooked, bare; root-leaves lyre-shaped; stem-leaves in threes.—The roots gathered in the spring before the stem grows up, and put into ale, give it a pleasant flavour, and prevent its growing sour. Infused in wine it is a good stomachic. Its taste is mildly austere and aromatic, especially when it grows in a warm dry situation; but in shady and moist places it has little virtue. Cows, goats, sheep, and swine, eat it. *urbanum.*

* G. flowers nodding, fruit oblong; awns feathered, twisted; petals blunt, round, wedge-shaped; leaves winged.—The powdered root will cure tertian agues, and is daily used for that purpose by the Canadians. Sheep and goats eat it. Cows, horses, and swine are not fond of it. It is made use of to cure ropy malt liquor. *rivale.*

1003. DRYAS.

Three species; viz. anemonoides, geoides, * octopetala. Alps of Europe, Kamtschatka.

1004. COMARUM, or *Marsh-cinquefoil.*

One species; viz. * palustre. Europe.

* C. leaves winged, petals smaller than the calyx. The root dyes a dirty red. The Irish rub their milking pails with it, and it makes the milk appear thicker and richer. Goats eat it. Cows and sheep are not fond of it. Horses and swine refuse it. *palustre.*

1005. CALYCANTHUS, or *Carolina All-spice.*

Two species; viz. floridus, præcox. Carolina, Florida, Japan.

In the class Icosandria are

39 Genera, including 346 Species, of which 42 are found in Britain.

CLASSIS XIII.

POLYANDRIA (c).

ORDO I. MONOGYNIA.

Sect. I. *Monopetali.*

1004. SWARTZIA. Cal. 4-partitus. Petalum planum laterale. Legumen.

CLASS XIII.

POLYANDRIA.

ORDER I. MONOGYNIA.

Sect. I. *One-petaled.*

8. Cal. 4-partite. A flat lateral petal. Leguminous.

1006.

(c) The flowers of this class have, as its title implies, many stamens, that is from 20 to 1000 or more; so that it is unnecessary to attempt to count them farther, than to be satisfied that they amount to 20 or upwards. The stamens

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1006. MARGGRAVIA. Cal. 6-phyllus, imbricatus. Cor. 1-petala, clausa. Bacca multilocularis.

1007. TERNSTROEMIA. Cal. 5-partitus. Cor. rotata, limbo campanulato, 5-partito. Bacca exsucca, bilocularis.

M. Cal. 6-leaved, tiled. Cor. 1-petaled, closed. Berry many-celled.

T. Cal. 5-partite. Cor. wheel-shaped, with a bell-shaped border, 5-partite. Dry, 2-celled berry.

Sect. II. *Tripetali.*

Sect. II. *Three-petaled.*

1008. TRILIX. Cal. 3-phyllus. Bacca 5-locularis, polysperma.

T. Cal. 3-leaved. Berry 5-celled, many-seeded.

† *Sterbeckia latiflora. Tetraceræ nonnullæ.*

Sect. III. *Tetrapetali.*

Sect. III. *Four-petaled.*

1023. MAMMEA. Cal. 2-phyllus. Bacca 1-locularis. Sem. callosa.

M. Cal. 2-leaved. Berry 1-celled. Seeds callous.

* 1015. PAPAVER. Cal. 2-phyllus. Caps. 1-locul. coronata.

* P. Cal. 2-leaved. Caps. 1-celled, crowned.

* 1014. CHELIDONIUM. Cal. 2-phyllus. Siliqua.

* C. Cal. 2-leaved. A long pod.

1022. SPARRMANIA. Cal. 4-phyllus. Caps. pentagona quinque-locularis, loculis dispermis.

S. Cal. 4-leaved. Caps. a 5-celled pentagon, 2 seeds in each cell.

1010. CAPPARIS. Cal. 4-phyllus. Bacca pedicellata, corticosa.

C. Cal. 4-leaved. Berry pedicled, i. e. with a foot-stalk, bark-like.

* 1011. ACTÆA. Cal. 4-phyllus. Bacca 1-locularis. Sem. gemino ordine.

* A. Cal. 4-leaved. Berry 1-celled. Seeds in a double row.

1026. CALOPHYLLUM. Cal. 4-phyllus. Drupa globosa. Nucleus subglobosus.

C. Cal. 4-leaved. Globular drupe. Kernel nearly globular.

1025. GRIAS. Cal. 4-fidus. Drupa 1-sperma. Nucleus 8-sulcatus.

G. Cal. 4-cleft. Drupe 1-seeded. Kernel 8-furrowed.

Vallea stepularis. Legnotis elliptica. Cleome cheledonia, felina. Tetracera nitida.

Sect. IV. *Pentapetali.*

Sect. IV. *Five-petaled.*

1044. STERBECKIA. Caps. cylindracea corticosa. Semina imbricata in pulpa nidulantia.

S. Caps. cylindrical, bark-like. Seeds tiled, dispersed in the pulp.

1043. LOASA. Caps. semi-infera, 1-locularis, semitrivalvis, polysperma.

L. Caps. half-inferior, 1-celled, half 3-valved, many-seeded.

1042. MENTZELIA. Caps. infera, 1-locularis, 3-valvis, polysperma.

M. Caps. inferior, 1-celled, 3-valved, many-seeded.

1050. BONNETIA. Caps. supera, 3-locularis, 3 valvis, polysperma. Cal. 5-partitus.

B. Caps. superior, 3-celled, 3-valved, many-seeded. Cal. 5-parted.

1049. VALLEA. Caps. supera, 4 s. 5-angularis, unilocularis, polysperma.

V. Caps. superior, 4 or 5-angular, 1-celled, many-seeded.

1036. LEGNOTIS. Caps. supera, 3-locularis, 3-valvis. Sem. solitaria. Cal. 5-fidus.

L. Caps. superior, 3-celled, 3-valved. Seeds solitary. Cal. 5-cleft.

1046. FREZIERA. Bacca exsucca, 3-locularis. Cal. 5-phyllus.

F. Berry dry, 3-celled. Cal. 5-leaved.

1034. MARILA. Caps. 4-locularis, 4-valvis, polysperma. Cal. 5-phyllus.

M. Caps. 4-celled, 4-valved, many-seeded. Cal. 5-leaved.

* 1048. CISTUS. Caps. subrotunda. Cal. 5-phyllus, foliola, 2 minora.

* C. Caps. nearly round. Cal. 5-leaved, 2 leafets small.

1038. LEMNISCIA. Pericarp. 5-loculare. Cal. 5-dentat. Nectarium cyathiforme.

L. Pericarp. 5-celled. Cal. 5-toothed. Nectary glass-shaped.

1052. CORCHORUS. Caps. sub-5-locularis. Cal. 5-phyllus, longitudine corollæ, deciduus.

C. Pericarp. 5-celled. Cal. 5-leaved, of the length of the corolla, deciduous.

1018. SARRACENIA. Caps. 5-locularis. Stigma clypeatum. Cal. exter, 3-phyllus, super. 5-phyllus.

S. Caps. 5-celled. Stigma shield-like. Cal. exterior, 3-leaved, superior 5-leaved.

1028.

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stamens stand upon the receptacle. If the exact situation of the stamens may be readily perceived by carefully and slowly pulling off the petals and segments of the calyx, if the stamens remain in their place they may then be considered as growing upon the receptacle. Very many plants of this class are poisonous.

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* 1028. TILIA. Caps. 5-locul. coriacea, 1-sperma. Cal. deciduus.

1022. AUBLETIA. Caps. echinata, 10-locularis, polysperma. Cal. coloratus.

1024. OCHNA. Baccæ 5, in receptaculo carnoso. Petala unguibus elongatis.

1039. ASCIUM. Bacca unilocularis, polysperma. Cal. 5-phyllus.

1031. GREWIA. Drupa 4-loba, 4-locularis. Cal. 5-phyllus.

1017. MUNTINGIA. Bacca 5-locularis, umbilicata. Cal. partitus.

1035. ELÆOCARPUS. Drupa nuce crispa. Petala lacera.

1033. MICROCOS. Drupa nuce triloculari. Petala linearia.

† *Delphinium consolida. Ajacis. Aconiti. Lætia completa.*

* T. Caps. 3-celled, leather-like, 1-seeded. Cal. deciduous.

A. Caps. prickly, 10-celled, many-seeded. Cal. coloured.

O. Berries 5, in a fleshy receptacle. Petals with long claws.

A. Berry 1-celled, many-seeded. Cal. 5-leaved.

G. Drupe 4-lobed, 4-celled. Caps. 5-leaved.

M. Berry 5-celled, dimpled. Cal. parted.

E. Drupe with a curled nut. Petals ragged.

M. Drupe with a 3-celled nut. Petals strap-shaped.

Sect. V. *Hexapetali.*

1016. ARGEMONE. Cal. 3-phyllus. Caps. 1-locularis, semivalvis.

1045. LAGERSTROEMIA. Cal. 6-fidus. Stam. 6, exteriora majora. Caps. 6-locul. polysperma.

1041. ALANGIUM. Cal. 6-10-dentatus, superus. Petala 6 s. 10. Bacca corticosa, 2-3-sperma.

1047. THEA. Cal. 5 s. 6-phyllus. Petala 6 s. 9. Caps. 3-locularis. Sem. solitaria.

1040. LECYTHOS. Cal. 6-phyllus. Stam. nectario lingulato connata. Caps. circumscissa.

† *Ternstræmia meridionalis.*

Sect. V. *Six-petaled.*

A. Cal. 3-leaved. Caps. 1-celled, half-valved.

L. Cal. 6-cleft. Outer stamens greater. Caps. 6-celled, many-seeded.

A. Cal. 6 to 10-toothed, superior. Petals 6 or 10. Berry barklike, 2-3-seeded.

T. Cal. 5 or 6-leaved. Petals 6 or 9. Caps. 3-celled. Seeds solitary.

L. Cal. 6-leaved. Stamens united at the base to a tongue-shaped nectary. Caps. cut round.

Sect. VI. *Octopetali.*

1012. SANGUINARIA. Cal. 2-phyllus. Caps. 2-valvis, polysperma.

Sect. VI. *Eight-petaled.*

S. Cal. 2-leaved. Caps. 2-valved, many-seeded.

Sect. VII. *Enneapetali.*

1013. PODOPHYLLUM. Cal. 2-phyllus. Caps. 2-valvis, polysperma.

Sect. VII. *Nine-petaled.*

P. Cal. 2-leaved. Caps. 2-valved, many-seeded.

Sect. VIII. *Decapetali.*

1020. BIXA. Cal. 5-dentatus. Cor. 5-petala, duplex. Caps. 2-valvis.

Alangium decapetalum.

Sect. VIII. *Ten-petaled.*

B. Cal. 5-toothed. Cor. 5-petaled, double. Caps. 2-valved.

Sect. IX. *Polypetali.*

* 1019. NYMPHEA. Bacca multilocul. corticosa. Cal. magnus.

Sect. IX. *Many-petaled.*

* N. Berry many-celled, barklike. Cal. large.

Sect. X. *Apetali.*

1051. PROCKIA. Cal. 3-phyllus. Pericarp. 5-loculare.

1032. MÆRUA. Cal 4-fidus, tubo nectarifero. Pericarp. pedicellatum.

1009. LUDIA. Cal. 4 s. 9-partitus. Pericarp. uniloculare, polyspermum.

1021. SLOANEA. Cal. 5-9-fidus. Peric. echinatum, 3-6-loculare, 3-6-valve. Semina arillata.

Sect. X. *No petals.*

P. Cal. 3-leaved. Pericarp 3-celled.

M. cal. 4-cleft, with a honey-bearing tube. Peric. pedicled.

L. Cal. 4 or 9-parted. Seed-vessel 1-celled, many-seeded.

S. Cal. 5-9-cleft. Seed-vessel prickly, 3-6-celled, 3-6-valved. Seeds coated.

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1030. RYANIA. Cal. 5-phyllus. Pericarp. uniloculare, polyspermum. Semina arillata.
1029. LÆTIA. Cal. 5-phyllus. Peric. 1-loculare, 3-valve, polyspermum.
1053. SEGUIERIA. Cal. 5-phyllus. Peric. 1-spermum, alatum.

Cratæva marmelos, tetracera sarmentosa.

R. Cal. 5-leaved. Seed-vessel 1-celled, many-seeded; seeds coated.
L. Cal. 5-leaved. Seed-vessel 1-celled, 3-valved, many-seeded.
S. Cal. 5-leaved. Seed-vessel 1-seeded, winged.

ORDO II. DIGYNIA.

ORDER II. DIGYNIA.

1057. FOTHERGILLA. Cal. integerrimus. Cor. nulla. Caps. 2-locularis. Sem. bina.
1056. CURATELLA. Cal. 5-phyllus. Cor. 4-petala. Caps. 2-partita, 2-sperma.
1055. PÆONIA. Cal. 5-phyllus. Cor. 5-petala. Caps. polysperma. Sem. colorata.
1058. TRICHOCARPUS. Cal. 4 s. 5-partitus. Cor. o. Caps. setosa, polysperma.
1059. LACIS. Cal. o. Cor. o. Caps. 2-valvis, polysperma.

F. Cal. entire. No cor. Caps. 2-celled. Seeds 2.

C. Cal. 5-leaved. Cor. 4-petaled. Caps. 2-parted, 2-seeded.
P. Cal. 5-leaved. Cor. 5-petaled. Caps. many-seeded. Seeds coloured.
T. Cal. 4 or 5-parted. No cor. Caps. bristly, many-seeded.
L. No cal. No cor. Caps. 2-valved, many-seeded.

Tetracera lævis.

ORDO III. TRIGYNIA.

ORDER III. TRIGYNIA.

* 1061. DELPHINIUM. Cal. nullus. Cor 5-petala, supremo petalo cornuto. Nectar. 2-fidum, sessile.
1062. ACONITUM. Cal. nullus. Cor. 5-petala, supremo galeato. Nectar. 2-pedicellata.
1060. HOMALIUM. Cal. 6-7-partitus. Cor. 6-7-petala. Stamina per tria aggregata.

* D. No cal. Cor. 5-petaled, the last petal horn-shaped. Nectary 2-cleft, sitting.
A. No cal. Cor. 5-petaled, the last helmet-shaped. Nectar. 2-pedicled.
H. Cal. 6-7-partite. Cor. 6-7-petaled. Stamens incorporated by threes.

Reseda luteola. Corchorus æstuans.

ORDO IV. TETRAGYNIA.

ORDER IV. TETRAGYNIA.

1063. WINTERA. Cal. integer. Cor. 6-petala. Baccæ 4, 4-spermæ.
1067. CIMICIFUGA. Cal. 4-phyllus. Cor. nectariis 4, urceolatis. Caps. 4. Sem. squamosa.
1066. WAHLBOMIA. Cal. 4-phyllus. Cor. 4-petala. Peric. 4-rostrata.
1064. TETRACERA. Cal. 6-phyllus. Caps. 4, monospermæ. Stamina dilatata utrinque antherifera.
1065. CARYOCAR. Cal. 5-partitus. Cor. 5-petala, Drupa nucibus 4.

W. Cal. entire. Cor. 6-petaled. Berries 4, 4-seeded.
C. Cal. 4-leaved. Cor. with 4 pitcher-shaped nectaries. Caps. 4. Seeds scaly.
W. Cal. 4-leaved. Cor. 4-petaled. Seed-vessels 4-beaked.
T. Cal. 6-leaved. Caps. 4, 1-seeded. Stamens dilated on both sides bearing the anthers.
C. Cal. 5-parted. Cor. 5-petaled. Drupe with 4 nuts.

ORDO V. PENTAGYNIA.

ORDER V. PENTAGYNIA.

* 1068. AQUILEGIA. Cal. nullus. Cor. 5-petala. Nectaria 5, infernè cornuta.
1069. NIGELLA. Cal. nullus. Cor. 5-petala. Nectar. 8, supernè 2-labiata.
1070. REAUMURIA. Cal. 5-phyllus. Cor. 5-petala, nectariis 10, adnatis, ciliatis. Caps. 5-locularis, polysperma.

* A. No cal. Cor. 5-petaled. Nectaries 4, horned beneath.
N. No cal. Cor. 5-petaled. Nectaries 8, two-lipped above.
R. Cal. 5-leaved. Cor. 5-petaled, with 10 nectaries connected, fringed. Caps. 5-celled, many-seeded.

Aconita et Delphinia nonnulla.

ORDO VI. POLYGYNIA.

ORDER VI. POLYGYNIA.

1091. HYDRASTIS. Cal. nullus. Cor. 3-petala. Bacca composita acinis 1-spermis.

H. No cal. Cor. 3-petaled. Berry compound, with 1-seeded granulations.

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1082. ATRAGENE. Cal. nullus. Cor. 4-petala, major; interior polypetala. Sem. plurima, cristata.

* 1083. CLEMATIS. Cal. nullus. Cor. 4-petala. Sem. plurima aristata.

* 1084. THALICTRUM. Cal. nullus. Cor. 4-5-petala. Sem. plurima, submutica, nuda.

1088. ISOPYRUM. Cal. nullus. Cor. 5-petala, decidua. Nectaria 5. Caps. polyspermæ.

* 1089. HELLEBORUS. Cal. nullus. Cor. 5-petala, persistens. Nectaria plura. Caps. polyspermæ.

* 1090. CALTHA. Cal. nullus. Cor. 5-petala. Caps. plurimæ. Nectaria nulla.

* 1081. ANEMONE. Cal. nullus. Cor. 6-petala. Sem. plurima.

1076. MICHELIA. Cal. truncatus. Cor. 8-petala. Baccæ 4-spermæ, glomeratæ.

* 1087. TROLLIUS. Cal. nullus. Cor. 14-petala. Nectaria linearia. Caps. polyspermæ.

1079. XYLOPIA. Cal. 3-phyllus. Cor. 6-petala. Caps. 1 s. 2-spermæ, in receptaculo hæmispherico.

1080. UNONA. Cal. 3-phyllus. Cor. 6-petala. Baccæ moniliformes, 2-spermæ, in receptaculo hæmispherico.

1077. UVARIA. Cal. 3-phyllus. Cor. 6-petala. Baccæ polyspermæ, recept. longo affixæ.

1078. ANNONA. Cal. 3-phyllus. Cor. 6-petala. Bacca cortice imbricato polysperma.

1073. LIRIODENDRUM. Cal. 3-phyllus. Cor. 6-petala. Samaræ plurimæ, lanceolatæ, imbricatæ.

1074. MAGNOLIA. Cal. 3-phyllus. Cor. 9-petala. Caps. glomeratæ, 2-valves. Sem. pendula.

1075. NELUMBIUM. Cal. 4-5-phyllus. Cor. polypetala. Nuces monospermæ, receptaculo immersæ.

1071. DILLENIA. Cal. 5-phyllus. Cor. 5-petala. Sem. plurima. Petala ungue nectarifero.

1086. RANUNCULUS. Cal. 5-phyllus. Cor. 5-petala. Sem. plurima, petala ungue nectarifero.

1072. ILLICIUM. Cal. 6 phyllus. Pet. 27. Caps. 1-sperma, in orbem.

* 1085. ADONIS. Cal. 5-phyllus. Cor. 5 s. 10-petala. Sem. plurima, angulata, corticata.

Nigellæ nonnullæ.

A. No cal. Cor. 4-petaled, large; within, many-petaled. Seeds many, crested.

* C. No cal. Cor. 4-petaled. Seeds many, awned.

* T. No cal. Cor. 4-5-petaled. Seeds many, nearly awnless, naked.

I. No cal. Cor. 5-petaled, deciduous. Nectaries 5. Caps. many-seeded.

* H. No cal. Cor. 5-petaled, permanent. Nectaries several. Caps. many-seeded.

* C. No cal. Cor. 5-petaled. Caps. many. Nectaries none.

* A. No cal. Cor. 6-petaled. Seeds many.

M. Cal. truncated. Cor. 8-petaled. Berries 4-seeded, congregated.

* T. No cal. Cor. 14 petals. Nect. strap-shaped. Caps. many-seeded.

X. Cal. 3-leaved. Cor. 5-petaled. Caps. one or 2-seeded, in a hemispherical receptacle.

U. Cal. 3-leaved. Cor. 6-petaled. Berries bracelet-shaped, 2-seeded, in a hemispherical receptacle.

U. Cal. 3-leaved. Cor. 6-petaled. Berries many-seeded, affixed to a long receptacle.

A. Cal. 3-leaved. Cor. 6-petaled. Berry many-seeded, with a tiled bark.

L. Cal. 3-leaved. Cor. 6-petaled. Seed-vessels many, spear-shaped, tiled.

M. Cal. 3 leaved. Cor. 9-petaled. Caps. congregated, 2-valved. Seeds pendulous.

N. Cal. 4-5-leaved. Cor. many-petaled. Nuts one-seeded, immersed in the receptacle.

D. Cal. 5-leaved. Cor. 5-petaled. Seeds many. Petals with a honey-bearing claw.

* R. Cal. 5-leaved. Cor. 5-petaled. Seeds many. Petals with a honey-bearing claw.

I. Cal. 6-leaved. Petals 27. Caps. 1-seeded, in a circle.

* A. Cal. 5-leaved. Cor. 5 or 10-petaled. Seeds many, angled, bark-like.

ORDER I. MONOGYNIA.

1006. MARCGRAVIA.

Two species; viz. umbellata, coriacea. West Indies.

1007. TERNSTROEMIA.

Five species; viz. meridionalis, elliptica, punctata, japonica, dentata. Jap. W. Ind. Guiana.

1008. TRILIX.

One species; viz. lutea. Carthagena.

1009. LUDIA.

Three species; viz. heterophylla, myrtifolia, sessiliflora. Isle of Mauritius.

1010. CAPPARIS, or *Caper-bush.*

30 species; viz. spinosa, ovata, ægyptia, tomentosa, acuminata, zeylanica, horrida, erythrocarpos, sepiara, citrifolia, corymbosa, mariana, panduriformis, baddtucca, torulosa, longifolia, frondosa, ferruginea, grandis, jamaicensis, odoratissima, verrucosa, amplissima, cynophallophora, saligna, pulcherrima, tenuisiliqua, linearis, breynia, hastata. S. Europe, East and West Indies, South America.—The bush of the *capparis spinosa* is a low prickly bush, found wild in Italy and other countries; it is raised with us by sowing the seeds upon old walls, where they take root between the bricks, and endure for many years. The bark of the root is pretty thick, of an ash-colour, with several transverse wrinkles on the surface; cut in slices and laid to dry, it rolls up into quills. This bark has a bitterish acrid taste; it is reckoned aperient and diuretic, and recommended in several chronic disorders for opening obstructions of the viscera. The buds pickled with vinegar, &c. are used at table. They are supposed to

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excite appetite and promote digestion; and to be particularly useful, as detergents and aperients, in obstructions of the liver and spleen. Their taste and virtues depend more upon the saline matter introduced into them, than on the caper buds.

1011. ACTÆA, or *Herb-christopher*.

Three species; viz. * spicata, racemosa, japonica. Europe, N. Amer. Japan.

spicata. * A. bunch egg-shaped; fruit berry-like.—The plant is a powerful repellent. The root is useful in some nervous cases, but it must be administered with caution. The berries are poisonous in a very high degree. It is said that toads, allured by the fœtid smell of this plant, resort to it; but it grows in shady places, and toads are fond of damp and shady situations. Sheep and goats eat it. Cows, horses and swine refuse it.

1012. SANGUINARIA, or *Puncoon, Blood-root*.

One species; viz. canadensis. N. Amer.

1013. PODOPHYLLUM, or *Duck's-foot*, or *May-apple*.

Two species; viz. peltatum, diphyllum. North America.

1014. CHELIDONIUM, or *Celandine*.

Five species; viz. * majus, japonicum, * glaucium, * corniculatum, * hybridum. Eur. Egypt. Jap.

majus. * C. fruitstalks forming umbels.—This plant grows upon old walls, among rubbish, and in waste shady places. The bark is of a bluish green colour; the root of a deep red; both contain a gold-coloured juice. Their smell is disagreeable, the taste somewhat bitterish, very acrid, biting and burning the mouth; the root is the most acrid. The juice of celandine has long been celebrated in disorders of the eyes; but it is too sharp, unless plentifully diluted, to be applied with safety to that tender organ. It has been sometimes used, and it is said with good success, for extirpating warts, cleansing old ulcers, and in cataplasms for the *herpes miliaris*. This acrimonious plant is rarely given internally. The virtues attributed to it are those of a stimulating aperient, diuretic, and sudorific: it is particularly recommended in the slow kind of jaundice, where there are no symptoms of inflammation, and in dropsies. Some suppose the root to have been Helmont's specific in the *hydrops ascites*. Half a dram or a dram of the dry root is directed for a dose; or an infusion in wine of an ounce of the fresh root.

1015. PAPAVER, or *Poppy*.

Nine species; viz. * hybridum, * argemone, alpinum, nudicaule, rhœas, dubium, somniferum, * cambricum, orientale. Europe.

rhœas. * P. capsules smooth, urn-shaped; stem hairy, many-flowered; leaves wing-cleft, jagged.—The petals give out a fine colour when infused, and a syrup prepared from the infusion is kept in the shops. It partakes in a small degree of the properties of opium.

somniferum. * P. calyx and capsules smooth; leaves embracing the stem, jagged.—Opium is the juice of this plant. This juice has of late been collected by way of experiment, by certain individuals, from poppies cultivated in Great Britain, and has been found not inferior in quality to that brought from the warmer climates. It is obtained by making wounds with a small sharp instrument in the smooth capsule of the plant when nearly ripe, and thereafter collecting the juice that exudes from the wounds. It is probable, however, that the high price of labour will scarcely permit the rearing of British opium to become an important object of agriculture. Egypt, Persia, and Hindostan, have hitherto supplied us with this commodity: in those countries large quantities of poppies are cultivated for this purpose. The opium prepared about Thebes in Egypt, hence named *Thebaic opium*, has been usually esteemed the best; but this is not now distinguished from that collected in other places. This juice is brought to us in cakes or loaves covered with leaves and other vegetable matters, to prevent their sticking together: it is of a solid consistence, yet somewhat soft and tenacious, of a dark reddish-brown colour in the mass, and when reduced into powder yellow; of a faint disagreeable smell, and a bitterish taste, accompanied with a pungent heat and acrimony.

In the province of Bahar in the East Indies, it is said, the poppy seeds are sown in October or November, at about eight inches distance; and are well watered till the plants are about half a foot high, when a compost of nitrous earth, dung, and ashes, is spread over the areas; and a little before the flowers appear they are again watered profusely till the capsules are half grown: and then the opium is collected; for, when fully ripe, they yield little juice. Two longitudinal incisions, from below upwards, without penetrating the cavity, are made at sunset for three or four successive evenings; and then they are allowed to ripen their seeds. In the morning the juice is scraped off with an iron scoop, and worked in an earthen pot, in the sun's heat, till it be of a consistence to be formed into thick cakes of about four pounds weight, which are covered over with the leaves of poppy or tobacco, and dried. It is said to be adulterated with various unknown substances, with the extract of the poppy plant procured by boiling, and even with cow-dung. It is purified by reducing it to a pulp with hot water, and strongly pressing it while hot through a linen cloth from its impurities. It is then evaporated by a water-bath, or other gentle heat, to its original consistence. This extract is found to contain a resin, a kind of essential oil, a principle of odour, an essential salt, and a soapy extract.

Opium has a reddish brown colour, a strong peculiar smell, a taste at first nauseous and bitter, but soon becoming acrid, with a slight warmth: and it appears to have some astringency, as a watery tincture of it forms an ink with a chalybeate solution.

The external and internal effects of opium appear to be various in different constitutions, and in the same at different times. By some, when applied to the tongue, the nose, the eye, or any part deprived of skin, it has been said to stimulate, and to induce, in the eye in particular, a slight degree of redness. But if this effect do take place, it is at the utmost extremely inconsiderable, particularly when compared with the effect of volatile alkali, ardent spirit, or a variety of other articles applied to the same organ. And there can be no doubt, that in a very short time the sensibility of the part to which it is applied, even when there has not taken place the slightest mark of preceding stimulus or inflammation, is very considerably diminished. Some allege, that when applied to the skin, it allays pain and

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and spasm, procures sleep, and produces all the other salutary or dangerous effects which result from its internal use; while others allege, that thus applied, it has little or no effect whatever. This variety probably arises from differences in the condition of the subcutaneous nerves, and of the sensibility of the surface, as being more or less defended. But there is no doubt that when mixed with caustic, it diminishes the pain, which would otherwise ensue, probably by deadening the sensibility of the part. It sometimes allays the pain from a carious tooth; and a watery solution of it has been used in various ulcers, certain ophthalmias, and virulent gonorrhœa, when pain and inflammation have before that given very great distress.

Opium, when taken into the stomach to such an extent as to have any sensible effect, gives rise to a pleasant serenity of mind, in general proceeding to a certain degree of languor and drowsiness. The action of the sanguiferous system is diminished, the pulse becoming for the most part softer, fuller, and slower than it was before. There often take place swelling of the subcutaneous veins, and sweating; both probably the consequences of a diminution of resistance at the surface, from a diminution of muscular action, as is particularly exemplified in its effect of binding the belly. Opium taken into the stomach in a large dose, gives rise to confusion of head and vertigo. The power of all stimulating causes, as making impressions on the body, is diminished; and even at times, and in situations, when a person would naturally be awake, sleep is irresistibly induced. In still larger doses, it acts in the same manner as the narcotic poison, giving rise, not only to vertigo, headach, tremours, and delirium, but to convulsions also; and these terminating in a state of stupor, from which the person cannot be roused. This stupor is accompanied with slowness of the pulse, and with stertor in breathing; and the scene is terminated in death, attended with the same appearances as take place in apoplexy.

From these effects of opium, in a state of health, it is not wonderful that recourse should have been had to it in disease, as mitigating pain, inducing sleep, allaying inordinate action, and diminishing morbid sensibility. That these effects do result from it is confirmed by the daily experience of every observer; and as answering one or other of these intentions, most, if not all, of the good consequences derived from it in actual practice are to be explained. If, therefore, by a sedative medicine, we mean an article capable of allaying, assuaging, mitigating, and composing, no substance can have a better title to the appellation of sedative than opium.

As answering the purposes of mitigating pain, inducing sleep, allaying inordinate action, and diminishing sensibility, it naturally follows, that opium may be employed with advantage in a great variety of different diseases. Indeed there is hardly any affection in which it may not, from circumstances, be proper; and in all desperate cases, it is the most powerful means of alleviating the miseries of patients.

Some practitioners are averse to its use where there takes place an active inflammation; but others have recourse to it in such cases, even at an early period, especially after blood-letting; and where such affections are attended, not only with pain and spasm, but with watchfulness and cough, it is often productive of the greatest benefit. Opium, combined with calomel, has of late been extensively employed in every form of active inflammation, and with the greatest success. It is found also to be of very great service in allaying the pain and preventing the symptomatic fever liable to be induced by wounds, fractures, burns, or similar accidents.

In intermittents, it is said to have been used with good effect before the fit, in the cold stage, in the hot stage, and during the interval. Given even in the hot stage, it has been observed to allay the heat, thirst, headach and delirium; to induce sweat and sleep; to cure the disease with the less bark, and without leaving abdominal obstructions or dropsy.

It is often of very great service in fevers of the typhoid type, when patients are distressed with watchfulness or diarrhœa. But where these or similar circumstances do not indicate its use, it is often distressing to patients, by augmenting thirst and constipation.

In smallpox, when the convulsions before eruption are frequent and considerable, opium is liberally used. It is likewise given from the fifth day onwards; and is found to allay the pain of suppuration, to promote the ptyalism, and to be otherwise useful.

In dysentery, after the use of gentle laxatives, or along with them, opium, independently of any effect it may have on the fever, is of consequence in allaying the tormina and tenesmus, and in obviating that laxity of bowels which is so frequently a relick of that disease.

In diarrhœa, the disease itself generally carries off any acrimony that may be a cause, and then opium is used with great effect. Even in the worst symptomatic cases it seldom fails to alleviate.

In cholera and pyrosis it is almost the only thing trusted to. In cholic it is employed with laxatives; and no doubt often prevents ileus and inflammation, by relieving the spasm. Even in ileus, and in incarcerated hernia, it is often found to allay the vomiting, the spasms, the pain, and sometimes to diminish the inflammation, and prevent the gangrene of the strangulated gut. It is given to allay the pain, and favour the descent of calculi, and to relieve in jaundice and dysuria proceeding from spasm.

It is of acknowledged use in the different species of tetanus, affords relief to the various spasmodic symptoms of dyspepsia, hysteria, hypochondriasis, asthma, rabies canina, &c. and has been found useful in some kinds of epilepsy.

Of late, in doses gradually increased to five grains, three, four, or even six times a-day, it has been used in syphilis; and some instances are recorded in which it would seem, that by this remedy alone a complete cure had been obtained: In other instances, however, after the fairest trial for a considerable length of time, it has been found ineffectual; and upon the whole, it seems rather to be useful in combating symptoms, and in counteracting the effects resulting from the improper use of mercury, than in overcoming the venereal virus.

It is found useful in certain cases of threatened abortion and lingering delivery, in convulsions during parturition, in the after pains and excessive flooding.

The only form perhaps necessary for opium, is that of

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of pill; and as it is so soluble in every menstruum, there seems the less occasion for the addition of either gum or soap. This form is more apt to sit on the stomach than any liquid form, but requires rather more time to produce its effects. The administration of opium to the unaccustomed, is sometimes very difficult. The requisite quantity of opium is wonderfully different in different persons, and in different states of the same person. A quarter of a grain will, in one adult, produce effects, which ten times the quantity will not do in another; and a dose that might prove fatal in cholera or colic, would not be perceptible in many cases of tetanus or mania. The lowest fatal dose to the unaccustomed, as mentioned by authors, seems to be four grains; but a dangerous dose is so apt to puke, that it has seldom time to occasion death. When given in too small a dose, it is apt to produce disturbed sleep and other disagreeable consequences; and in some cases, it seems impossible to be made agree in any dose or form. Often, on the other hand, from a small dose, sound sleep and alleviation of pain will be produced, while a larger one gives rise to vertigo and delirium. Some prefer the repetition of small doses, others the giving of a full dose at once. In some, it seems not to have its proper effect till after a considerable time. The operation of a moderate dose is supposed to last, in general, about eight hours from the time of taking it.

Pure opium is partially soluble in water and in rectified spirit, and totally in proof spirit, wine, or vinegar. Water, rubbed with opium, and decanted repeatedly till it come off colourless, yields, on gentle evaporation, an extract which some use and recommend as one of the best preparations of this substance, and which requires to be given in double the dose of common opium.

It is said that alkalies diminish its soporific effects; that the fixed render it diuretic, the volatile determine it to the skin; and that acids destroy its activity almost entirely. But when conjoined with acids, particularly the diluted vitriolic acid, it often sits easily on the stomach, when it would not otherwise be retained, and afterwards produces all its sedative effects.

The chief officinal preparations of opium are, the *opium purificatum*, *pilulæ ex opio*, *pulvis opiatus*, *tinctura opii*, and *tinctura opii camphorata*. Besides this, it enters a great variety of different compositions, as the *pulvis sudorificus*, *balsamum anodynum*, *electuarium japonicum*, *pulvis ℈ creta compositus*, &c.

The occasional bad effects of opium may result from the same power, by which in other states of the system it proves beneficial. The methods, therefore, proposed of correcting these by roasting, fermentation, long-continued digestion, repeated solutions and distillations, have not succeeded.

1016. ARGEMONE, or *Prickly Poppy.*

Three species; viz. mexicana, armeniaca, pyrenaica. W. Indies, Mexico, Pyrenees.

1017. MUNTINGIA.

One species; viz. calabura. W. Indies.

1018. SARRACENIA, or *Side-saddle-flower.*

Four species; viz. flava, minor, rubra, purpurea. N. America.

1019. NYMPHÆA, or *Water Lily.*

Seven species; viz. * lutea, advena, * alba, odorata, stellata, lotus, pubescens. Europe, India, Africa, America.

* N. leaves heart-shaped, very entire; cal. 5-leaved, much larger than the petals.—The roots rubbed with milk destroy crickets and cockroaches. Swine eat it. Goats are not fond of it. Cows, sheep, and horses refuse it. An infusion of a pound of the fresh root, to a gallon of water, taken in the dose of a pint night and morning, cured a leprous eruption of the arm. *lutea*

* N. leaves heart-shaped, very entire; calyx 4-cleft.—It extends itself by long runners, which form a root at the end, and send up leafstalks in deep water. The root is bulbous. It is one of the most beautiful of the English plants, and may be propagated by transplanting the bulbous roots in winter. The petals gradually lessen as they approach the centre of the flower, where the outer filaments expanding in breadth, gradually assume the form of petals, as is generally the case in the double flowers of our gardens. The roots are used in Ireland, and in the island of Jura, to dye a dark brown. Swine eat it. Goats are fond of it. Cows and horses refuse it. *alba.*

1020. BIXA, or *Anotta.*

One species; viz. orellana. W. Indies.

1021. SLOANEA, or *Apeiba of the Brazils.*

Three species; viz. dentata, massoni, sinemariensis. Brazil, Caribbee isles.

1022. AUBLETIA.

Four species; viz. tibourbon, petonmo, aspera, lævis. Guiana.

1023. MAMMEA, or *Mammee-tree.*

Two species; viz. americana, humilis. Jamaica, Hispaniola.

1024. OCHNA.

Two species; viz. squamosa, parvifolia. Africa, E. and W. Indies.

1025. GRIAS.

One species; viz. cauliflora. Jamaica.

1026. CALOPHYLLUM.

Two species; viz. inophyllum, calaba. E. and W. Indies.

1027. SPARRMANNIA.

One species; viz. africana. Africa.

1028. TILIA, or *Lime-tree.*

Four species; viz. * europæa, americana, pubescens, alba. Eur. N. Amer.

* T. flowers without a nectary; berry 4-celled.—This plant flourishes best on the side of hills, but it will live very well in meadow grounds. It is easily transplanted, and grass grows beneath it: it is useful to form shady walks and clipped hedges. The wood is soft, light, and smooth; close grained, and not subject to the worm. It makes good charcoal for gunpowder and for designers. It is used for leather-cutters boards, and for carved works. It is also employed by the turner. The leaves are dried in some countries as winter food for sheep and goats. Cows eat them in the autumn; but they give a bad taste to the milk. The bark, macerated in water, may be made into *europæa.*

ropes

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ropes and fishing nets. The flowers are fragrant, and afford the best honey for bees. The sap, inspissated, affords a quantity of sugar.

1029. LÆTIA.

Four species; viz. apetala, guidonia, thamnia, completa. Jamaica.

1030. RYANIA.

One species; viz. speciosa.

1031. GREWIA.

11 species; viz. occidentalis, populifolia, orientalis, mallococca, lævigata, glandulosa, hirsuta, excelsa, asiatica, tiliæfolia, velutina. Asia, Cape, Amer. S. seas.

1033. MICROCOS.

One species; viz. paniculata.

1034. MARILA.

One species; viz. racemosa. West Indies.

1035. ELÆOCARPUS.

Five species; viz. serratus, dentatus, dicera, integrifolius, copalliferus. India, New Zealand.

1036. LEGNOTIS.

Two species; viz. elliptica, cassipourea. West Indies, Guiana.

1037. MYRODENDRUM.

One species; viz. amplexicaule. Guiana.

1038. LEMNISCIA.

One species; viz. floribunda. Guiana.

1039. ASCIUM.

One species; viz. violaceum. Guiana.

1040. LECYTHIS.

Eight species; viz. ollaria, minor, grandiflora, amara, zabucajo, idatimon, parviflora, bracteata. America.

1041. ALANGIUM.

Two species; viz. decapetalum, hexapetalum. Coast of Malabar.

1042. MENTZELIA.

Two species; viz. aspera, hispida. America.

1043. LOASA.

Six species; viz. hispida, contorta, acanthifolia, grandiflora, chenopodisia, nitida.

1044. STERBECHIA.

One species; viz. lateriflora.

1045. LAGERSTRŒMIA.

Five species; viz. indica, reginæ, hirsuta, munchhausia, parviflora. East Indies, China.

1046. FREZIERA.

Two species; viz. theacoides, undulata.

1047. THEA, or *Tea-tree*.

Two species; viz. bohea, viridis. China, Japan.

The several sorts of tea met with among us, are the leaves of this same genus collected at different times, and cured in a somewhat different manner; the small young leaves, very carefully dried, are the finer green, the older afford the ordinary green and bohea. The two first have a sensible flavour of violets, the other of roses; the former is the natural odour of the plant, the latter, as Neumann observes, is probably introduced by art. Some of the dealers in this commodity in Europe, are not ignorant that bohea tea is imitable by the leaves of certain plants, artificially tinctured and impregnated with the rose flavour. The taste of both sorts is lightly bitterish, subastringent, and somewhat aromatic. The medical virtues attributed to these leaves are sufficiently numerous, though few of them have any foundation; little more can be expected from the common infusions than that of a diluent acceptable to the palate and stomach; the diuretic, diaphoretic, and other virtues for which they have been celebrated, depend more on the quantity of warm fluid, than any particular qualities which it gains from the tea. Nothing arises in distillation from either sort of tea with rectified spirit; water elevates the whole of their flavour.

Good tea, in a moderate quantity, seems to refresh and strengthen; but if taken in a recent highly flavoured state, and in considerable quantity, its use is apt to be succeeded by weakness and tremors, and other similar consequences, resulting from the narcotic vegetables; yet it is highly probable that many of the bad, as well as good effects, said to result from it, are consequences of the warm water.

1048. CISTUS, or *Rock-rose*.

79 species; viz. capensis, villosus, populifolius, laurifolius, vaginatus, ledon, ladaniferus, monspeliensis, laxus, salvifolius, heterophyllus, incanus, creticus, parviflorus, albidus, sericeus, hybridus, crispus, formosus, halimifolius, elongatus, libanotis, umbellatus, lævipes, calycinus, fumana, canus, scabrosus, cinereus, ocymoides, italicus, marifolius, origanifolius, mollis, dichotomus, * anglicus, vinealis, œlandicus, alternifolius, globularifolius, tuberaria, plantagineus, serratus, * guttatus, canadensis, punctatus, ledifolius, * salicifolius, niloticus, ægyptiacus, squamatus, lippii, sessiliflorus, ellipticus, * surrejanus, polyanthos, glaucus, nummularius, canariensis, serpillifolius, violaceus, linearis, lævis, strictus, glutinosus, thymifolius, pilosus, lavandulifolius, racemosus, ciliatus, angustifolius, * helianthemum, mutabilis, fœtidus, croceus, hirtus, apenninus, * polifolius, arabicus. Alps, S. Europe, Egypt, Cape.

1049. VALLEA.

One species; viz. stipularis. New Granada.

1050. BONNETIA.

One species; viz. palustris. Guiana.

1051. PROCKIA.

Four species; viz. crucis, serrata, theæformis, integrifolia. Isle of Santa Cruz.

1052. CORCHORUS, or *Jews-mallow*.

14 species; viz. olitorius, trilocularis, tridens, æstuans, acutangulus, fascicularis, capsularis, scandens, serratus, hirsutus, japonicus, flexuosus, hirtus, siliquosus.

1053. SEGUIERIA.

One species; viz. americana.

1054. SWARTIA.

Six species; viz. simplicifolia, grandiflora, dodecandra, triphylla, pinnata, alata. Caribbee isles, Guiana.

ORDER II. DIGYNIA.

1055. PÆONIA, or *Peony*.

Seven species; viz. officinalis, corallina, albiflora, humilis, anomala, hybrida, tenuifolia. Switz. Ukraine.

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The *Pæonia officinalis* is cultivated in our gardens on account of the beauty of its flowers. The female peony, which is the largest and most elegant, and for this reason the most common, is the only one with which the shops are supplied. In quality they are scarce sensibly different; and hence they may be taken promiscuously. The roots and seeds of peony have, when recent, an unpleasant scent, approaching to that of the narcotic plants, and a somewhat glutinous subacid taste, with a light degree of bitterness and astringency; the leaves also discover an astringent quality, both to the taste, and by changing chalybeate solutions of a purple colour; the flowers have little taste, and a very faint not agreeable smell. The parts which have chiefly been used for medicinal purposes, are the roots and seeds. These are looked upon as emollient, corroborant, and lightly anodyne, and supposed to be of service in some kinds of obstructions, erosions of the viscera, heat of urine, pains in the kidneys, and the like. The virtue they are chiefly celebrated for, is that of curing spasmodic and epileptic complaints, which many have been absurd enough to believe, that the root of this plant would do by being only worn about the neck.

1056. CURATELLA.
One species; viz. americana. America.

1057. FOTHERGILLA.
One species; viz. alnifolia. N. America.

1058. TRICHOCARPUS.
One species; viz. laurifolia. Guiana.

1059. LACIS.
One species; viz. fluviatilis. Guiana.

ORDER III. TRIGYNIA.

1060. HOMALIUM.
Two species; viz. racemosum, racoubea. Jamaica, Guiana.

1061. DELPHINIUM, or *Larkspur*.
14 species; viz. * consolida, ajacis, aconiti, ambiguum, peregrinum, grandiflorum, intermedium, elatum, hybridum, exaltatum, urceolatum, puniceum, staphisagria, pentagynum. Europe, N. America.

consolida. * D. capsule single; nectary of one leaf; stem subdivided.—The expressed juice of the petals, with the addition of a little alum, makes a good blue ink; the seeds are acrid and poisonous. When cultivated, the blossoms often become double. Sheep and goats eat it. Horses are not fond of it. Cows and swine refuse it.

1062. ACONITUM, or *Wolfsbane, Monkshood*.
15 species; viz. lycoctonum, japonicum, pyrenaicum, ochroleucrum, anthora, album, septentrionale, napellus, neomontanum, taurioum, volubile, cornuum, variegatum, cammarum, uncinatum. Europe, N. America, Japan.

ORDER IV. TETRAGYNIA.

1063. WINTERA, or *Winter's Bark*.
Three species; viz. aromatica, granadensis, axillaris. New Granada, S. seas.

1064. TETRACERA.
12 species; viz. sarmentosa, tomentosa, aspera, doliocarpus, stricta, calinea, obovata, nitida, euryandra, volubilis, lævis, alnifolia. Ceylon, West Indies, South sea isles.

1065. CARYOCAR.
Three species; viz. nuciferum, butyrosum, tomentosum. Barbary.

1066. WAHLBOMIA.
One species; viz. indica.

1067. CIMICIFUGA.
One species; viz. fœtida. Siberia.

ORDER V. PENTAGYNIA.

1068. AQUILEGIA, or *Columbine*.
Five species; viz. viscosa, * vulgaris, alpina, canadensis, viridiflora.

* A. nectaries bowed inwards, nearly equal to the petals; leafets all on leafstalks; lobes distant, roundish, bluntish.—The beauty of its flowers has long introduced it into our flower borders. Goats eat it. Sheep are not fond of it. Cows, horses, and swine refuse it. *vulgaris.*

1069. NIGELLA, or *Fennel-flower*.
Five species; viz. damascena, sativa, arvensis, hispanica, orientalis. Germany, S. Europe, Egypt.

1070. REAUMURIA.
Two species; viz. verniculata, hypericoides. Sicily, Syria, Egypt.

ORDER VI. POLYGYNIA.

1071. DILLENIA.
Eight species; viz. scandens, integra, speciosa, elliptica, serrata, pentagyna, retusa, dentata. India.

1072. ILLICIUM, or *Aniseseed-tree*.
Two species; viz. anisatum, floridanum. Florida, China, Japan.

1073. LIRIODENDRON, or *Tulip-tree*.
Four species; viz. tulipifera, coco, figo, liliifera. Amboyna, N. America.

1074. MAGNOLIA, or *Laurel-leaved Tulip-tree*.
Eight species; viz. grandiflora, plumieri, glauca, obovata, tomentosa, acuminata, tripetala, auriculata. N. America.

1075. NELUMBIUM.
Four species; viz. speciosum, luteum, pentapetalum, reniforme.

1076. MICHELIA.
Two species; viz. champæa, tsiampæa. Indies.

1077. UVARIA.
11 species; viz. zeylanica, lanceolata, cerusoides, suberosa, tomentosa, odorata, monosperma, lutea, ligularis, longifolia, japonica. Ceylon, Japan, Jamaica, Surinam.

1078. ANNONA, or *Custard-apple*.
18 species; viz. muricata, tripetala, squamosa, paludosa, longifolia, punctata, hexapetala, palustris, glabra, triloba,

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triloba, asiatica, ambotay, africana, pygmæa, obovata, grandiflora, amplexicaulis. Egypt, E. and W. Indies, America.

1079. XYLOPIA, or *Bitter-wood.*

Three species; viz. muricata, frutescens, glabra. America.

1080. UNONA.

Four species; viz. discreta, tomentosa, discolor, concolor.

1081. ANEMONE, or *Wind-flower.*

29 species; viz. hepatica, patens, cernua, vernalis, halleri, * pulsatilla, * pratensis, alpina, apiifolia, coronaria, hortensis, palmata, sibirica, baldensis, sylvestris, virginiana, decapetala, triternata, pensylvanica, dichotoma, trifolia, quinquefolia, * nemorosa, * apennina, reflexa, * ranunculoides, narcissiflora, umbellata, thalictroides. Europe, N. America.

pratensis. * A. leaves double-winged; petals the ends turned back.—This is the most acrid of the anemonies; and is recommended by Dr Stoerk in the quantity of half an ounce of the distilled water, or five grains of the extract, twice or thrice a-day, in venereal nodes, pains, ulcers with caries, chronic eruptions, amenorrhœa, various chronic affections of the eye, particularly blindness from obscurities of the cornea. Its common effects are nausea or vomiting, an augmented discharge of urine, diarrhœa, and increased pain at first in the affected part.

pulsatilla. * A. leaves doubly winged; petals straight.—The whole plant is acrid, and blisters the skin. The juice of the petals stains paper green. Goats and sheep eat it. Horses, cows, and swine, refuse it.

nemorosa. * A. seeds pointed; leafets snipt; petals roundish; stem mostly 2-flowered.—The flowers fold up in a curious manner against rain. The whole plant is acrid. When sheep are unaccustomed to eat it, it brings on a bloody flux. Goats and sheep eat it. Horses, cows, and swine, refuse it. This plant is sometimes found with yellow dots on the under surface of the leaves.

1082. ATRAGENE.

Six species; viz. alpina, ochotensis, japonica, capensis, tenuifolia, zeylanica. Alps of Europe, Ceylon, Cape.

1083. CLEMATIS, or *Virgin's-bower.*

24 species; viz. cirrhosa, florida, viticella, viorna, crispa, calycina, orientalis, glauca, hexapetala, triflora, virginiana, japonica, trifoliata, dioica, indivisa, paniculata, * vitalba, chinensis, flammula, maritima, angustifolia, erecta, ochroleuca, integrifolia. Europe, N. America.—The *clematis erecta* is introduced into but few of the modern pharmacopœias, and has never been found in Britain. As well as many other active articles, supposed to be of a poisonous nature, it was some time ago recommended to the attention of practitioners by Dr Stoerk of Vienna. Its leaves and flowers are so acrid as to blister. Dr Stoerk recommends it in venereal, cancerous, and other cutaneous affections, in those headachs, pains of the bones, and wastings of the habit, the consequences of *lues venerea*. Externally the acrid powder is sprinkled on the ulcers, and the forms for internal use are those of infusion and extract.

1084. THALICTRUM, or *Meadow-rue.*

23 species; viz. * alpinum, fœtidum, tuberosum, cornuti, dioicum, elatum, * majus, medium, * minus, rugosum, sibiricum, squarrosum, purpurascens, angustifolium, * flavum, nigricans, simplex, lucidum, aquilegifolium, contortum, petaloideum, styloideum, japonicum. Europe, N. America.

* T. stem furrowed, leafy; leafets acute, 3-cleft; panicle much branched, upright, compact; flowers upright.—A cataplasm made of the leaves has been known to give relief in the sciatica. The root dyes wool yellow. Cows, horses, goats, and sheep, eat it. Swine are not fond of it. *flavum.*

1085. ADONIS, or *Pheasants Eye.*

Eight species; viz. * æstivalis, * autumnalis, flammea, vernalis, apennina, filia, capensis, vesicatoria. S. Europe, Cape.

1086. RANUNCULUS, or *Crow-foot.*

61 species; viz. * flammula, * reptans, * lingua, nodiflorus, * gramineus, pyrenæus, parnassifolius, ophioglossoides, amplexicaulis, bullatus, salsuginosus, * ficaria, frigidus, thora, creticus, cassubicus, * auricomus, abortivus, trilobus, * sceleratus, aconitifolius, platanifolius, spicatus, illyricus, flabellatus, asiaticus, japonicus, rutæfolius, glacialis, seguieri, nivalis, montanus, gonani, alpestris, lapponicus, hyperboreus, monspeliacus, pensylvanicus, ternatus, * bulbosus, philonotis, polyrhizos, * repens, polyanthemos, * acris, cappadocicus, lanuginosus, chærophyllus, millefoliatus, parvulus, oxyspermus, * arvensis, muricatus, * parviflorus, orientalis, grandiflorus, falcatus, polyphyllus, * hederaceus, * aquatilis, fluviatilis. Europe, Asia, N. America.

* R. leaves heart-shaped, angular, on leaf-stalks; stem 1-flowered; flowers with eight petals; calyx with three leaves.—This is a very small plant, found in most meadows, and by hedge sides. The roots consist of slender fibres with some little tubercles among them, which are supposed to resemble the hæmorrhoids; from thence it has been concluded, that this root must needs be of wonderful efficacy for the cure of that distemper. To the taste it is little other than mucilaginous; and although still retained in several of the foreign pharmacopœias, it is hardly in use in this country. *ficaria.*

* R. leaves egg-spear-shaped, on leaf-stalks; stem declining.—This plant is very acrid; applied externally, it inflames and blisters the skin. Horses eat it. Cows, sheep, goats, and swine refuse it. Its acrimony rises in distillation. Some years ago, a man travelled in several parts of England administering vomits, which, like white vitriol, operated the instant they were swallowed. The distilled water of this plant was his medicine. It is said, that in the case of poison being swallowed, or other circumstances occurring, in which it is desireable to make a patient vomit instantaneously, it is preferable to any other medicine yet known, and does not excite those painful contractions in the upper part of the stomach, which the white vitriol sometimes does, thereby defeating the intention for which it was given. *flammula.*

* R. lower leaves hand-shaped, the upper fingered; fruit oblong.—The whole plant is very corrosive; and beggars are said to use it to ulcerate their feet, which they expose in that state to excite compassion. Goats eat it. Cows, horses, and sheep refuse it. *sceleratus.*

* R. cal. expanding; fruit-stalks cylindrical; leaves with three divisions, and many clefts, the uppermost strap- *acris.*

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strap-shaped.—Sheep and goats eat it. Cows, horses, and swine refuse it. Cows and horses leave this plant untouched, though their pasture be ever so bare. It is very acrid, and easily blisters the skin.

arvensis. * R. seeds prickly; upper leaves doubly compound, strap-shaped.—It has lately been said that cows, horses, and sheep, in Italy, eat it greedily, though it is so acrid as to poison the latter. Three ounces of the juice killed a dog in four minutes. Its growing chiefly, if not solely, in corn-fields where cattle are excluded, may possibly be the reason why we have not heard of mischief being done by it in this country.

1087. TROLLIUS, or *Globe-ranunculus.*

Two species; viz. * europæus, asiaticus. Europe, Asia.

1088. ISOPYRUM.

Three species; viz. fumarioides, thalictroides, aquilegioides. Siberia, Alps of Austria, Italy.

1089. HELLEBORUS, or *Black Hellebore.*

Eight species; viz. hyemalis, ranunculinus, niger, * viridis, orientalis, * fœtidus, lividus, trifolius. Austria, Italy, Canada.

fœtidus. * H. stem many-flowered; leafy; leaves bird-footed. *Bearsfoot*, or *Helleboraster.*—The leaves of this plant, taken in several different forms, have been by some recommended as a very powerful anthelmintic. They are particularly extolled by Dr Bissett, in his essay on the medical constitution of Great Britain, especially under the form of syrup, made by moistening the leaves of the fresh herb in vinegar, and then pressing out their juice, which was formed into a syrup with coarse sugar. Of this syrup, Dr Bissett gave to children from two to six years of age, one tea-spoonful at bed-time, and another in the morning, for two or three days successively. The dose was increased or diminished according to the strength of the patient; and in this way he found it very successful in the expulsion of lumbrici.

Where the helleboraster is to be employed, this form is perhaps the best, and we doubt not that it may succeed where others have failed; but it should not, we apprehend, be employed till safer anthelmintics have been tried in vain. For we have heard of some instances where the imprudent administration of it has been attended even with fatal consequences.

The species called *helleborus niger*, black hellebore or melampodium, grows wild in the mountainous parts of Switzerland, Austria, and Stiria; the earliness of its flowers, which sometimes appear in December, has gained it a place in our gardens. In some parts of Germany, a species of black hellebore has been made use of, which not unfrequently produced violent and sometimes deleterious effects; this the Wirtemburg college particularly caution against, though without mentioning any marks by which it may be distinguished, or even giving the precise name of the plant. It appears to be the fœtid hellebore of Linnæus, called in England, where it grows, setterwort, settlewort, or bastard hellebore; the roots of this may be distinguished from the officinal sort by their being less black. The roots of the poisonous aconites resemble in appearance those of the black hellebore; and in the Breslaw collections we find some instances of fatal effects occasioned by mistaking the former for the latter: these also are happily discoverable by their colour; the *aconitum* being lighter coloured than even the palest of the black hellebores. The faculty of Paris, by allowing the use of one of the paler hellebores (the green-flowered which grows wild in England, and is called by our farriers peg-root) have in some degree deprived the shops of the benefit of this criterion. Since, therefore, the two noxious roots which the buyer is most apt to mistake for this, are distinguishable from it by their colour, but have no other external mark by which they may be with certainty known, particular regard ought to be had to this circumstance; only the deepest black being chosen, and all the paler roots rejected.

The taste of the hellebore is acrid and bitter. Its acrimony is first felt on the tip of the tongue, and then spreads immediately to the middle, without being much perceived on the intermediate part; on chewing it for a few minutes the tongue seems benumbed and affected with a kind of paralytic stupor, as when burnt by eating any thing too hot; the fibres are more acrimonious than the head of the root from which they issue. Black hellebore root, taken from fifteen grains to half a dram, proves a strong cathartic, and as such has been celebrated for the cure of maniacal and other disorders proceeding from what the ancients called the *atrabilis;* in these cases medicines of this kind are doubtless occasionally of use, though they are by no means possessed of any specific power. It does not however appear, that our black hellebore acts with so much violence as that of the ancients, whence many have supposed it to be a different plant; and indeed, the descriptions which the ancients have left us of their hellebore, do not agree to any of the sorts usually taken notice of by modern botanists. Another species has been discovered in the Eastern countries, which Tournefort distinguishes by the name of *black oriental hellebore*, with a large leaf, a lofty stem, and purplish flower; and supposes to be the true ancient hellebore, from its growing in plenty about Mount Olympus, and in the island of Anticyra, celebrated of old for the production of this antimaniacal drug; he relates that a scruple of this sort given for a dose, occasioned convulsions.

Our hellebore is at present looked upon principally as an alterative; and in this light is frequently employed in small doses, for attenuating viscid humours, promoting the uterine and urinary discharges, and opening inveterate obstructions of the remoter glands; it often proves a very powerful emmenagogue in plethoric habits, where steel is ineffectual or improper. An extract made from this root with water, is one of the mildest, and, for the purposes of a cathartic, the most effectual preparations of it: this operates sufficiently, without occasioning the irritation which the pure resin is accompanied with. A tincture drawn with proof spirit contains the whole virtue of the hellebore, and seems to be one of the best preparations of it when designed for an alternative; this tincture and the extract are kept in shops.

The melampodium is the basis of Bacher's tonic pills for the dropsy. The root is ordered to be macerated in rectified spirit of wine; the liquor expressed is repeatedly mixed with water, and duly evaporated. This is made up into pills, with an extract of myrrh and

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and powder of carduus benedictus. They are said to be cathartic and diuretic, and at the same time strengtheners of the solids.

1090. CALTHA, or *Marsh-marygold.*

Two species; viz. * palustris, natans. Europe.

palustris. * C. the flowers of this plant gathered before they expand, and preserved in salted vinegar, are a good substitute for capers. The juice of the petals, boiled with a little alum, stains paper yellow. The remarkable yellowness of butter in the spring has been supposed to be caused by this plant: but cows will not eat it, unless compelled by extreme hunger, and then, as some say, it occasions such an inflammation that they generally die. Upon May-day the country people in England strew the flowers before their doors.

1091. HYDRASTIS, or *Yellow-root.*

One species; viz. canadensis. Carolina, Canada.

In the class Polyandria are

85 Genera, including 563 Species, of which 50 are found in Britain.

CLASSIS XIV.

DIDYNAMIA (D).

ORDO I. GYMNOSPERMIA.

Sect. I. *Calyces subquinquefidi.*

1103. PERILLA. Styli duo. Stam. distantia.

* 1105. GLECOMA. Antherarum paria cruciata.

1096. HYSSOPUS. Filam. distantia, recta. Cor. ringens, labio inferiore tripartito, subcrenato.

1098. ELSHOLTZIA. Filam. distantia, recta. Cor. ringens, labio inferiore indiviso.

1101. BYSTROPOGON. Filam. distantia. recta. Cor. ringens, labio inferiore trilobo.

* 1102. MENTHA Filam distantia, recta. Cor. subæqualis.

1104. HYPTIS. Filam. declinata. Cor. ringens; labio sup. bifido, inferiore trifido, lacinia media concava.

1100. SIDERITIS. Stigma alterum vaginans alterum.

1099. LAVANDULA. Corolla resupinata.

* 1093. TEUCRIUM. Cor. labium superius nullum, sed fissura loco labii.

* 1092. AJUGA. Cor. lab. superius staminibus brevius.

1113. PHLOMIS. Cor. lab. superius hirtum, compressum.

* 1112. LEONURUS. Cor. labium superius erectum, indivisum, planum. Stamina fauce longiora.

1108. BETONICA. Cor. lab. superius planum, adscendens, tubo cylindrico. Stam. longitudine faucis.

* 1106. LAMIUM. Cor. lab. inferius utrinque dente setaceo.

* 1107. GALEOPSIS. Cor. lab. inferius lateribus reflexum. Stam. deflorata ad latera deflexa.

CLASS XIV.

DIDYNAMIA, OR TWO STAMENS LONGER.

ORDER I. GYMNOSPERMIA, or Seeds naked.

Sect. I. *The Calyxes or Cups nearly 5-cleft.*

P. Styles 2. Stamens far asunder.

* G. Pairs of anthers cross-shaped.

H. Filaments asunder, straight. Cor. gaping, with the inferior lip 3-cleft, nearly scolloped.

E. Filaments far asunder, straight. Cor. gaping, with the inferior lip undivided.

B. Filaments far asunder and straight. Cor. gaping with the inferior lip 3-lobed.

* M. Filaments far asunder and straight. Cor. nearly equal.

H. Filam. declining. Cor. gaping; the superior lip 2-cleft, the inferior 3-cleft, the middle segments concave.

S. The one stigma sheathing the other.

L. Cor. horizontally turned upside down.

* T. Cor. with no superior lip, but a fissure in place of a lip.

* A. Cor. having the upper lip shorter than the stamens.

P. Cor. the upper lip rough-haired, compressed.

* L. Cor. the upper lip erect, undivided, flat. The stamens longer than the mouth.

B. Cor. the upper lip flat, ascending with a cylindrical tube. Stamens of the length of the mouth.

* L. Cor. the inferior lip on both sides with a bristle-shaped tooth.

* G. Cor. the inferior lip bent back to the sides. The stamens bent to the sides after the anthers have shed their pollen.

(D) The essential character of this class consists of the flowers of the plants which it contains having four stamens, two of which are long, and two short. The short stamens stand next together, and adjoining to the style of the pistil. They are covered by the corolla or blossom, which is irregular in its shape.

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* 1097. NEPETA. Cor. lab. inferius crenatum. Faux margine reflexo.

1094. SATUREIA. Cor. laciniis subæqualibus. Stam. remota.

* 1110. BALLOTA. Cal. 10-striatus. Cor. labium superius fornicatum.

1111. MARRUBIUM. Cal. 10-striatus. Cor. lab. superius rectum.

1114. MOLUCCELLA. Cal. campanulatus. Corolla amplior, dentibus spinosis.

Verbenæ species aliquot. Monarda didyma.

* N. Cor. the inferior lip scolloped. The mouth with a border bent back.

S. Cor. with segments nearly equal. Stamens remote.

* B. Cal. 10-striped. Cor. the superior lip vaulted.

M. Cal. 10-striped. Cor. the upper lip straight.

M. Cal. bell-shaped. Cor. large, with prickly teeth.

Sect. II. *Calyces bilabiati.*

Sect. II. *Calyxes 2-lipped.*

* 1124. SCUTELLARIA. Cal. fructiferus, operculatus.

* 1117. THYMUS. Cal. fauce villis clausus.

1122. PLECTRANTHUS. Cor. resupinata basi sursum calcarata. Filamenta subulata.

1121. OCIMUM. Cor. resupinata basi nuda. Filamenta bina, basi processu.

* 1125. PRUNELLA. Filamenta omnia apice bifurca.

1126. CLEONIA. Filamenta bifurca, apici altero antherifero. Stigma quadrifidum.

1123. TRICHOSTEMA. Filamenta longissima.

1119. DRACOCEPHALUM. Corollæ faux inflato-dilatata.

* 1116. ORIGANUM. Strobilus calyces colligens.

* 1115. CLINOPODIUM. Involucrum calyces colligens.

1095. THYMBRA. Calyx utrinque linea ciliata carinatus. Stylus semibifidus. Cor. labia plana.

* 1120. MELITTIS. Cal. tubo corolla amplior. Corollæ lab. superius planum, integrum. Antheræ cruciatæ.

* 1118. MELISSA. Cal. angulatus, scariosus, labio superiore adscendente.

1127. PRASIUM. Semina baccata.

1128. PHRYMA. Sem unicum. Cor. ringens.

1129. SELAGO. Sem. unicum. Corollæ limbo quinquefido inæquali.

* S. Cal. fruit-bearing, covered with a lid.

* T. Cal. with a mouth shut with soft hairs.

P. Cor. horizontally turned upside down at the base, upwards, having a spur. Filaments awl-shaped.

O. Cor. naked, horizontally turned up at the base. Filaments 2, with an enlargement at the base.

* P. Filaments all with a 2-forked top.

C. Filaments 2-forked. The alternate apex bearing an anther. Stigma 4-cleft.

T. Filaments very long.

D. Mouth of the cor. inflate-dilated.

* O. A cone collecting the calyxes.

* C. Involucrum collecting the cups.

T. Cal. keeled on both sides with a fringed line. Style half 2-cleft. Cor. flat lips.

* M. Cal. with a tube larger than the cor. the upper lip of the cor. flat, entire. Anthers cross-shaped.

* M. Cor. angled, skinny, the upper lip ascending.

P. Seeds berry-like.

P. Seed 1. Cor. gaping.

S. Seed 1. Border of the cor. unequal, 5-cleft.

ORDO II. ANGIOSPERMIA.

ORDER II. ANGIOSPERMIA, or with Seeds in a Capsule.

Sect. I. *Calyces indivisi.*

Sect. I. *Cups undivided.*

1185. ÆGINETIA. Caps. multilocularis. Cor. campanulata. Cal. indivisus, spathaceus.

1161. TANÆCIUM. Bacca corticosa. Cor. tubulosa, subæqualis. Cal. tubulosus, truncatus.

Æ. Caps. many-celled. Cor. bell-shaped. Cal. undivided, chaffy.

T. Berry barked. Cor. tubular, nearly equal. Cal. tubular, lopped.

Sect. II. *Calyces bifidi.*

Sect. II. *Cups two-cleft.*

1184. OBOLARIA. Caps. 1-locularis. Cor. campanulata, 4-fida. Filam. ex divisuris corollæ.

* 1186. OROBANCHE. Caps. 1-locularis. Cor. subæqualis, 4-fida. Glandula sub basi germinis.

1172. HEBENSTREITIA. Caps. 2-sperma. Cor. 1-labiata, 4-fida. Stam. margini laterali corollæ inserta.

1149. TORENIA. Caps-2-locularis. Cor. personata. Filam. duo bifida.

1205. CASTILLEIA. Caps. 2-locularis. Cor. bilabiata, labio inferiore brevissimo. Cal. unilabiatus, bidentatus.

O. Caps. 1-celled. Cor. bell-shaped, 4-cleft. Filam. from the divisions of the corolla.

* O. Caps. 1-celled. Cor. nearly equal, 4-cleft. Gland under the base of the germen or seed-bud.

H. Caps. 2-seeded. Cor. 1-lipped, 4-cleft. Stamens inserted in the lateral margin of the cor.

T. Caps. 2-celled. Cor. gaping. Filam. 2, two-cleft.

C. Caps. 2-celled. Cor. 2-lipped, under lip very short. Cal. 1-lipped, 2-toothed.

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1211. ACANTHUS. Caps. 2-locularis. Cor. 1-labiata, 3-fida. Antheræ villosæ.

1164. PREMNA. Drupa 1-sperma, nuce 4-loculari. Cor. 4-fida, inæqualis.

1160. CRESCENTIA. Bacca 1-locularis, corticosa. Cor. tubo campanulata. Germen pedicellatum.

Sect. III. *Calyces trifidi.*

1159. HALLERIA. Bacca 2-locul. Cor. 4-fida, labio superiore longiore.

Sect. IV. *Calyces quadrifidi.*

1189. LIPPIA. Caps. 2-sperma, 2-locularis. Cor. hypocraterif. Cal. compressus.

1134. LATHRÆA. Caps. 1-locularis. Cor. personata. Glandula sub germine.

1130. BARTSIA. Caps. 2-locularis. Cor. personata. Cal. coloratior.

* 1132. EUPHRASIA. Caps. 2-locularis. Cor. personata. Antheræ inferiores spinosæ.

* 1131. RHINANTHUS. Caps. 2-locularis. Cor. personata. Caps. compressa.

* 1133. MELAMPYRUM. Caps. 2-locularis. Cor. personata. Sem. bina gibbosa.

1135. SCHWALBEA. Caps. 2-locularis? Cor. personata. Cal. laciniæ superiores sensim minores.

1196. BARLERIA. Caps. 2-locularis. Cor. infundibul. Sem. bina. Caps. elastica.

1168. LOESELIA. Caps. 3-locular. Cor. laciniis secundis. Stam. petalo adversa.

1162. GMELINA. Drupa nuce 2-locul. Cor. bilabiata. Antheræ binæ crassiores, bipartitæ.

1165. LANTANA. Drupa nuce 2-locul. Cor. hypocraterif. Stigma uncinatum.

Sect. V. *Calyces quinquefidi.*

1209. AVICENNIA. Caps. 1-locularis, coriacea. Cor. labio superiore quadrato. Sem. unicum.

1136. TOZZIA. Caps. 1-locul. Cor. hypocraterif. Sem. unicum.

1179. PHYLOPSIS. Caps. 1-locularis. Cor. ringens, labio superiore minimo. Semina quatuor.

* 1178. LIMOSELLA. Caps. 1-locul. Cor. campan. regular. Sem. plurima.

1175. BROWALLIA. Caps. 1-locul. Cor. hypocraterif. Sem. numerosa.

1151. BRUNFELSIA. Caps. 1-locul. baccata. Cor. infundibuliformis.

1193. HOLMSKIOLDIA. Caps. 1-locul.? Cor. ringens. Cal. ampliat.

1170. LINDERNIA. Caps. 1-locular. Cor. ringens. Stam. inferiora dente terminali.

1182. CONOBEA. Caps. 1-locularis. Cor. ringens. Stylus pilosus.

1210. COLUMNEA. Caps. 1-locularis. Cor. ringens, supra basin gibba. Antheræ connexæ.

1180. VANDELLIA. Caps. 1-locul. Cor. ringens. Stam. inferiora disco labii enata.

1181. RUSSELIA. Caps. 1-locularis. Cor. bilabiata.

1213. ALECTRA. Caps. 2-locularis didyma. Cor. infundibuliformis. Filamenta barbata. Semina solitaria.

A. Caps. 2-celled. Cor. 1-lipped, 3-cleft. Anthers woolly.

P. Drupe 1-seeded, with a 4-celled nut. Cor. 4-cleft, unequal.

C. Berry 1-celled, bark-like. Cor. with a bell-shaped tube. Germen on a pedicle or footstalk.

Sect. III. *Cups 3-cleft*

H. Berry 2-celled. Cor. 4-cleft; the upper lip longer.

Sect. IV. *Cups 4-cleft.*

L. Caps. 2-seeded, 2-celled. Cor. salver-shaped. Cal. flattened.

L. Caps. 1-celled. Cor. gaping. A gland under the seed-bud.

B. Caps. 2-celled. Cor. gaping. Cal. coloured.

* E. Caps. 2-celled. Cor. gaping. Inferior anthers thorny.

* R. Caps. 2-celled. Cor. gaping. Caps. compressed.

* M. Caps. 2-celled. Cor. gaping. Seeds 2, bulging.

S. Caps. 2-celled? Cor. gaping. Upper segments of the cor. gradually less.

B. Caps. 2-celled. Cor. funnel-shaped. Seeds 2. Caps. elastic.

L. Caps. 3-celled. Cor. with segments pointing one way. Stamens opposite to the petals.

G. Drupe, with a 2-celled nut. Cor. 2-lipped. Two coarse anthers, 2-parted.

L. Drupe, with a 2-celled nut. Cor. salver-shaped. Stigma hooked at the end.

Sect. V. *Cups 5-cleft.*

A. Caps. 1-celled, leather-like. Cor. with an upper lip squared. Seed 1.

T. Caps. 1-celled. Cor. salver-shaped. Seed 1.

P. Caps. 1-celled. Cor. gaping, upper lip small. Seeds 4.

* L. Caps. 1-celled. Cor. bell-shaped, regular. Seeds many.

B. Caps. 1-celled. Cor. salver-shaped. Seeds numerous.

B. Caps. 1-celled, berry-like. Cor. funnel-shaped.

H. Caps. 1-celled? Cor. gaping. Cal. enlarged.

L. Caps. 1-celled. Cor. gaping. Inferior stamens with a terminal tooth.

C. Caps. 1-celled. Cor. gaping. Style hairy.

C. Caps. 1-celled. Cor. gaping, bulged above the base. Anthers connected.

V. Caps. 1-celled. Cor. gaping. Inferior stamina rising from the surface of the lip.

R. Caps. 1-celled. Cor. 2-lipped.

A. Caps. 2-celled, double. Cor. funnel-shaped. Filam. bearded. Seeds solitary.

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1143. GESNERIA. Caps. 2-locul. Cor. supera incurvata.

1141. CYRILLA. Caps. 2-locularis. Cor. supera declinata. Rudimentum filamenti quinti.

* 1152. SCROPHULARIA. Caps. 2-locul. Cor. resupinata. Lab. segmento intermedio interno.

1183. STERNODIA. Caps. 2-locul. Cor. inæqualis. Stam. bifida. Antheræ geminæ.

1190. ACHIMENES. Caps. 2-locularis. Cor. subæqualis, 4-fida.

1153. CELSIA. Caps. 2-locul. Cor. rotata. Filamenta lanata.

1154. HEMIMERIS. Caps. 2-locular. Cor. rotata, ringens.

* 1177. SIBTHORPIA. Caps. 2-locul. Cor. rotata. Stam. 2, et 2 approximata.

1169. CAPRARIA. Caps. 2-locul. Cor. campanulata. Stigm. cordatum, bivalve.

* 1155. DIGITALIS. Caps. 2-locularis. Cor. campan. subtus ventricosa. Stam. declinata.

1157. BIGNONIA. Caps. 2-locul. Cor. campanulata. Sem. alata, imbricata. Rudimentum filamenti quinti.

1156. INCARVILLEA. Caps. 2-locularis. Cor. infundibuliformis. Semina alata. Rudimentum filamenti quinti nullum.

1195. RUELLIA. Caps. 2-locul. Cor. campanulata. Stam. per paria approximata.

1174. BUCHNERA. Caps. 2-locul. Cor. hypocraterif. Limbi laciniis obcordatis æqualibus.

1173. ERINUS. Caps. 2-locul. Cor. bilabiata; labio superiore brevissimo, reflexo.

1163. PETREA. Caps. 2-locul. Cor. rotata, calyce colorata minor. Sem. solitaria.

1171. MANULEA. Caps. 2-locul. Cor. limbus 5-partitus; lacinia infima profundiore, reflexa.

* 1144. ANTIRRHINUM. Caps. 2-locul. Cor. personata, subtus nectario prominente.

1145. ANARRHINUM. Caps. 2-locularis, multivalvis. Cor. bilabiata, fauce pervia.

1138. GERARDIA. Caps. 2-locul. Cor. hypocrat. inæqual. Caps. basi dehiscens.

* 1137. PEDICULARIS. Caps. 2-locul. Cor. personata. Sem. tunicata.

1194. MIMULUS. Caps. 2-locul. Cor. personata. Cal. prismaticus.

1188. DODARTIA. Caps. 2-locul. Cor. personata; labio superiori brevi adscendente.

1139. CHELONE. Caps. 2-locularis. Cor. personata, inflata, clausa. Rudiment. filamenti quinti glabrum.

1140. PENTSTEMON. Caps. 2-locularis. Cor. bilabiata, ventricosa. Rudimentum filamenti quinti barbatum.

1191. SESAMUM. Caps. 2-locul. Cor. campan. inæqual. Rudim. filam. quinti.

1142. GLOXINIA. Caps. semibilocularis. Cor. campanulata. Rudiment. quinti filamenti cum reliquis receptaculo insertum.

1147. TOURETTIA. Caps. 4-locularis, hamata. Cor. unilabiata.

1148. MARTYNIA. Caps. 4-locul. Cor. campanulata. Rudim. filam. quinti.

1204. MAURANDIA. Capsulæ 2, coalitæ apice, semi-

G. Caps. 2-celled. Cor. bent inwards above.

C. Caps. 2-celled. Cor. at the upper part bent downwards. Rudiment of a fifth filament.

* S. Caps. 2-celled. Cor. horizontally turned upside down. Lip, with an internal intermediate segment.

S. Caps. 2-celled. Cor. unequal. Stamens 2-cleft. Anthers in pairs.

A. Caps. 2-celled. Cor. nearly equal, 4-cleft..

C. Caps. 2-celled. Cor. wheel-shaped. Filaments cottony.

H. Caps. 2-celled. Cor. wheel-shaped, gaping.

* S. Caps. 2-celled. Cor. wheel-shaped. Stam. 2, and 2 approximated.

C. Caps. 2-celled. Cor. bell-shaped. Stigma heart-shaped, 2-valved.

* D. Caps. 2-celled. Cor. bell-shaped, underneath bellied. Stamens declining.

B. Caps. 2-celled. Cor. bell-shaped. Seeds winged, tiled. Rudiment of a fifth filament.

I. Caps. 2-celled. Cor. funnel-shaped. Seeds winged. No rudiment of a fifth filament.

R. Caps. 2-celled. Cor. bell-shaped. Stamens near together by pairs.

B. Caps. 2-celled. Cor. salver-shaped. Segments of the border equal, inversely heart-shaped.

E. Caps. 2-celled. Cor. 2-lipped; upper lip very short, turned back.

P. Caps. 2-celled. Cor. wheel-shaped, less than the coloured cal. Seeds solitary.

M. Caps. 2-celled. Cor. with a 5-parted border, lower segment deeper, bent back.

* A. Caps. 2-celled. Cor. gaping, a nectary prominent from underneath.

A. Caps. 2-celled, many-valved. Cor. 2-lipped, with an open mouth.

G. Caps. 2-celled. Cor. salver-shaped, unequal. Caps. open at the base.

* P. Caps. 2-celled. Cor. gaping. Seeds coated.

M. Caps. 2-celled. Cor. gaping. Cal. prismatic.

D. Caps. 2-celled. Cor. gaping; upper short lip ascending.

C. Caps. 2-celled. Cor. gaping, inflated, shut. Smooth rudiment of a fifth filament.

P. Caps. 2-celled. Cor. 2-lipped, bellied. Barbed rudiment of a fifth filament.

S. Caps. 2-celled. Cor. bell-shaped, unequal. Rudim. of a fifth filament.

G. Caps. half 2-celled. Cor. bell-shaped. Rudim. of a fifth filam. inserted with the rest in the receptacle.

T. Caps. 4-celled, hooked. Cor. 1-lipped.

M. Caps. 4-celled. Cor. bell-shaped. Rudiment of a fifth filament.

M. Two capsules united at the point, half 5-valved.

quinquevalves.

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quinquevalves. Cor. campanulata, inæqualis. Filamenta basi callosa.

1200. MALLINGTONIA. Siliqua? Corolla regularis, quadrifida. Antheræ deformes.

1192. TORTULA. Nuces 2, bilesulares, externæ, rugosæ. Corollæ tubus spiralis.

1214. PEDALIUM. Nux bilocularis.

* 1176. LINNÆA. Bacca 3-locularis, sicca. Cor. campan. Cal. superus.

1167. CORNUTIA. Bacca 1-sperma. Cor. ringens. Stylus longissimus.

1199. OVIEDA. Bacca 4-sperma. Cor. longissima; limbo 3-fido. Cal. fructiferus, campanulatus.

1207. AMASONIA. Bacca 4-sperma. Cor. subæqualis.

1150. BESLERIA. Bacca polysperma, unilocularis. Cor. inæqualis.

1208. BONTIA. Drupa monosperma. Cor. labium inferius revolutum. Sem. plicatum.

1166. SPIELMANNIA. Drupa monosperma, nuce 2-loculari. Cor. hypocrateriformis.

1206. VITEX. Drupa monosperma, nuce 4-loculari. Cor. ringens, labio superiore 3-fido.

1198. MYOPORUM. Drupa disperma, nuce 2-loculari. Cor. campanulata, subæqualis.

1158. CITHAREXYLON. Drupa disperma, nuce 2-loculari. Cor. infundibuliformis, subæqualis.

1201. VOLKAMERIA. Drupa disperma, nuce 2-loculari. Cor. hypocrateriformis, laciniis secundis.

1202. CLERODENDRON. Drupa tetrasperma, nuce uniloculari. Cor. bilabiata.

1197. DURANTA. Drupa tetrasperma, nuce 2-loculari. Cor. subæqualis, tubo curvo.

Gratiola Monnieria.

Sect. VI. *Calyces multifidi.*

1187. HYOBANCHE. Caps. 2-locul. Car. unilabiata. Cal. heptaphyllus.

1212. LEPIDAGATHIS. Caps. 2-locul. Cor. bilabiata. Cal. 2, polyphylli, imbricati.

1146. CYMBARIA. Caps. 2-locul. Cor. ringens. Cal. 10-dentatus.

1203. THUNBERGIA. Caps. 2-locul. Cor. campanulata. Cal. duplex, exterior diphyllus, interior 12-dentatus.

Sect. VII. *Polypetali.*

1215. MELIANTHUS. Caps. 4-locul. 4-loba. Cor. 4-petal. labium inferius constituens.

Cor. bell-shaped, unequal. Filaments hard at the base.

M. A long pod? Cor. regular, 4-cleft. Anthers deformed.

T. Nuts 2, 2-celled, external, wrinkled. Tube of the cor. spiral.

P. A 2-celled nut.

* L. Berry 3-celled, dry. Cor. bell-shaped. Cal. superior.

C. Berry 1-seeded. Cor. gaping. Style very long.

O. Berry 4-seeded. Cor. very long, with a border 3-cleft. Cal. fruit-bearing, bell-shaped.

A. Berry 4-seeded. Cor. nearly equal.

B. Berry many-seeded, 1-celled. Cor. unequal.

B. Drupe 1-seeded, under lip of the cor. rolled back. Seed plaited.

S. Drupe 1-seeded, with a 2-celled nut. Cor. salver-shaped.

V. Drupe 1-seeded, with a 4-celled nut. Cor. gaping, with the upper lip 3-cleft.

M. Drupe 2-seeded, with a 2-celled nut. Cor. bell-shaped, nearly equal.

C. Drupe 2-seeded, with a 2-celled nut. Cor. funnel-shaped, nearly equal.

V. Drupe 2-seeded, with a 2-celled nut. Cor. salver-shaped, with segments pointing one way.

C. Drupe 4-seeded, with a 2-celled nut. Cor. 2-lipped.

D. Drupe 4-seeded, with a 2-celled nut. Cor. nearly equal, with a crooked tube.

Sect. VI. *Cups many-cleft.*

H. Caps. 2-celled. Cor. 1-lipped. Cal. 7-leaved.

L. Caps. 2-celled. Cor. 2-lipped. Cups 2, many-leaved, tiled.

C. Caps. 2-celled. Cor. gaping. Cal. 10-toothed.

T. Caps. 2-celled. Cor. bell-shaped. Cal. double, the outer 2-leaved, the inner 12-toothed.

Sect. VII. *Many-petaled.*

M. Caps. 4-celled, 4-lobed. Cor. 4-petaled, constituting the lower lip.

ORDER I. GYMNOSPERMIA.

1092. AJUGA, or *Bugle.*

10 species; viz. orientalis, decumbens, * pyramidalis, alpina, * genevensis, * reptans, * chamæpithys, chia, iva, salicifolia. Europe.

chamæpithys. * A. leaves 3-cleft, strap-shaped, very entire; flowers sitting, lateral, solitary; stem spreading.—This plant has a degree of bitterness and acrimony; but its real use is far from being ascertained. It stands recommended in the gout, jaundice, and intermitting fevers.

1093. TEUCRIUM, or *Germander.*

64 species; viz. campanulatum, lævigatum, orientale, parviflorum, botrys, nissolianum, trifidum, pseudochamæpithys, fruticans, brevifolium, creticum, marum, quadratulum, multiflorum, regium, laxmanni, sibiricum, asiaticum, cubense, arduini, canadense, virginicum,

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ginicum, japonicum, inflatum, villosum, hyrcanicum, abutiloides, * scorodonia, pseudo-scorodonia, betonicum, resupinatum, massiliense, salviastrum, * scordium, scordioides, * chamædrys, heterophyllum, bracteatum, lucidum, nitidum, flavum, montanum, supinum, thymifolium, pyrenaicum, rotundifolium, buxifolium, aureum, flavescens, gnaphalodos, achæmenis, polium, trifoliatum, pseudhyssopus, valentinum, capitatum, lusitanicum, pycnophyllum, verticillatum, libanitis, pumilum, angustissimum, cœleste, spinosum. Europe, Persia, N. America, W. Indies.

scorodonia. * T. leaves heart-shaped, serrated, on leaf-stalks; flowers in lateral bunches, pointing one way; stem upright.—The people of Jersey are said to make use of this plant in brewing. It possesses the bitterness and a good deal of the flavour of hops; but, upon trial, it gave too much colour to the liquor.

scordium. * T. leaves oblong, sitting, toothed, nakedish; flowers in pairs, on fruitstalks, axillary; stem pubescent, spreading.—The fresh leaves of this plant are bitter, and somewhat pungent. Powdered, they destroy worms. A decoction of this plant is a good fomentation in gangrenous cases. If cows eat it, when compelled by hunger, their milk gets a garlick flavour. Sheep and goats eat it. Horses, cows, and swine, refuse it.

chamædrys. * T. leaves wedge-egg-shaped, cut, scolloped, on leaf-stalks; flowers 3 together; stems somewhat hairy.—This plant is bitter, with a degree of aroma, and may be used with advantage in weak and relaxed constitutions. It is an ingredient in the celebrated gout powders.

The *teucrium chamæpithys* is a low hairy plant, clammy to the touch, of a strong aromatic resinous smell, and a little roughish taste. It is an aperient and vulnerary, and is used also in gouty and rheumatic pains.

The *teucrium marum* is a small shrubby plant, growing spontaneously in Syria, Candy, and other warm climates, and cultivated with us in gardens. The leaves have an aromatic bitterish taste, and, when rubbed betwixt the fingers, a quick pungent smell, which soon affects the head and occasions sneezing. Distilled with water, they yield a very acrid, penetrating essential oil, resembling one obtained by the same means from scurvy grass. These qualities sufficiently point out the uses to which this plant might be applied: at present, it is little otherwise employed than in cephalic snuffs.

1094. SATUREJA, or *Savory.*

11 species; viz. juliana, nervosa, thymbra, gracea, filiformis, montana, rupestris, hortensis, capitata, spinosa, viminea. S. Europe, Jamaica.—The herb of the *satureja hortensis* is raised annually in gardens for culinary purposes. It is a very warm aromatic, and affords in distillation with water, a subtile essential oil, of a penetrating smell, and very hot acrid taste. It yields little of its virtues by infusion to aqueous liquors; rectified spirit extracts the whole of its taste and smell, but elevates nothing in distillation.

1095. THYMBRA, or *Mountain-hyssop.*

Three species; viz. spicata, verticillata, ciliata. Spain, Italy, Levant.

1096. HYSSOPUS, or *Hyssop.*

Four species; viz. officinalis, lophanthus, nepetoides, scrophularifolius. Siberia, S. Europe, N. America.—The leaves of hyssop have an aromatic smell, and a warm pungent taste. Besides the general virtues of aromatics, they are particularly recommended in humoral asthmas, coughs, and other disorders of the breast and lungs, and said to promote expectoration; but so little dependence is put upon any property of this kind, that hyssop has now no place in the Pharmacopœia of the London college.

1097. NEPETA, or *Nep*, or *Cat-mint.*

29 species; viz. * cataria, angustifolia, crispa, heliotropifolia, pannonica, cœrulea, violacea, incana, japonica, ucranica, nepetella, nuda, melissæfolia, hirsuta, italica, multibracteata, reticulata, tuberosa, lanata, scordotis, virginica, malabarica, indica, amboinica, madagascariensis, multifida, botryoides. Europe, India, N. America.

cataria. * N. flowers in spikes; whirls on short fruit-stalks: leaves on leaf-stalks, heart-shaped, tooth serrated.—An infusion of this plant is deemed a specific in chlorotic cases. Two ounces of the expressed juice may be given for a dose. Cats are so delighted with this plant that they can hardly be kept out of the garden wherein it grows. Mr Miller says, that cats will not meddle with it if it is raised from seeds; and in support of this opinion quotes an old saying, "If you set it, the cats will eat it; if you sow it, the cats will not know it." It cannot well be planted without being more or less bruised. Sheep eat it; cows, horses, goats, and swine, refuse it.

1098. ELSHOLTZIA.

Two species; viz. cristata, paniculata.

1099. LAVANDULA, or *Lavender.*

Eight species; viz. spica, stœchas, viridis, dentata, pinnata, multifida, abrotanoides, carnosa. S. Europe, Madeira, E. Indies.

There are different varieties of the *lavandula spica*, particularly the narrow and broad leaved. The flowers of both have a fragrant smell, to most people agreeable, and a warm pungent bitterish taste; the broad-leaved sort is the strongest in both respects, and yields in distillation thrice as much essential oil as the other; its oil is also hotter and specifically heavier: hence in the southern parts of France, where both kinds grow wild, this only is made use of for the distillation of what is called *oil of spike*. The narrow-leaved is the sort commonly met with in our gardens.

Lavender is a warm stimulating aromatic. It is principally recommended in vertigoes, palsies, tremors, suppression of the menstrual evacuations; and in general in all disorders of the head, nerves, and uterus. It is sometimes also used externally in fomentations for paralytic limbs. The distilled oil is particularly celebrated for destroying various cutaneous insects. If soft spongy paper, dipt in this oil, either alone or mixed with that of almonds, be applied at night to the parts infested by the insects, they will certainly be all found dead in the morning. The officinal preparations of lavender are, the essential oil, a simple spirit, and a compound tincture.

The *Lavendula stœchas* is a shrubby plant, considerably smaller than the common lavender. The flowery heads are brought from Italy and the southern parts of France;

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France; they are very apt to grow mouldy in the passage; and even when they escape this inconvenience, are generally much inferior to those raised in our gardens. The best stœchas which we receive from abroad has no great smell or taste: Pomet affirms, that such as the shops of Paris are supplied with is entirely destitute of both; whilst that of our own growth, either when fresh, or when carefully dried, has a very fragrant smell, and a warm, aromatic, bitterish, subacrid taste: distilled with water, it yields a considerable quantity of a fragrant essential oil; to rectified spirit it imparts a strong tincture, which inspissated proves an elegant aromatic extract. This aromatic plant is rarely met with in prescription; the only officinal compositions into which it was admitted were the mithridate and theriaca.

There is another plant called *stœchas*, which from the beauty and durability of its flowers has of late years had a place in our gardens, and whose aromatic qualities render it worthy of attention; this is the *gnaphalium arenarium*, the golden stœchas, goldilocks, or yellow cassidony: its flowers stand in umbels on the tops of the branches; they are of a deep shining yellow colour, which they retain in perfection for many years; their smell is fragrant and agreeable, somewhat of the musky kind; their taste warm, pungent, and subastringent; they impart their flavour to water in distillation, and by infusion to rectified spirit.

1100. SIDERITIS, or *Iron-wort*.

20 species; viz. canariensis, candicans, cretica, montana, elegans, romana, syriaca, taurica, distans, perfoliata, ciliata, incana, virgata, glauca, hyssopifolia, scordioides, spinosa, hirsuta, ovata, lanata. S. Europe, Canary, Madeira.

1101. BYSTROPOGON.

Seven species; viz. pectinatum, sidæfolium, suaveolens, plumosum, origanifolium, canariense, punctatum. Madeira, Canary, Japan.

1102. MENTHA, or *Mint*.

22 species; viz. auricularia, * sylvestris, nemorosa, gratissima, niliaca, glabrata, * viridis, * rotundifolia, crispa, * hirsuta, * aquatica, citrata, * piperita, sativa, dentata, * gentilis, * arvensis, austriaca, canadensis, * pulegium, cervina, perilloides. Europe, Egypt, Canada.

viridis. * M. spikes oblong; leaves spear-shaped, naked, serrated, sitting; stamens longer than the blossom.—The flavour of this species being more agreeable than that of the others, it is generally preferred for culinary and medicinal purposes. A conserve of the leaves is very grateful; and the distilled waters, both simple and spirituous, are universally thought pleasant. The leaves are used in spring salads; and the juice of them, boiled up with sugar, is formed into tablets. The distilled waters, and the essential oil, are often given to stop retching, and frequently with success. Dr Lewis says, that dry mint digested in rectified spirit of wine, gives out a tincture which appears by daylight of a fine dark green, but in candle light of a bright red colour. The fact is, that a small quantity of this tincture is green, either by daylight, or by candle light; but a large quantity of it seems impervious to common daylight; however, when held between the eye and a candle, or between the eye and the sun, it appears red; so that if put into a flat bottle, it appears either green or red, as it is viewed through the flat side or through the edge of the bottle.

piperita. * M. leaves egg-shaped, on leafstalks; stamens shorter than the blossom.—The stem and leaves of it are beset with numbers of very minute glands, containing the essential oil, which rises plentifully in distillation. Peppermint-water is well known as a carminative and antispasmodic. The essence of peppermint is an elegant medicine, and possesses the most active properties of the plant.

arvensis. * M. leaves egg-shaped, acute, serrated; stamens as long as blossoms.—This species prevents the coagulation of milk; and when cows have eaten it, as they will do largely at the end of summer when the pastures are bare, and hunger distresses them, their milk can hardly be made to yield cheese; a circumstance which sometimes puzzles the dairy-maids. Horses and goats eat it; sheep are not fond of it; cows and swine refuse it.

pulegium. * M. leaves egg-shaped, blunt, somewhat scolloped; stems roundish, creeping; stamens longer than the blossom.—The expressed juice of this plant, with a little sugar, is not a bad medicine in the hooping cough. A simple and a spirituous water, distilled from the dried leaves, are kept in the shops. They are prescribed in hysterical affections, and are not without considerable antispasmodic properties. An infusion of the plant may be used with the same intention.

1103. PERILLA.

One species; viz. ocymoides. India.

1104. HYPTIS.

Four species; viz. verticillata, capitata, radiata, chamedrys.

1105. GLECHOMA, or *Gill*, or *Ground-Ivy*.

One species; viz. hederacea. N. of Europe.

G. leaves kidney-shaped, scolloped.—The leaves of this plant, thrown into the vat with ale, clarify it and give it a flavour. Ale thus prepared is often drank as an antiscorbutic. The expressed juice, mixed with a little wine, and applied morning and evening, destroys the white specks upon horses eyes. The plants that grow near it do not flourish. It is said to be hurtful to horses if they eat much of it. Sheep eat it; horses are not fond of it; cows, goats, and swine, refuse it. Little protuberances, composed of many cells, are sometimes found upon the leaves, and are occasioned by insects.

1106. LAMIUM, or *Dead-nettle*.

13 species; viz. ovvala, lævigatum, rugosum, garganicum, maculatum, * album, molle, * purpureum, incisum, bifidum, tomentosum, * amplexicaule, multifidum. Europe.

album. * L. leaves heart-shaped, tapering to a point, serrated, on leafstalks; flowers about 20 in a whirl.—This plant grows wild in hedges; and flowers in April and May. The flowers have been particularly celebrated in uterine fluors, and other female weaknesses, and also in disorders of the lungs; but they appear to be of very weak virtue, and are at present little used in Britain.

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1107. GALEOPSIS, or *Hedge-nettle.*

Four species; viz. * ladanum, * grandiflora, * tetrahit, * cannabina. Europe.

1108. BETONICA, or *Betony.*

Eight species; viz. * officinalis, stricta, incana, orientalis, alopecuros, hirsuta, grandiflora, heraclea.

officinalis. * B. spike interrupted; blossoms, upper lip entire; lower lip, the upper segment notched; calyxes smoothish.—This is a low plant, growing in woods and shady places, in several parts of England; the flowers come forth in June or July; they are of a purplish colour, and stand in spikes on the top of the stalks. The leaves and flowers have an herbaceous, roughish, somewhat bitterish taste, accompanied with a very weak aromatic flavour. This herb has long been a favourite among writers on the materia medica, who have not been wanting to attribute to it abundance of good qualities. Experience does not discover any other virtue in betony than that of a mild corroborant; as such, an infusion or light decoction of it may be drank in tea, or a saturated tincture in rectified spirit given in suitable doses, in laxity and debility of the viscera, and disorders proceeding from thence. The powder of the leaves, snuffed up the nose, provokes sneezing; and hence betony is sometimes made an ingredient in sternutatory powders: this effect does not seem to be owing, as is generally supposed, to any peculiar stimulating quality in the herb, but to the rough hairs which the leaves are covered with. The roots of this plant differ greatly in quality from the other parts; their taste is bitter, and very nauseous; taken in a small dose, they vomit and purge violently, and are supposed to have somewhat in common with the roots of hellebore. It is pretty singular, if true, that betony affects those who gather any considerable quantity of it, with a disorder resembling drunkenness, as affirmed by Simon Paulli and Bartholinus. From these sensible qualities and operative effects, although it has now no place in our pharmacopœias, yet it is perhaps to be considered as a vegetable deserving farther attention.

1109. STACHYS, or *Base Horehound.*

26 species; viz. * sylvatica, circinata, coccinea, * palustris, alpina, * germanica, intermedia, lanata, cretica, heraclea, tenuifolia, glutinosa, spinosa, orientalis, palæstina, maritima, æthiopica, hirta, lavandulifolia, rugosa, recta, arenaria, annua, * arvensis, latifolia, artemisia. Europe, Barbary, Cape, Carolina.

sylvatica. * S. six flowers in a whirl; leaves heart-shaped, on leaf-stalks.—It will dye yellow. The whole plant has a fœtid smell, and toads are thought to be fond of living under its shade. Sheep and goats eat it. Horses, cows, and swine refuse it.

1110. BALLOTA, or *Black Horehound.*

Four species; viz. * nigra, alba, lanata, disticha. Europe, East Indies.

nigra. *. B. leaves heart-shaped, undivided, serrated; calyx, teeth tapering to a point.—It stands recommended in hysterical cases. The Swedes reckon it almost an universal remedy in the diseases of their cattle. Horses, cows, sheep, and goats refuse it.

1111. MARRUBIUM, or *Horehound.*

14 species; viz. alyssum, astracanicum, peregrinum, creticum, candidissimum, superium, catarisefolium, * vulgare, africanum, crispum, hirsutum, hispanicum, pseudodictamnus, acetabulosum.

* M. teeth of the calyx bristle-shaped, hooked.—It is very bitter to the taste, and not altogether unpleasant to the smell. It was a favourite medicine with the ancients in obstructions of the viscera. In large doses it loosens the belly. It is a principal ingredient in the negro Cæsar's remedy for vegetable poisons. A young man who had occasion to take mercurial medicines, was thrown into a salivation which continued for more than a year. Every method that was tried to remove it rather increased the complaint. At length Linnæus prescribed an infusion of this plant, and the patient got well in a short time. Horses, cows, sheep, and goats refuse it. *vulgare.*

1112. LEONURUS, or *Lions-tail.*

Seven species; viz. crispus, * cardiaca, marrubiastrum, galeobdolon, supinus, tataricus, sibiricus. Russia, Siberia, Austria.

* L. stem-leaves spear-shaped, 3-lobed.—The leaves have a strong but not agreeable smell, and a bitter taste. Goats, sheep, and horses eat it. Cows are not fond of it. Swine refuse it. *cardiaca.*

1113. PHLOMIS, or *Jerusalem Sage.*

27 species; viz. fruticosa, purpurea, italica, nissolii, armenica, lychnites, laciniata, samia, crinita, biloba, pungens, herba venti, alpina, tuberosa, zeylanica, martinicensis, urticifolia, decemdentata, biflora, chinensis, indica, molucceides, glabrata, alba, nepetifolia, leonurus, leonites. South Europe, Cape, East and West Indies.

1114. MOLUCCELLA, or *Molucco-Balm.*

Six species; viz. spinosa, lævis, tuberosa, persica, frutescens, grandiflora. Siberia, Levant, India.

1115. CLINOPODIUM, or *Field Basil.*

Three species; viz. * vulgare, ægyptiacum, incanum. Europe, Egypt, North America.

1116. ORIGANUM, or *Wild Marjoram.*

16 species; viz. ægyptiacum, dictamnus, sipyleum, tournefortii, ciliatum, benghalense, creticum, smyrnæum, heracleoticum, * vulgare, glandulosum, onites, syriacum, maru, majorana, majoranoides. S. Europe, Egypt, Carolina.

* O. spikes roundish, panicled, clustered; floral leaves egg-shaped, longer than the calyx.—The whole plant is a warm aromatic. The dried leaves, used instead of tea, are exceedingly grateful. The essential oil of this plant is so acrid, that it may be considered as a caustic, and is much used with that intention by farriers. A little cotton wool moistened with it, and put into the hollow of an aching tooth, frequently relieves the pain. The country people use the tops to dye purple. Goats and sheep eat it. Horses are not fond of it. Cows refuse it. *vulgare.*

The *origanum dictamnus* is a kind of origanum said to grow plentifully in the island of Candy, in Dalmatia, and in the Morea; it has been found hardy enough to bear the ordinary winters of our climate. The leaves, which are the only part in use with us, come from Italy. The best sort are well covered over with a thick white down, and now and then intermixed with purplish flowers. In smell and taste they somewhat resemble lemon thyme: but have more of an aromatic flavour,

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flavour, as well as a greater degree of pungency. When fresh they yield a considerable quantity of an excellent essential oil; but they have now no place either in the London or Edinburgh Pharmacopœias.

The *origanum majorana* is raised annually in our gardens for culinary as well as medicinal uses; the seeds are commonly procured from the southern parts of France, where the plant grows wild. It is a moderately warm aromatic, yielding its virtues both to aqueous and spirituous liquors by infusion, and to water in distillation. It is principally used in disorders of the head and nerves, and in the humoural asthmas and catarrhs of old people. An essential oil of the herb is kept in the shops. The powder of the leaves proves an agreeable errhine, and enters the officinal sternutatory powder.

1117. THYMUS, or *Thyme*.

22 species; viz. * serpyllum, lanuginosus, lævigatus, vulgaris, lanceolatus, numidicus, zygis, marschallianus, inodorus, * acinos, patavinus, alpinus, montanus, piperella, brownei, filiformis, cephalotus, striatus, villosus, mastichina, tragoriganum, virginicus. Europe, N. America, Jamaica.

serpyllum * T. flowers in heads, stems creeping; leaves flat, blunt, fringed at the base.—The whole plant is fragrant, and yields an essential oil that is very heating. An infusion of the leaves removes the headach occasioned by the debauch of the preceding evening. A general opinion prevails, that the flesh of sheep that feed upon aromatic plants, particularly upon thyme, is much superior in flavour to common mutton: but some say this is a vulgar error, that sheep are not fond of aromatic plants; that they will carefully push aside the thyme to get at the grass growing beneath it; and that they never touch it unless when walking apace, and then they will catch at any thing. The attachment of bees to this and other aromatic plants is well known. Sheep and goats eat it. Swine refuse it.

1118. MELISSA, or *Balm*.

Seven species; viz. officinalis, grandiflora, * calamintha, * nepeta, pyrenaica, cretica, fruticosa. South of Europe.

The *melissa officinalis*, when in perfection, has a pleasant smell, somewhat of the lemon kind, and a weak roughish aromatic taste. The young shoots have the strongest flavour; the flowers, and the herb itself when old, or produced in very moist rich soils, or rainy seasons, are much weaker both in smell and taste. Balm, the herb of this plant is appropriated by the writers on the materia medica, to the head, stomach, and uterus: and in all disorders of these parts is supposed to do extraordinary service. So high an opinion have some of the chemists entertained of balm, that they have expected to find in it a medicine which should prolong life beyond the usual period. The present practice, however, holds it in no great esteem, and ranks it, where it certainly deserves to be, among the weaker corroborants. In distillation it yields an elegant essential oil, but in very small quantity; the remaining decoction tastes roughish. Strong infusions of the herb, drank as tea, and continued for some time, have done service in a weak lax state of the viscera; these liquors, lightly acidulated with juice of lemons, turn of a fine reddish colour, and prove an useful, and to many a very grateful, drink in dry parching fevers.

1119. DRACOCEPHALUM, or *Dragon's-head*.

18 species; viz. virginianum, denticulatum, canariense, pinnatum, origanoides, palmatum, peregrinum, fruticulosum, austriacum, ruyschiana, grandiflorum, altaiense, sibiricum, moldavica, canescens, peltatum, nutans, thymiflorum. N. Europe, N. America, Canaries.

1120. MELITTIS, or *Base-balm*.

Two species; viz. * melissophyllum, japonica.

1121. OCIMUM, or *Basil*.

27 species; viz. thyrsiflorum, inflexum, virgatum, monachorum, gratissimum, album, tomentosum, grandiflorum, basilicum, minimum, integerrimum, sanctum, rugosum, crispum, scabrum, americanum, verticillatum, acutum, tenuidorum, polystachyon, serpyllifolium, menthoides, molle, adscendens, scutellarioides, prostratum, capitellatum. Persia, E. Indies, Japan, Chili.

1122. PLECTRANTHUS.

Six species; viz. fruticosus, galeatus, nudiflorus, forskoeli, crassifolius, punctatus. Africa.

1123. TRICHOSTEMA.

Two species; viz. dichotoma, brachiata. North America.

1124. SCUTELLARIA, or *Scull-cap*.

17 species; viz. orientalis, albida, alpina, lupulina, latiflora, * galericulata, hastifolia, * minor, integrifolia, havanensis, purpurascens, hyssopifolia, peregrina, columnæ, indica, altissima, cretica. Europe, China, N. America.

* S. leaves heart-spear-shaped; scolloped flowers axil- *galericulata.*
lary.—When the blossom falls off, the cup closes upon the seeds, which when ripe, being still smaller than the cup, could not possibly open its mouth, or overcome its elastic force, as the down of the seeds do in the compound flowers, and must consequently remain useless, without a possibility of escaping. But nature, ever full of resources, finds a method to discharge them. The cup grows dry, and then divides into two parts; so that the seeds, already detached from the receptacle, fall to the ground. Cows, goats, and sheep eat it; horses and swine refuse it.

1125. PRUNELLA, or *Self-heal*.

Three species; viz. * vulgaris, grandiflora, hyssopifolia. Europe, Barbary.

1126. CLEONIA.

One species; viz. lusitanica. Spain, Portugal.

1127. PRASIUM, or *Shrubby Hedge-nettle*.

Two species; viz. majus, minus. Spain, Italy, Carolina.

1128. PHRYMA.

Two species; viz. leptostachia, dehiscens. North America.

1129. SELAGO.

20 species; viz. corymbosa, cinerea, polystachya, verbenacea, rapunculoides, spuria, hirta, rotundifolia, fasciculata, polygaloides, ovata, coccinea, canescens, geniculata, divaricata, capitata, triquetra, fruticosa, hispida, ciliata. C. of G. Hope.

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Order II. ANGIOSPERMIA.

1130. Bartsia.

Five species; viz. coccinea, pallida, * viscosa, gymnandra, *alpina. Alps of Europe, Hudson's Bay.

1131. Rhinanthus, or *Elephants-head.*

10 species; viz. orientalis, elephas, * crista-galli, trixago, maximus, versicolor, capensis, indicus, virginicus, trifidus. Europe, Cape, India, Virginia.

1132. Euphrasia, or *Eye-bright.*

12 species; viz. latifolia, *officinalis, salisburgensis, tricuspidata, cuneata, * odontites, lutea, linifolia, viscosa, purpurea, longiflora, aspera. Europe.

officinalis. * F. leaves egg-shaped, serrated, sharply toothed.—It is a weak astringent, and was formerly in repute as a remedy for impaired vision. It will not grow but when surrounded by plants taller than itself. Cows, horses, goats, and sheep eat it. Swine refuse it.

1133. Melampyrum, or *Cow-wheat.*

Seven species; viz. * cristatum, *arvense, barbatum, nemorosum, * pratense, *sylvaticum, lineare. Eur.

arvense. * M. spikes conical, loose; floral leaves, with bristle-shaped teeth, coloured.—The seeds when ground with corn give a bitterish and grayish cast to the bread, but do not make it unwholesome. Cows and goats eat it. Sheep refuse it.

pratense. * M. flowers lateral, pointing one way: leaves in distant pairs; blossoms closed.—Where this plant abounds, the butter is yellow and uncommonly good. Swine are very fond of the seeds. Sheep and goats eat it. Cows are very fond of it. Horses and swine refuse it.

1134. Lathræa.

Three species; viz. clandestina, aublatum, * squamaria. Europe.

1135. Schwalbea.

One species; viz. americana. N. America.

1136. Tozzia.

One species; viz. alpina. Alps of Austria, Italy, Pyrenees.

1137. Pedicularis, or *Rattle-coxcomb.*

34 species; viz. *palustris, *sylvatica, euphrasioides, myriophylla, spicata, resupinata, sceptrum carolinum, tristis, lapponica, asplenifolia, flava, striata, sudetica, recutita, elata, foliosa, canadensis, groenlandica, incarnata, uncinata, interrupta, verticillata, acaulis, flammea, hirsuta, rosea, rostrata, tuberosa, gyroflexa, fasciculata, rubens, compacta, achilleifolia, comosa. Europe, N. America.

palustris. * P. stem branched; calyx crested with callous dots; lip of the blossom slanting.—This plant is an unwholesome guest in meadows, being very disagreeable to cattle. Goats eat it. Horses, sheep, and cows refuse it. Swine are not fond of it.

sylvatica. * P. stem branched; calyx oblong, angular, smooth; lip of the blossom heart-shaped.—The expressed juice, or a decoction of this plant, has been used with advantage as an injection for sinuous ulcers. It is said, that if the healthiest flock of sheep be fed with it, they become scabby and scurfy in a short time; the wool will get loose, and they will be overrun with vermine. Cows and swine refuse it.

1138. Gerardia.

12 species; viz. tuberosa, delphinifolia, purpurea, tenuifolia, tubulosa, nigrina, flava, scabra, pedicularia, japonica, glutinosa, sessilifolia. E. Indies, China, Japan, N. America.

1139. Chelone, or *Humming-bird Tree.*

Four species; viz. glabra, obliqua, ruellioides, barbata. N. America.

1140. Pentstemon.

Four species; viz. hirsuta, pubescens, lævigata, campanulata. N. America.

1141. Cyrilla.

One species; viz. pulchella. Jamaica.

1142. Gloxinia.

One species; viz. maculata. Guiana.

1143. Gesneria.

11 species; viz. humilis, corymbosa, acaulis, pumila, craniolaria, grandis, tomentosa, scabra, exserta, calycina, ventricosa. Jamaica, Hispan. S. America.

1144. Antirrhinum, or *Snap-dragon, Calves-snout.*

70 species; viz. * cymbalaria, pilosum, lanigerum, dentatum, heterophyllum, * elatine, elatinoides, * spurium, cirrhosum, ægyptiacum, fruticosum, hexandrum, triphyllum, latifolium, virgatum, triornithophorum, purpureum, versicolor, linarioides, * repens, monspessulanum, sparteum, bipunctatum, amethystinum, laxiflorum, triste, hælava, thymifolium, supinum, simplex, * arvense, pelisserianum, parviflorum, flavum, saxatile, micranthum, viscosum, aparinoides, multicaule, reticulatum, marginatum, glaucum, alpinum, aphyllum, bicorne, macrocarpum, villosum, origanifolium, flexuosum, * minus, dalmaticum, hirtum, genistifolium, junceum, * linarea, linifolium, lagopedioides, canadense, chalepense, reflexum, pedunculatum, * majus, siculum, sempervirens, * orontium, papilionaceum, asarina, molle, pinnatum, unilabiatum. Europe, Egypt, Barbary, Cape.

* A. leaves heart-shaped, 5-lobed, alternate; stems trailing.—Its trailing branches, variously interwoven, often cover old moist walls with a thick tapestry, and when in blossom, make a beautiful appearance. *cymbalaria.*

* A. leaves halberd-shaped, alternate; stems trailing.—This is considerably more bitter than the other species, and is said to have been used successfully in cases of foul ulcers, and in cutaneous eruptions. *elatine.*

* A. leaves spear-strap-shaped, crowded; stem upright; spikes terminating, sitting.—An infusion of the leaves is diuretic and purgative. An ointment, prepared from them, gives relief in the piles. The expressed juice, mixed with milk, is a poison to flies, as is likewise the smell of the flowers. Cows, horses, and swine, refuse it. Sheep and goats are fond of it. *linaria.*

* A. blossom without a spur; flowers in spikes; cups rounded.—Though the seeds of this plant vegetate on any ground, it is only in dry soils and situations that the plant continues to live long enough to produce flowers. *majus.*

1145. Anarrhinum.

Five species; viz. bellidifolium, pedatum, fruticosum, crassifolium, tenellum.

1146. Cymbaria.

One species; viz. daurica. Dauria.

1147.

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1147. TOURETTIA.

One species; viz. lappacea. Isle of Bourbon.

1148. MARTYNIA.

Four species; viz. diandra, carniolaria, proboscidea, longiflora. Cape, America.

1149. TORENIA.

Two species; viz. asiatica, hirsuta. India.

1150. BESLERIA.

Eight species; viz. multifolia, lutea, violacea, incarnata, serrulata, cristata, coccinea, bivalvis. West Indies, S. America.

1151. BRUNFELSIA.

Two species; viz. americana, undulata. W. Indies.

1152. SCROPHULARIA, or *Fig-wort*.

26 species; viz. marilandica, * nodosa, * aquatica, auriculata, appendiculata, * scorodonia, glabrata, betonicifolia, orientalis, frutescens, rupestris, heterophylla, altaica, * vernalis, arguta, trifoliata, sambucifolia, mellifera, hispida, canina, lucida, variegata, chinensis, meridionalis, coccinea, peregrina. Europe, Barb. Madeira, America.

nodosa. * S. leaves oblong heart-shaped, 3-fibred at the base; corners of the stem acute.—This plant is hardly known in modern practice; but the rank smell and bitter taste of the leaves seem to indicate some active properties. Swine that have the scab are cured by washing them with a decoction of the leaves. Goats eat it. Cows, horses, sheep, and swine refuse it.

1153. CELSIA.

Five species; viz. orientalis, arcturus, coromandelina, cretica. Crete, Levant, E. Indies.

1154. HEMIMERIS.

Five species; viz. montana, sabulosa, diffusa, urticifolia, coccinea. C. of G. Hope.

1155. DIGITALIS, or *Fox-glove*.

12 species; viz. * purpurea, minor, thapsi, parviflora, lutea, ambigua, ferruginea, orientalis, lanata, obscura, canariensis, sceptrum. S. Europe, Canary, Madeira.

purpurea. * D. segments of the calyx egg-shaped, acute; blossom blunt, upper lip nearly entire.—This species is certainly a very active medicine, and merits more attention than modern practice till very lately bestowed upon it. It grows wild in woods and on uncultivated heaths: the elegant appearance of its purple flowers (which hang in spikes along one side of the stalk), has gained it a place in some of our gardens. The leaves have been strongly recommended, externally, against scrophulous tumours, and likewise internally, in epileptic disorders; what service they may be capable of doing in these cases, is not ascertained by accurate experiments. Several examples are mentioned by medical writers of their occasioning violent vomiting, hypercatharsis, and disordering the whole constitution; insomuch that Boerhaave accounts them poisonous. Their taste is bitter, and very nauseous. Digitalis, however, has lately been employed with great success in other diseases. A treatise has lately been published by Dr Withering, professedly on the subject of its use in medicine, and containing many important and useful observations.

An infusion of two drams of the leaf, in a pint of water, given in half-ounce doses every two hours or so, till it begin to puke or purge, is recommended in dropsy, particularly that of the breast. It is said to have produced an evacuation of water so copious and sudden, in ascites, by stool and urine, that the compression of bandages was found necessary. The plentiful use of diluents is ordered during its operation. The remedy, however, is inadmissible in many weakly patients. But besides being given in infusion, it has also been employed in substance; and when taken at bed-time, to the extent of one, two, or three grains of the dried powder, it often in a short time operates as a very powerful diuretic, without producing any other evacuation. Even this quantity, however, will sometimes excite very severe vomiting; and that too, occurring unexpectedly. During its operation, it has often very remarkable influence in rendering the pulse slower; and it frequently excites very considerable vertigo, and an affection of vision.

Besides dropsy, digitalis has of late been employed in some instances of hæmoptysis, of phthisis, and of mania, with apparent good effects. But its use in these diseases is much less common than in dropsy.

1156. INCARVILLÆA.

One species; viz. sinensis.

1157. BIGNONIA, or *Trumpet-flower*.

54 species; viz. catalpa, longissima, tomentosa, linearis, sempervirens, tenuisiliqua, cassinoides, obtusifolia, microphylla, unguis, staminea, æquinoctialis, alliacea, spectabilis, laurifolia, rigescens, lactiflora, paniculata, elongata, corymbifera, crucigera, grandifolia, capreolata, pubescens, villosa, echinata, heterophylla, triphylla, mollis, hirsuta, pentaphylla, orbiculata, chrysantha, fluviatilis, leucoxylon, serratifolia, radiata, radicans, grandiflora, stans, africana, bijuga, racemosa, compressa, spathacea, chelonoides, variabilis, alba, peruviana, indica, longifolia, procera, cœrulea, brasiliana. E. and W. Ind. Amer.

1158. CITHAREXYLON, or *Fiddle-wood*.

Six species; viz. cinereum, caudatum, villosum, subserratum, quadrangulare, melanocardium. W. Ind.

1159. HALLERIA, or *African Fly-honeysuckle*.

Two species; viz. lucida, elliptica. Cape of Good Hope.

1160. CRESCENTIA, or *Calabash Tree*.

Two species; viz. cujete, cucurbitina. Virginia, Jamaica, Brazil.

1161. TANÆCIUM.

Three species; viz. parasiticum, jaroba, pinnatum. Jamaica.

1162. GMELINA.

One species; viz. asiatica. Asia.

1163. PETREA.

One species; viz. volubilis. S. Amer.

1164. PREMNA.

Three species; viz. integrifolia, tomentosa, serratifolia. E. Indies.

1165. LANTANA, or *American Viburnum*.

15 species; viz. mista, trifolia, viburnioides, annua, stricta, radula, camara, involucrata, recta, odorata, lavandulacea, salvifolia, melissæfolia, scabrida, aculeata. W. Ind. S. Amer.

1166.

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1166. SPIELMANNIA.
One species; viz. africana. C. of G. Hope.

1167. CORNUTIA.
Two species; viz. pyramidata, punctata. W. Ind.

1168. LOESELIA.
One species; viz. ciliata. Vera Cruz.

1169. CAPRARIA, or *Sweet-weed.*
Six species; viz. biflora, lucida, lanceolata, semiserrata, undulata, humilis. E. and W. Indies, Cape, S. America.

1170. LINDERNIA.
Three species; viz. pyxidaria, dianthera, japonica. Jap. Virg. Hispan.

1171. MANULEA.
17 species; viz. cheiranthus, corymbosa, altissima, pinnatifida, plantaginis, capitata, antirrhinoides, thyrsiflora, argentea, tomentosa, rubra, capillaris, cuneifolia, cœrulea, heterophylla, integrifolia, microphylla. C. of G. Hope.

1172. HEBENSTREITIA.
Six species; viz. dentata, ciliata, integrifolia, erinoides, fruticosa, cordata. C. of G. Hope.

1173. ERINUS.
Seven species; viz. alpina, maritimus, africanus, lychnidea, fragrans, peruvianus, tristis. Alps, Pyrenees, Cape, Peru.

1174. BUCHNERA.
14 species; viz. americana, elongata, cernua, cuneifolia, cordifolia, grandiflora, æthiopica, viscosa, capensis, humifusa, asiatica, euphrasioides, gesneriodes, pinnatifida. Cape, Ceylon, China, America.

1175. BROWALLIA.
Three species; viz. demissa, elata, alienata. South America.

1176. LINNÆA.
One species; viz. *borealis. N. Europe, Asia, and America.

1177. SIBTHORPIA, or *Base Money-wort.*
One species; viz. europæa. Europe, Africa.

1178. LIMOSELLA, or *Mud-wort.*
Two species; viz. *aquatica, diandra. North of Europe.

1179. PHAYLOPSIS.
One species; viz. parviflora.

1180. VANDELLIA.
Two species; viz. diffusa, pratensis. Isle of St Thomas.

1181. BUSSELIA.
One species; viz. sarmentosa.

1182. CONOBEA.
One species; viz. aquatica. Guiana.

1183. STERNODIA.
Five species; viz. maritima, durantifolia, ruderalis, camphorata, aquatica. Jamaica.

1184. OBOLARIA.
One species; viz. virginica. N. America.

1185. ÆGINETIA.
One species; viz. indica.

1186. ORORANCHE, or *Broom-rape.*
18 species; viz. *major, fœtida, caryophyllacea, cœrulescens, elatior, purpurea, minor, alba, gracilis, americana, virginiana, uniflora, cœrulea, phelypæa, tinctoria, cernua, *ramosa, cocoinea. Europe, Malabar, N. Amer.

1187. HYOBANCHE.
One species; viz. sanguinea. Cape of Good Hope.

1188. DODARTIA.
Two species; viz. orientalis, indica. Lev. Ind.

1189. LIPPIA.
Five species; viz. americana, hirsuta, umbellata, cymosa, hemisphærica. Cape, America.

1190. ACHIMENES.
One species; viz. sesamoides. East Indies.

1191. SESAMUM, or *Oily Purging-grain.*
Four species; viz. orientale, luteum, indicum, laciniatum. E. Indies.

1192. TORTULA.
One species; viz. aspera.

1193. HOLMSKIOLDIA.
One species; viz. sanguinea.

1194. MIMULUS, or *Monkey-flower.*
Four species; viz. ringens, glutinosus, alatus, luteus. Virginia, Canada, Peru.

1195. RUELLIA.
46 species; viz. blechum, blechioides, angustifolia, ovata, strepens, patula, pallida, fragrans, lactea, clandestina, violacea, rubra, macrophylla, guttata, imbricata, aristata, intrusa, paniculata, tuberosa, tentaculata, biflora, crispa, fasciculata, mollissima, undulata, involucrata, repanda, ringens, coccinea, repens, uliginosa, pilosa, hirta, depressa, cordifolia, secunda, reptans, japonica, alopecuroidea, barbata, balsamea, salicifolia, longiflora, difformis, rupestris, scabrosa. Egypt, E. and W. Ind. Jap. Amer.

1196. BARLERIA.
13 species; viz. longifolia, solanifolia, hystrix, prionitis, trispinosa, bispinosa, buxifolia, nodiflora, acanthoides, cristata, strigosa, pungens, longiflora.

1197. DURANTA.
Three species; viz. plumieri, ellisia, mutisii. W. Ind. S. Amer.

1198. MYOPORUM.
Four species; viz. laetum, pubescens, crassifolium, tenuifolium. South sea isles.

1199. OVIEDA.
Two species; viz. spinosa, mitis. Java, W. Indies.

1200. MALLINGTONIA.
One species; viz. hortensis.

1201. VOLKAMERIA.
Eight species; viz. aculeata, ligustrina, inermis, capitata, serrata, scandens, japonica, kæmpferi. E. and W. Indies, Japan.

1202. CLERODENDRUM.
Eight species; viz. infortunatum, fortunatum, calamitosum, phlomoides, squamatum, trichotomum, diversifolium, paniculatum. E. Indies, Japan.

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1203. THUNBERGIA.

Two species; viz. capensis, fragrans. C. of Good Hope.

1204. MAURANDIA.

One species; viz. semperflorens.

1205. CASTILLEJA.

Two species; viz. integrifolia, sessifolia. Egypt, E. Indies, S. America.

1206. VITEX, or *Chaste-Tree.*

13 species; viz. ovata, trifiora, divaricata, pubescens, altissima, agnus castus, incisa, leucoxylon, trifolia, umbrosa, capitata, negundo, pinnata. Naples, Sicily, E. and W. Indies.

The *vitex agnus castus* is a small tree, or rather shrub, growing spontaneously in Italy, &c. and raised with us in gardens. Its fruit, which is about the size of a pepper corn, contains four longish seeds, which are said to be of an aromatic smell and an acrid bitterish taste, but which are found, on examination, to be almost inodorous and insipid. These seeds have been celebrated as antiphrodisiacs, and were formerly much used by the monks for allaying the venereal appetite; but experience does not warrant their having any such virtues.

1207. AMASSONIA.

Two species; viz. erecta, punicea. Surinam.

1208. BONTIA, or *Barbadoes Wild-olive.*

One species; viz. daphnoides. W. Indies.

1209. AVICENNIA.

Three species; viz. tomentosa, resinifera, nitida. Martinico, Carthagena.

1210. COLUMNEA.

Four species, viz. scandens, hirsuta, rutilans, hispida. Martinico, Jamaica.

1211. ACANTHUS, or *Bears-breech.*

14 species; viz. mollis, carduifolius, spinosus, arboreus, dioscoroides, ilicifolius, ebracteatus, capensis, furcatus, procumbens, integrifolius, repens, edulis, maderaspatensis. S. Europe, Cape, W. Indies.

1212. LEPIDAGATHIS.

One species; viz. cristata.

1213. ALECTRA.

One species; viz. capensis.

1214. PEDALIUM.

One species; viz. murex. E. Indies.

1215. MELIANTHUS, or *Honey-flower.*

Three species; viz. major, minor, comosus. C. of G. Hope.

In the class Didynamia are

125 Genera, which include 1006 Species. Of these 72 are found in Britain.

CLASSIS XV.

TETRADYNAMIA. (x)

ORDO I. SILICULOSÆ.

Sect. I. *Silicula integra, nec apice emarginata.*

* 1225. DRABA. Silic. valvulis planiusculis. Stylus nullus.

1234. LUNARIA. Silic. valvulis planis, pedicellata. Stylus exsertus.

* 1224. SUBULARIA. Silic. valvulis semioratis. Stylus brevior silicula.

* 1216. MYAGRUM. Silic. valvulis concavis. Stylus persistens.

CLASS XV.

TETRADYNAMIA, OR FOUR LONG AND TWO SHORT STAMENS.

ORDER I. SILICULOSÆ, or those having a Pouch, or broad Pod.

Sect. I. *The Pouch entire, not notched at the point.*

* D. Pouch with flattened valves. No style.

L. Pouch on a pedicle with flat valves. Style protruding.

* S. Pouch with half-oval valves. Style shorter than the pouch.

* M. Pouch with concave valves. Style permanent.

* 1222.

(x) In the flowers of this class of plants there are six stamens, four of them long and two short. It is also most worthy of notice, that the flowers of this class have uniformly four petals, a circumstance which renders it easy to distinguish them. The difference in length of the stamens is not always very obvious, but as the Hexandria class contains no plants with four petals, this last circumstance readily distinguishes the plants of the present class. The orders are two, and are distinguished by the figure of the seed-vessel, which in the first order is a broad and short *pouch*; that is, a roundish flat seed-vessel furnished with a *style*, which is sometimes as long as the seed-vessel itself. In the second order, the seed-vessel is a long *pod*; that is, a very long seed-vessel, without any remarkable style. This is a natural rather than an artificial class. The plants belonging to it are called *anticorbutic*, and their taste is acrid and watery. They lose most of their virtues by drying. None of them are

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* 1222. VELLA. Silic. valvulis dissepimento dimidio brevioribus.

1219. CAKILE. Silic. lanceolata biarticulata, articulis monospermis, articulo supremo secendente.

1218. FUGIONIUM. Silic. transversalis utrinque rostrata, evalvis, monosperma.

* 1217. BUNIAS. Silic. tetraëdra, evalvis, bi s. quadrilocularis, rugosa.

* 1220. CRAMBE. Silic. globosa, unilocularis, monosperma, evalvis.

Sect. II. *Silicula emarginata apice.*

* 1229. IBERIS. Petala duo exteriora majora.

1130. ALYSSUM. Filamenta quædam latere interiore dente notata. Sil. bilocularis.

1131. CLYPEOLA. Silic. orbiculata, valvulis planus, decidua.

1232. PELTARIA. Silic. orbiculata, compresso-plana, non dehiscens.

* 1228. COCHLEARIA. Silic. cordata, valvulis obtusis, gibbis.

* 1226. LEPIDIUM. Silic. cordata, valvulis acutè carinatis.

* 1227. THLAPSI. Silic. obcordata, valvulis marginato carinatis.

* 1221. ISATIS. Silic. obcordata, valvulis carinatis, bipartibilis, 1-sperma, dissepimento fenestrato.

1233. BISCUTELLA. Silic. biloba supra infraque, margine carinato.

1223. ANASTATICA. Silic. retusa. Valvulis dissepimento mucronato longioribus.

ORDO II. SILIQUOSÆ.

Sect. I. *Calyx clausus foliolis longitudinaliter conniventibus.*

* 1247. RAPHANUS. Siliq. articulata.

* 1239. ERYSIMUM. Siliq. tetragona.

* 1240. CHEIRANTHUS. Siliq. germine utrinque glandula notato.

* 1242. HESPERIS. Glandula intra stamina breviora. Pet. obliqua.

* 1143. ARABIS. Glandulæ 4 intra foliola calycina. Stigma simplex.

* 1245. BRASSICA. Glandulæ 2 intra stamina breviora, 2 extra stamina longiora.

1248. CORDYLOCARPUS. Siliq. torulosa, semine supremo inarticulo discreto.

* 1244. TURRITIS. Petala erecta.

* 1256. DENTARIA. Siliq. valvis revolutis dehiscentibus.

1236. RICOTIA. Siliq. unilocularis.

Sect. II. *Calyx hians, foliolis superne distantibus.*

1249. CLEOME. Siliq. dehiscens, unilocularis.

* V. Pouch with valves shorter by half than the partition.

C. Pouch spear-shaped, 2-jointed, with 1-seeded joints, the last joint retiring.

P. Pouch placed crossways, beaked on both sides, no valves, 1-seeded.

* B. Pouch 4-sided, without valves, 2 or 4-celled, wrinkled.

* C. Pouch bulging, 1-celled, 1-seeded, without valves.

Sect. II. *Pouch with a notched end.*

* I. Two outer petals large.

A. Some filaments in the inner side toothed. Pouch 2-celled.

C. Pouch round and flat, with flat valves, deciduous.

P. Pouch round and flat, compressed plane, not opening.

* C. Pouch heart-shaped, with blunt bulging valves.

* L. Pouch heart-shaped, with valves sharply keeled.

* T. Pouch heart-shaped, reversed; valves keel bordered.

* I. Pouch heart-reversed; keeled valves, divisible into 2, 1-seeded; window-shaped partition.

B. Pouch 2-lobed above and beneath, with a keel-shaped border.

A. Pouch bluntly notched at the end. Valves long, with a dagger-pointed partition.

ORDER II. SILIQUOSÆ, or those having a long Pod.

Sect. I. *Calyx shut by leafets closing lengthwise.*

* R. A jointed pod.

* E. Pod 4-gon.

* C. Pod, with a seed-bud marked on both sides with a gland.

* H. A gland between the shorter stamens. Petals oblique.

* A. Four glands between the leafets of the calyx. Stigma undivided.

* B. Two glands betwixt the shorter stamens, 2 beyond the longer stamens.

C. Pod a little swelling out, with the last seed in a separate joint.

* T. Petals erect.

* D. Pod with valves rolled back, open.

R. Pod 1-celled.

Sect. II. *Calyx open, with leafets distant above.*

C. Pod open, 1-celled.

are poisonous It is not a little singular, that they are most acrimonious in moist situations, and wet seasons. Thus the *cochleuria armoracia* (horse radish), growing near water, is so very acrimonious that it can hardly be used; and the *brassica rapa* (turnip) whose root in a dry sandy soil is succulent and sweet, in stiff wet lands is hard and acrimonious.

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* 1237. CARDAMINE. Siliq. dehiscens, valvulis revolutis.
* 1246. SINAPIS. Siliq. dehiscens. Cal. horizontaliter patens.
* 1238. SISYMBRIUM. Siliq. dehiscens, valvis rectiusculis. Cal. patulus.
1241. HELIOPHILA. Siliq. dehiscens. Nectaria 2 recurvata.

* G. Pod open, with valves rolled back.
* S. Pod open. Cal. horizontally expanding.
* S. Pod open, with valves rather straight. Cal. open.
H. Pod open. Nectaries 2, bent back.

ORDER I. SILICULOSÆ.

1216. MYAGRUM, or *Gold of Pleasure.*

12 species; viz. perenne, orientale, rugosum, hispanicum, perfoliatum, chloræfolium, sativum, dentatum, austriacum, paniculatum, saxatile, ægyptium. Europe, Egypt.

1217. BUNIAS, or *Sea Rocket.*

11 species; viz. spinosa, erucago, aspera, orientalis, cochlearioides, tatarica, syriaca, myagroides, ægyptiana, balearica, prostrata. Europe, Africa, America.

1218. PUGIONIUM.

One species; viz. cornutum.

1219. CAKILE.

Two species; viz. maritima, ægyptiaca.

1220. CRAMBE, or *Sea-cabbage*, or *Kale.*

Eight species; viz. * maritima, tatarica, orientalis, hispanica, reniformis, filiformis, fruticosa, strigosa. Sea shores of Europe, Madeira.

maritima. * C. leaves and stem smooth.—The young and tender plants are boiled as cabbage; but when full grown they occasion giddiness. Horses, cows, goats, sheep, and swine eat it.

1221. ISATIS, or *Woad.*

Four species; viz. * tinctoria, lusitanica, armena, alpina. Sea shores of Europe, Egypt.

tinctoria. * I. root-leaves scolloped; stem-leaves arrow-shaped; pouches oblong.—With the juice of this plant, it is said, the ancient Britons painted their bodies, to render themselves more terrible to their enemies. It is much used by the dyers for its blue colour, and it is the basis of many other colours. It is cultivated for their use. Cows eat it; horses, sheep, and goats refuse it.

1222. VELLA, or *Spanish Cress.*

Two species; viz. * annua, pseudo-cytisus. Siberia, Spain.

1223. ANASTATICA, or *Rose of Jericho.*

One species; viz. hierochuntica. Austria, Levant.

1224. SUBULARIA, or *Awl-wort.*

Two species; viz. * aquatica, alpina. N. of Europe, Arabia.

1225. DRABA, or *Whitlow-grass.*

16 species; viz. aizoides, rigida, ciliaris, alpina, hispida, * verna, caroliniana, nivalis, * stellata, androsacea, pyrenaica, * muralis, nemoralis, hirta, * incana, magellanica. Alps of Europe, N. America.

* D. stalks naked; leaves sparingly serrated; petals divided.—This is one of our earliest flowering plants. It is good as a salad. Goats, sheep, and horses eat it; cows are not fond of it; swine refuse it. *verna.*

1226. LEPIDIUM, or *Dittander.*

29 species; viz. perfoliatum, vesicarium, nudicaule, procumbens, alpinum, calycinum, * petræum, cardamines, spinosum, sativum, lyratum, crassifolium, * latifolium, amplexicaule, glastifolium, oleraceum, piscidium, subulatum, graminifolium, apetalum, suffruticosum, * didymum, * ruderale, virginicum, divaricatum, iberis, pollichii, bonariense, chalepense. Europe, Cape, America, New Zealand.

* L. leaves egg-spear-shaped, entire, serrated.—This is one of the antiscorbutics, and was formerly used in the place of *horse-radish.* An infusion of it excites vomiting. *latifolium*

1227. THLASPI, or *Treacle-mustard.*

14 species; viz. peregrinum, arabicum, * arvense, alliaceum, psychine, saxatile, hirtum, * campestre, * montanum, alpinum, * perfoliatum, * alpestre, * bursa pastoris, ceratocarpon. Europe.

Two sorts of the *thlaspi arvense* are used promiscuously; they both grow wild: their seeds have an acrid biting taste like common mustard, with which they agree in medical qualities.

The *thlaspi bursa pastoris* is common in waste places, and is found in flower all the summer. Shepherd's-purse, or the leaf, has long been celebrated as an astringent, and strongly recommended in diarrhœas, dysenteries, uterine fluors, and in general in all diseases where astringents of any kind can avail. Some have esteemed it so powerful a styptic as scarcely to be safely exhibited internally. Others have thought it to be of a hot fiery nature, and supposed it to stop fluxes and hemorrhagies by coagulating the juices like alcohol, and burning or searing the orifices of the vessels. The sensible qualities of shepherd's purse discover little foundation for either of these opinions: it has no perceptible heat, acrimony, pungency, and scarcely any astringency: the taste is almost merely herbaceous, so as sufficiently to warrant the epithet given to this plant, *fatuum.* It is hardly in use in Britain.

1228. COCHLEARIA, or *Scurvy-grass.*

11 species; viz. * officinalis, * danica, * anglica, * groenlandica, sibirica, acaulis, * coronopus, * armoracia, macrocarpa, glastifolia, draba. Europe.

* C. root-leaves heart-circular; stem-leaves oblong, a little indented.—Notwithstanding this plant is a native of the sea coast, it is cultivated in our gardens without any sensible alteration of its properties. It possesses a considerable *officinalis.*

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considerable degree of acrimony, and this acrimony seems to reside in a very subtile essential oil. Its effects as an antiscorbutic are universally known, and it is a powerful remedy in the pituitous asthma, and in what Sydenham calls the scorbutic rheumatism. A distilled water and a conserve are prepared from the leaves, and its juice is prescribed along with that of oranges, by the name of antiscorbutic juices. It may be eaten as a salad. Cows eat it. Horses, goats, and sheep, refuse it.

armoracia * C. root-leaves spear-shaped, scolloped; stem-leaves snipt.—The root of this plant, scraped, is in common use in England as a condiment for fish, roast beef, &c. and it is used for many other culinary purposes. An infusion of it in cold milk makes one of the softest and best cosmetics. In paralytic and dropsical cases, it is a useful stimulant and diuretic. A strong infusion of it excites vomiting. A distilled water is prepared from it. Horses, cows, goats, sheep, and swine refuse it.

anglica. * C. all the leaves egg-spear-shaped. This is a pungent stimulating medicine; capable of dissolving viscid juices, opening obstructions of the viscera and the more distant glands, and promoting the fluid secretions; it is particularly celebrated in scurvies, and is the principal herb employed in these kinds of disorders in the northern countries.

1229. IBERIS, or *Candy-tuft.*

18 species; viz. semperflorens, cappadocica, sempervirens, gibraltarica, saxatilis, vermiculata, rotundifolia, cepæfolia, carnosa, ciliata, parviflora, nana, umbellata, * amara, linifolia, odorata, * nudicaulis, pinnata. S. Europe, Arabia, Persia.

1230. ALYSSUM, or *Mad-wort.*

31 species; viz. spinosum, maritimum, halimifolium, tenuifolium, saxatile, lunarioides, argenteum, alpestre, serpyllifolium, atlanticum, orientale, hyperboreum, incanum, minimum, strictum, calycinum, sibiricum, spathulatum, montanum, tortuosum, campestre, linifolium, clypeatum, cheiranthifolium, sinuatum, creticum, gemonense, dasycarpum, utriculatum, vesicaria, deltoideum. Europe, N. Amer.

1231. CLYPEOLA, or *Treacle-mustard.*

One species; viz. jonthlaspi. Italy, France, Carolina.

1232. PELTARIA.

Three species; viz. alliacea, garcini, capensis. Cape.

1233. BISCUTELLA, or *Buckler-mustard.*

Ten species; viz. auriculata, apula, lyrata, raphanifolia, coronopifolia, lævigata, subspathulata, montana, sempervirens, peruviana. Europe, N. Amer.

1234. LUNARIA, or *Moon-wort, Honesty.*

Two species; viz. rediviva, annua. N. of Eur.

ORDER II. SILIQUOSÆ.

1235. RICOTIA.

One species; viz. ægyptiaca. Egypt.

1236. DENTARIA, or *Tooth-wort.*

Seven species; viz. enneaphylla, glandulosa, laciniata, * bulbifera, microphylla, pinnata, pentaphyllos. Alps of Austria, S. Europe.

1237. CARDAMINE, or *Lady's-smock.*

22 species; viz. * bellidifolia, alpina, asarifolia, nudicaulis, nivalis, resedifolia, trifolia, scutata, africana, chelidonia, thalictroides, macrophylla, * impatiens, parviflora, pensylvanica, græca, * hirsuta, latifolia, * pratensis, * amara, granulosa, virginica. Europe, America.

* C. leafets of the root-leaves roundish, those of the stem-leaves spear-shaped, very entire.—This is a perennial plant which grows in meadow grounds, sends forth purplish flowers in the spring, and in its sensible qualities resembles the *nasturtium aquaticum.* Long ago it was employed as a diuretic, and of late it has been introduced in nervous diseases. A dram or two of the powder is given twice or thrice a-day. It has little sensible operation, except that it sometimes sweats.—Goats and sheep eat of it. Horses and swine refuse it. Cows are not fond of it. *pratensis.*

* C. leaves winged; suckers from the bosom of the leaves; leafets of the stem-leaves angular, sitting.—Sheep eat it. Cows are not fond of it. The young leaves are acrid and bitterish, but do not taste amiss in salads. They are much used for that purpose in Lancashire. The leaves are pungent, bitter, and aromatic, in such a degree as to promise very considerable uses. *amara.*

1238. SISYMBRIUM, or *Water-cresses.*

53 species; viz. * nasturtium, * sylvestre, palustre, * amphibium, pyrenaicum, tanacetifolium, ceratophyllum, coronopifolium, tenuifolium, sagittatum, amplexicaule, supinum, polyceratium, filifolium, bursifolium, torulosum, * murale, * monense, repandum, tillieri, vimineum, barrelieri, arenosum, valentinum, parra, asperum, lævigatum, millefolium, * sophia, album, cinereum, altissimum, echartsbergense, pannonicum, erysimoides, * irio, columnæ, loeselii, obtusangulum, orientale, barbareæ, lyratum, catholicum, heterophyllum, glaciale, strictissimum, pendulum, hispanicum, pumilum, salsuginosum, integrifolium, indicum, hispidum. Europe, Canaries, India.

* S. leaves winged; leafets egg-shaped.—This plant is very universally used as an early and wholesome spring salad. It is an excellent antiscorbutic and stomachic, with less acrimony than the scurvy-grass. It is an ingredient in the antiscorbutic juices. It is recommended as of singular efficacy for accelerating the circulation, strengthening the viscera, opening obstructions of the glands, promoting the fluid secretions, and purifying the blood and humours; for these purposes the expressed juice, which contains the peculiar taste and pungency of the herb, may be taken in doses of an ounce or two, and continued for a considerable time. *nasturtium.*

* S. pods oblong egg-shaped; leaves wing-cleft, serrated; petals longer than the cup.—The ends of the *general fruitstalks* are often swoln into a cauliflower-like substance, purplish, and containing small grubs of the same colour. Cows refuse it. Sheep and goats are not fond of it. *amphibium.*

* S. petals smaller than the cups; leaves doubly compound, winged.—The pods retain the seeds all winter, and small birds feed upon them. The plant has been sometimes prescribed in hysteric and dysenteric cases; and the seeds are given to destroy worms. Sheep and cows eat it. Horses and goats are not fond of it. Swine refuse it. *sophia.*

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1239. ERYSIMUM, or *Hedge-mustard.*

14 species; viz. * officinale, * barbarea, præcox, * aliaria, repandum, * cheiranthoides, hieracifolium, odoratum, virgatum, diffusum, angustifolium, junceum, bicorne, quadricorne. Europe, Barbary, Canary, Carolina.

officinale. * E. pods pressed to the spike-stalks; leaves notched.—This plant is warm and acrid to the taste; and when cultivated is used as a spring pot-herb. Birds are fond of the seeds. Sheep and goats eat it. Cows, horses, and swine refuse it. By means of it a hoarseness, occasioned by loud speaking, is said to have been cured in three days by Rondeletius.

barbarea. * E. pods indistinctly four-cornered; leaves lyre-shaped, the terminating segment circular.—The common people in Sweden are said to use this plant in salads, early in the spring, and late in the autumn; they also boil them as kale. It is sown in gardens as an early spring salad; and also in England, where it is called French cress. Cows eat it. Horses and swine refuse it. Goats and sheep are not fond of it.

aliaria. * E. leaves heart-shaped.—The Prussians are said to eat the leaves along with salted meats in the spring. They are used with lettuce and the colder salads. The seeds excite sneezing. Cows and goats eat it. Horses, sheep, and swine refuse it. When it grows in poultry yards the fowls eat it, and it gives an intolerably rank taste to their flesh. In Wales it is much used as a frying herb.

cheiranthoides. * E. stem very much branched; leaves spear-shaped, oblique, waving and toothed; pods expanding.—The country people give the seeds of this plant to destroy worms, and with good effect. Horses, cows, goats, sheep, and swine, eat it.

1240. CHEIRANTHUS, or *Stock July-flower.*

34 species; viz. erysimoides, helveticus, alpinus, lanceolatus, * cheiri, fruticulosus, callosus, strictus, tenuifolius, mutabilis, apricus, chius, maritimus, parviflori, salinus, bicuspidatus, incanus, fenestralis, annuus, littoreus, contortuplicatus, leucanthenus, tristis, trilobus, pulchellus, pinnatifidus, tricuspidatus, tomentosus, odoratissimus, sinuatus, taraxacifolius, cuspidatus, quadrangulus, farsetia. Alps, S. Europe, Egypt, Madeira.

cheiri. * C. leaves spear-shaped, acute, smooth; branches angular; stem shrub-like.—This plant has found place in our gardens, where it has produced a considerable number of varieties, but none which have a more delightful scent than the wild one. The flowers have a pleasant smell, and a subacrid, bitterish, not agreeable taste; they are said to be cordial, anodyne, aperient, and emmenagogue, but are wholly neglected in the present practice.

1241. HELIOPHILA.

12 species; viz. integrifolia, incana, circæoides, amplexicaulis, flava, canescens, pusilla, filiformis, pendula, pinnata, coronopifolia, digitata. C. of G. Hope.

1242. HESPERIS, or *Dames-violet, Rocket.*

Ten species; viz. tristis, laneiniata, matronalis, * inodora, tatarica, africana, ramosissima, arenaria, verna, lacera. Siberia, S. Europe, Africa.

1243. ARABIS, or *Base Tower-mustard.*

21 species; viz. alpina, grandiflora, * thaliana, crantziana, recta, serpillifolia, reptans, coerulea, bellidifolia, nutans, lyrata, hispida, * stricta, halleri, ovivensis, canadensis, lucida, pendula, * turrita, saxatilis, aspera. N. Europe, N. America.

1244. TURRITIS, or *Tower-mustard.*

Eight species; viz. * glabra, lævigata, stricta, * hirsuta, patula, pubescens, ciliata, alpina. Europe.

1245. BRASSICA, or *Cabbage.*

24 species; viz. * orientalis, austriaca, * campestris, arvensis, alpina, * napus, * rapa, * oleracea, richerii, cretica, suffruticosa, chinensis, violacea, sublinstata, polymorpha, teretifolia, erucastrum, eruca, pinnatifida, elongata, cheiranthus, vessicaria, lyrata, crassifolia. Europe, China.

napus. * B. the root a regular continuation of the stem, spindle-shaped.—The roots of the cultivated variety may be eaten like the turnip, but they have a strong taste; and its seeds, which are called cole-seed, afford a large quantity of expressed oil, called *rape oil*: what remains after expressing the oil, is called *oil-cake*, and is used for fattening oxen. In Norfolk, the cakes are broken to pieces, and strewed on the land as a manure. It is thought to be a very efficacious one, and is sold from 4l. to 6l. per ton. About half a ton is laid on an acre. Cows, goats, and swine eat it.

rapa. * B. the root a regular continuation of the stem, cylindrical, fleshy. *Turnip.*—The roots of it are eaten either raw, boiled, or roasted. Pepper is commonly used with them. They relax the bowels, and are supposed to sweeten the blood. They are hurtful to pregnant and hysterical women, and to those who are subject to flatulencies. The juice well fermented affords by distillation an ardent spirit. The rind is acrimonious. If the roots are kept in sand, or in a cellar, during the winter, they send out white shoots, and yellowish leaves, which being rather sweet, and not unpleasant to the palate, are used as salad, when other esculent plants are not to be had. But the greatest use of turnips is in feeding oxen and sheep in the winter.

oleracea. * B. the root a regular continuation of the stem, cylindrical, fleshy. *Sea and Common Cabbage.*—Early in the spring, the sea-cabbage is preferred to the cultivated kinds, but when gathered on the sea-coast, it must be boiled in two waters, to take away the saltness. The roots may be eaten like those of the preceding species, but they are not so tender. The different varieties of cultivated garden cabbage originate from this, all of which are much in use at our tables. The red cabbage is chiefly used for pickling. In some countries they bury the white cabbage when fully grown in the autumn, and thus preserve it all winter. The Germans cut them to pieces, and along with some aromatic herbs and salt press them close down in a tub, where they soon ferment, and are then eaten under the name of *sour-crout*. If cabbages are sowed or planted for several years together in the same soil, the heads become smaller, and the roots knotty. This is occasioned by the larvæ of flies. Horses eat the leaves, but do not seem fond of them. Cows grow fat upon them.

The *brassica eruca* was formerly much cultivated in gardens, for medical use, and for salads; but is at present less common. In appearance it resembles mustard, but it is easily distinguishable, by the smoothness of its leaves and its disagreeable smell. The seeds have a pungent taste of the mustard kind, but weaker; they have

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have long been celebrated as aphrodisiacs; and may probably have in some cases a title to this virtue, in common with other acrid plants.

1246. SINAPIS, or *Mustard.*

19 species; viz. *arvensis, orientalis, brassicata, *alba, *nigra, pyrenaica, pubescens, hispida, chinensis, juncea, allioni, erucoides, cornua, hispanica, japonica, incana, frutescens, radicata, lævigata. Europe, China, Madeira.

arvensis. * S. pods with many angles, swoln and bunched out by the seeds; smooth, longer than the 2-edged beak.—The Scandinavians are said to boil and eat it as a cabbage, and in Ireland the tender tops are collected for the same purpose. Cows, goats, and swine eat it. Sheep are very fond of it. Horses generally refuse it.

alba. * S. pods rough with hair; beak very long, slanting, sword-shaped.—It is sown in the winter and early in the spring, to supply our tables with salading. The seeds have nearly the same properties as those of the next species.

nigra. * S. pods smooth, laid flat to the spike-stalk.—The seeds of this plant, reduced to powder, make the common mustard so much in request at our tables. They yield a considerable quantity of expressed oil, which partakes but little of the acrimony of the plant. The seeds when unbruised impart but little taste to boiling water. Taken inwardly, in the quantity of a table spoonful or more, they gently loosen the bowels, and are of service in asthma, chronic rheumatism, and palsy. The powdered seeds curdle milk, and give a strong impregnation to boiling water. This infusion taken in considerable quantity vomits, in smaller doses it is an useful aperient and diuretic. Cataplasms formed with crumb of bread, vinegar, and powdered mustard seed, are very commonly applied to the soles of the feet, as stimulants, in fevers that require such treatment; they are used with advantage, topically applied, in fixed rheumatic and sciatic pains. Upon the whole, wherever we want a strong stimulus, that acts upon the nervous system, without exciting much heat, we know none preferable to mustard seed. Its acrimony consists in an essential oil.

1247. RAPHANUS, or *Radish.*

Eight species; viz. sativus, caudatus, *raphanistrum, sibiricus, tenellus, arcuatus, lanceolatus, pilosus. Europe, Egypt, China.

* R. pods round, jointed, smooth, of one cell.—In wet seasons it grows in great quantity amongst the barley in Sweden, and the common people who eat barley bread, are afflicted with very convulsive complaints, in those provinces, and in those seasons, wherein this plant abounds. Horses eat it. Cows refuse it. *raphanistrum.*

1248. CORDYLOCARPUS.

Two species; viz. muricatus, lævigatus.

1249. CLEOME, or *Base Mustard.*

23 species; viz. juncea, heptaphylla, pentaphylla, triphylla, polygama, icosandra, viscosa, dodecandra, felina, chelidonii, gigantea, aculeata, spinosa, serrata, ornithopodioides, violacea, arabica, tenella, filifolia, gujanensis, monophylla, capensis, procumbens. Portugal, Cape, East and West Indies.

In the class Tetradynamia are

34 Genera, including 436 Species, of which 58 are found in Britain.

CLASSIS XVI.

MONADELPHIA (F).

ORDO I. TRIANDRIA.

1253. GALAXIA. Monogyna. Spatha 1 s. 2-phylla. Cor. 1-petala, 6-fida.

1251. SISYRINCHIUM. Monogyna. Spatha 2-phylla. Petala 6, subæqualia.

CLASS XVI.

MONADELPHIA.

ORDER I. TRIANDRIA, or 3 Stamens.

G. One pistil. Sheath 1 or 2-leaved. Cor. 1-petaled, 6-cleft.

S. One pistil. Sheath 2-leaved. Petals 6, nearly equal.

1252.

(F) In this class the filaments are all united together at the bottom, but separate at the top. The union at the bottom gives rise to the name Monadelphia or *one brotherhood.* The orders are determined by the number of stamens. The plants of this class were considered by Tournefort as having only one petal. But all the petals are distinct at the base; though, by the intervention of the united filaments, they cohere all together as one body; on which account they may properly be considered as having five petals. Linnæus remarks, that the fruit does not afford sufficient marks whereby to distinguish the genera in this class; but that the calyx is of the utmost importance, as it furnishes invariable characters. Withering observes, that the petals are truly a continuation of the cylindrical sheath formed by the united filaments, which incloses the styles and germens as it descends; when rising upwards it spreads out into petals.

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1252. FERRARIA. Monogyna. Spatha 2-phylla. Petala 6, tribus exterioribus latioribus.

1254. APHYTEIA. Monogyna. Cal. 3-fidus. Petala 3. Bacca polysperma.

1250. TAMARINDUS. Monogyna. Cal. 4-partitus. Petala 3. Legumen.

F. One pistil. Sheath 2-leaved. Petals 6, the 3 outermost broadest.

A. One pistil. Cal. 3-cleft. Petals 3. Berry many-seeded.

T. One pistil. Cal. 4-parted. Petals 3. Leguminous.

ORDO II. PENTANDRIA.

ORDER II. PENTANDRIA, or 5 Stamens.

1263. ERODIUM. Monogyna. Arilli 5, monospermi, ad basin receptaculi rostrati. Cal. 5-phyll. Cor. 5-petala. Nect. squamæ 5.

1256. SYMPHONIA. Monogyna. Bacca 5-locularis, 5-sperma. Cal. 5-phyll. Cor. 5-petala.

1255. OZOPHYLLUM. Monogyna. Caps. 5-locularis. Cal. 5-dentatus. Cor. 5-petala, infundibuliformis.

1261. OCHROMA. Monogyna. Caps. 5-locularis. Cal. duplex. Cor. 5-petala. Antheræ anfractuosæ.

1257. LERCHEA. Monogyna. Caps. 3-locularis, polysperma. Cal. 5-fidus. Cor. 1-petala.

1258. WALTHERIA. Monogyna. Caps. 1-locularis, 1-sperma. Cal. duplex. Cor. 5-petala.

1262. PASSIFLORA. Trigyna. Cal. 5-partitus. Cor. 5-petala, calyci inserta. Nectar. filamentosum.

1259. HERMANNIA. Pentagyna. Caps. 5-locularis. Cal. 5-fidus. Petala 5, cucullata, obliqua. Filamenta dilatata.

1260. MELOCHIA. Pentagyna. Caps. 5-locularis, 1-sperma. Cal. sub-duplex. Petala 5, patentia. Filamenta subulata.

Linum, Anagallis, Lysimachia, Pelargonium betonicum, &c. Geranium pusillum. Mahernia, Leea, Ayenia, Buttneria.

E. One pistil. Seed-coats 5, 1-seeded at the base of a beaked receptacle. Cal. 5-leaved. Cor. 5-petaled. Nect. 5 scales.

S. One pistil. Berry 5-celled, 5-seeded. Cal. 5-leaved. Cor. 5-petaled.

O. One pistil. Caps. 5-celled. Cal. 5-toothed. Cor. 5-petaled, funnel-shaped.

O. One pistil. Caps. 5-celled. Cal. double. Cor. 5-petaled. Anthers turning.

L. One pistil. Caps. 3-celled, many-seeded. Cal. 5-cleft. Cor. 1-petaled.

W. One pistil. Caps. 1-celled, 1-seeded. Cal. double. Cor. 5-petaled.

P. Three pistils. Cal. 5-parted. Cor. 5-petals inserted in the cal. Nectary like a filament.

H. Five pistils. Caps. 5-celled. Cal. 5-cleft. Petals 5, cone-shaped, oblique. Filaments dilated.

M. Five pistils. Caps. 5-celled, 1-seeded. Cal. nearly double. Petals 5, expanding. Filaments awl-shaped.

ORDO III. HEPTANDRIA.

ORDER III. HEPTANDRIA, or 7 Stamens.

1264. PELARGONIUM. Monogyna. Arilli 5, monospermi, ad basin receptaculi rostrati. Cal. 5-partitus, nectariferus. Cor. 5-petala, inæqualis.

P. One pistil. Seed-coats 5, 1-seeded, beaked at the base of the receptacle. Cal. 4-parted, bearing the nectary. Cor. 5-petaled, unequal.

ORDO IV. OCTANDRIA.

ORDER IV. OCTANDRIA, or 8 Stamens.

1266. AITONIA. Monogyna. Bacca sicca, unilocularis. Cal. 4-partitus. Petala 4.

1265. PISTIA. Monogyna. Caps. 1-locul. Cal. spathaceus, 1-phyllus. Cor. 0.

Erica monadelphia, Guarea, Persoonia.

A. One pistil. Berry dry, celled. Cal. 4-parted. Petals 4.

P. One pistil. Caps. 1-celled. Cal. sheath-like, 1-leafed. No cor.

ORDO V. DECANDRIA.

ORDER V. DECANDRIA, or 10 Stamens.

1271. GERANIUM. Monogyna. Arilli 5, monospermi, ad basin receptaculi rostrati. Cal. 5-phyllus. Cor. 5-petala.

1270. SENRÆA. Monogyna. Caps. 5-locularis. Cal. duplex. Cor. 5-petala.

1267. CRINODENDRUM. Monogyna. Caps. unilocularis, trisperma. Cal. 0. Cor. 6-petala.

1268. CONARUS. Monogyna. Caps. 1-sperma. Cal. 5-partitus. Cor. 5-petala.

1269. HUGONIA. Pentagyna. Drupa 1-sperma. Cal. 5-part. inæqualis. Cor. 5-petala.

Oxalis et nonnullæ Papilionaceæ, Gærtneria, Trichilia, Turræa, Sandoricum, Swietenia, Strigilia, Melia, Samyda, Casearia, Erythroxylon, Malpighia, Banisteria, Hiræa, Triopteris, Averrhoa.

G. One pistil. Seed-coats 5, 1-seeded, beaked at the base of the receptacle. Cal. 5-leaved. Cor. 5-petaled.

S. One pistil. Caps. 5-celled. Cal. double. Cor. 5-petaled.

C. One pistil. Caps. 1-celled, 3-seeded. No cal. Cor. 6-petaled.

C. One pistil. Caps. 1-seeded. Cal. 5-parted. Cor. 5-petaled.

H. Five pistils. Drupe 1-seeded. Cal. 5-parted, unequal. Cor. 5-petaled.

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Ordo VI. ENDECANDRIA.

1272. Brownea. Monogyna. Cal. 2-fidus. Cor. exterior, 5-fida; interior 5-petala. Legumen.

Ordo VII. DODECANDRIA.

1274. Monsonia. Monogyna. Cal. simplex, 5-phyllus. Cor. 5-petala, dentata. Arilli 5, monospermi, ad basin receptaculi rostrati.

1276. Helicteris. Monogyna. Cal. simplex, 5-fidus. Cor. 5-petala. Caps. 5, spirales.

1275. Plagianthus. Monogyna. Cal. simplex, 5-fidus. Cor. 5-petala. Bacca.

1273. Acia. Monogyna. Cal. simplex, 5-partitus. Cor. 5-petala. Drupa.

1281. Pterospermum. Monogyna. Cal. simplex. Cor. 5-petala. Caps. 5-locularis. Semina alata.

1277. Cienfuegia. Monogyna. Cal. duplex. Cor. 5-petala. Caps. 3-locularis, 3-sperma.

1280. Pentapetes. Monogyna. Cal. duplex. Cor. 5-petala. Caps. 3-locularis, dissepimentis contrariis.

1279. Dombeia. Monogyna. Cal. duplex. Cor. 5-petala. Caps. 5, bivalves, coalitæ.

1278. Assonia. Pentagyna. Cal. duplex. Cor. 5-petala. Caps. 5, bivalves, coalitæ.

Halesia, Styrax, Sterculia, Kleinhofia.

Ordo VIII. POLYANDRIA.

1282. Carolinea. Monogyna. Cal. simplex, subtruncatus. Caps. lignosa, 1-locul. polysperma.

1301. Gordonia. Monogyna. Cal. simplex, 5-phyllus. Caps. 5-locularis. Sem. bina, alata.

1305. Morisonia. Monogyna. Cal. simplex, 2-fidus. Bacca capsularis, pedicellata. Petala 4.

1309. Gustavia. Monogyna. Cal. simplex, 4 s. 6-fidus. Bacca sicca, 4 s. 5-locul. polysperma. Petala 4 s. 6.

1307. Crossostylis. Monogyna. Cal. simplex, 4-partitus. Bacca unilocul. polysperma.

1304. Myrodia. Monogyna. Cal. simplex, rumpens. Drupa 2 s. 3-locularis. Petala 5.

1308. Barringtonia. Monogyna. Cal. simplex, 2-phyllus. Drupa nuce tetragona. Petala 4.

1303. Mesua. Monogyna. Cal. simplex, 4-phyllus. Nux tetragona, 1-sperma. Petala 4.

1306. Poureatia. Monogyna. Cal. simplex, 5-partitus. Drupa sicca, 1-sperma, 5-alata. Petala 5.

1300. Stuartia. Pentagyna. Cal. simplex, patens. Caps. 5-locularis. Sem. solitaria.

1287. Palavia. Monogyna. Cal. simplex, 5-fidus. Capsulæ monospermæ, conglomeratæ absque ordine.

1285. Lagunæa. Monogyna. Cal. simplex, 5-fidus. Caps. 5-locularis, dissepimentis contrariis.

1286. Sida. Submonogyna. Cal. simplex, angulatus. Caps. multilocularis, 1-sperma.

1284. Bombax. Monogyna. Cal. simplex. Caps. 5-locularis, polysperma. Stylus indivisus. Semina lanata.

Order VI. ENDECANDRIA, or 11 Stamens.

B. One pistil. Cal. 2-cleft. Outer cor. 5-cleft; inner 5-petaled. Leguminous.

Order VII. DODECANDRIA, or 12 Stamens.

M. One pistil. Cal. simple, 5-leaved. Cor. 5-petaled, toothed. Seed-coats 5, 1-seeded, beaked at the base of the receptacle.

H. One pistil. Cal. simple, 5-cleft. Cor. 5-petaled. Caps. 5, spiral.

P. One pistil. Cal. simple, 5-cleft. Cor. 5-petaled. A berry.

A. One pistil. Cal. simple, 5-parted. Cor. 5-petaled. Drupe.

P. One pistil. Cal. simple. Cor. 5-petaled. Caps. 5-celled. Seeds winged.

C. One pistil. Cal. double. Cor. 5-petaled. Caps. 3-celled, 3-seeded.

P. One pistil. Cal. double. Cor. 5-petaled. Caps. 5-celled, with opposite partitions.

D. One pistil. Cal. double. Cor. 5-petaled. Capsules 5, 2-valved, united.

A. Five pistils Cal. double. Cor. 5-petaled. Caps. 5, 2-valved, united.

Order VIII. POLYANDRIA, or many Stamens.

C. One pistil. Cal. simple, nearly lopped. Caps. woody, 1-celled, many-seeded.

G. One pistil. Cal. simple, 5-leaved. Caps. 5-celled. Seeds 2, winged.

M. One pistil. Cal. simple, 2-cleft. Capsular berry, pedicled. Petals 4.

G. One pistil. Cal. simple, 4 or 6-cleft. Berry dry, 4 or 5-celled, many-seeded. Petals 4 or 6.

C. One pistil. Cal. simple, 4-parted. Berry 1-celled, many-seeded.

M. One pistil. Cal. simple, breaking. Drupe 2 or 3-celled. Petals 5.

B. One-celled. Cal. simple, 2-leaved. Drupe with a 4-gon nut. Petals 4.

P. One pistil. Cal. simple, 4-leaved. Nut 4-gon, 1-seeded. Petals 4.

P. One pistil. Cal. simple, 5-parted. Drupe dry, 1-seeded, 5-winged. Petals 5.

S. Five pistils. Cal. simple, expanding. Caps. 5-celled. Seeds solitary.

P. One pistil. Cal. simple, 5-cleft. Caps. 1-seeded, incorporated without order.

L. One pistil. Cal. simple, 5-cleft. Caps. 5-celled, with opposite partitions.

S. Nearly 1 pistil. Cal. simple, angular. Caps. many-celled, 1-seeded.

B. One pistil. Cal. simple. Caps. 5-celled, many-seeded. Style undivided. Seeds cottony.

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1283. ADANSONIA. Monogyna. Cal. simplex. Caps. 10-locularis, polysperma. Pulpa farinacea.

1296. GOSSYPIUM. Monogyna. Cal. exterior, 3-fidus. Caps. 3 s. 4-locul. polysperma, coadunata.

1292. RUIGIA. Decagyna. Cal. exterior, 3-phyllus. Caps. 10-locul. globoso-verticillatæ.

* 1291. LAVATERA. Polygyna. Cal. exterior, 3-fidus. Caps. 1-spermæ, verticillatæ.

1288. MALACHRA. Polygyna. Cal. exterior, 3-phyllus. Caps. 5, monospermæ.

* 1290. MALVA. Polygyna. Cal. exterior, 3-phyllus. Caps. 1-spermæ, verticillatæ, plures.

1293. MALOPE. Polygyna. Cal. exterior, 3-phyllus. Caps. 1-spermæ, conglomeratæ, absque ordine.

1295. URENA. Monogyna. Cal. exterior, 5-fidus. Caps. 5-locularis, 5-partibilis, loculamentis clausis.

1298. PAVONIA. Monogyna. Cal. exterior, 8-phyllus. Caps. 5-locularis, 5-partibilis, loculamentis 2-valvibus.

1297. HIBISCUS. Monogyna. Cal. exterior, 8-phyllus. Caps. 5-locularis, polysperma.

1299. ACHANIA. Monogyna. Cal. exterior, 8-phyllus. Bacca 5-locularis.

1294. KITAIBELIA. Polygyna. Cal. exterior, 7 s. 9-fidus. Caps. monospermæ, in capitulum quinquelobum glomeratæ.

* 1289. ALTHÆA. Polygyna. Cal. exterior, 6-9-fidus. Caps. 1-spermæ, verticillatæ.

1302. CAMELLIA. Monogyna. Cal. exterior, imbricatus. Caps. loculis polyspermis. Stylus indivisus.

Hypericum Brathys, Mimosæ nonnullæ.

A. One pistil. Cal. simple. Caps. 10-celled, many-seeded. A farinaceous pulp.

G. One pistil. Cal. exterior, 3-cleft. Caps. 3 or 4-celled, many-seeded, joined together at the base.

R. Ten pistils. Cal. exterior, 3-leaved. Caps. 10-celled, globular in whirls.

* L. Many pistils. Cal. exterior, 3-cleft. Caps. 1-seeded, in whirls.

* M. Many pistils. Outer cal. 3-leaved. Caps. 5, 1-seeded.

* M. Many pistils. Outer cal. 3-leaved. Several caps. 1-seeded, growing in whirls.

M. Many pistils. Outer cal. 3-leaved. Caps. 1-seeded, incorporated and without order.

U. One pistil. Outer cal. 5-cleft. Caps. 5-celled, 5-divisible, with closed cells.

P. One pistil. Outer cal. 8-leaved. Caps. 5-celled, 5-divisible, with 2-valved cells.

H. One pistil. Outer cal. 8-leaved. Caps. 5-celled, many-seeded.

A. One pistil. Outer cal. 8-leaved. Berry 5-celled.

K. Many pistils. Outer cal. 7 or 9-cleft. Caps. 1-seeded, incorporated into a 5-lobed knob.

* A Many pistils. Outer cal. 6-9-cleft. Caps. 1-seeded, growing in whirls.

C. One pistil. Outer cal. tiled. Caps. with many-seeded cells. Style undivided.

ORDER I. TRIANDRIA.

1250. TAMARINDUS, or *Tamarind-tree.*

One species; viz. indica. Egypt, E. and W. Indies.—The fruit of this species is a pod resembling that of a bean, including several hard seeds, together with a dark-coloured viscid pulp of a pleasant acid taste: the East India tamarinds are larger than the West Indian sort; the former containing six or seven seeds each, the latter rarely above three or four. The pulp of these fruits, taken from the quantity of two or three drams to an ounce or more, proves gently laxative or purgative; and at the same time by its acidity quenches thirst, and allays immoderate heat. It increases the action of the purgative sweets, cassia and manna, and weakens that of the resinous cathartics. Some have supposed it capable of abating the virulence of antimonial preparations; but experience shows that it has rather a contrary effect, and that all vegetable acids augment their power. Tamarinds are an ingredient in the electuary of cassia, the lenitive electuary, and decoction of tamarinds with senna.

1251. SISYRINCHIUM, or *Bermudana.*

Eight species; viz. elegans, collinum, grandiflorum, bermudiana, anceps, micranthum, palmifolium, striatum. Bermuda, W. Indies.

1252. FERRARIA.

Four species; viz. undulata, ferrariola, pavonia, ixioides. Cape, Mexico.

1253. GALAXIA.

Three species; viz. ovata, graminea, narcissoides. C. of G. Hope.

1254. APHYTEJA.

One species; viz. hydnora. C. of G. Hope.

ORDER II. PENTANDRIA.

1255. OZOPHYLLUM.

One species; viz. trifoliatum.

1256. SYMPHONIA.

One species; viz. globulifera. Surinam, Guiana.

1257. LERCHEA.

One species; viz. longicauda. E. Indies.

1258. WALTHERIA.

Six species; viz. americana, indica, lophanthus, ovata, angustifolia, elliptica. E. and W. Indies, S. America.

1259. HERMANNIA.

30 species; viz. althæifolia, plicata, candicans, disticha, salvifolia, micans, involucrata, scordifolia, denudata, disermæfolia, alnifolia, cuneifolia, holosericea, hirsuta, scabra, multiflora, flammea, angularis, hyssopifolia,

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folia, trifurcata, odorata, lavandulifolia, linifolia, filifolia, trifoliata, triphylla, procumbens, vesicaria, grossularifolia, incisa. C. of G. Hope.

1260. MELOCHIA.

14 species; viz. pyramidata, tomentosa, crenata, depressa, truncata, venosa, hirsuta, concatenata, odorata, lupulina, caracasana, nodiflora, corchorifolia, supina. E. and W. Indies, Brazil.

1261. OCHROMA, or *Down-tree*, or *Cork-wood*.

One species; viz. lagopus. Jam. Hispan.

1262. PASSIFLORA, or *Passion-flower*.

46 species; viz. serratifolia, pallida, adulterina, cuprea, tiliæfolia, maliformis, quadrangularis, alata, laurifolia, coccinea, mucronata, glandulosa, multiflora, perfoliata, rubra, normalis, lunata, murucuja, vespertilia, oblongata, capsularis, rotundifolia, orbiculata, punctata, lutea, angustifolia, minima, suberosa, peltata, hederacea, glauca, holosericea, hirsuta, fœtida, ciliata, serrulata, aurantia, cuneifolia, incarnata, tomentosa, mixta, cœrulea, filamentosa, serrata, pedata, heterophylla. West Indies, S. America.

1263. ERODIUM.

34 species; viz. crassifolium, stephanianum, tataricum, supracanum, petræum, absinthoides, glandulosum, bipinnatum, alpinum, ciconum, cicutarium, pimpinellifolium, romanum, moschatum, præcox, pulverulentum, hirtum, laciniatum, gruinum, chium, asplenoides, hymenodes, murcicum, guttatum, glaucophyllum, incarnatum, arduinum, ribifolium, arborescens, heliotropioides, malacoides, maritimum, malopoides, chamædryoides.

ORDER III. HEPTANDRIA.

1204. PELARGONIUM.

120 species; viz. longifolium, longiflorum, dipetalum, oxaloides, ficaria, ciliatum, auriculatum, auritum, hirtum, punctatum, bifolium, hirsutum, atrum, trifidum, heterophyllum, triphyllum, nervifolium, pinnatum, barbatum, melananthon, carneum, rapaceum, lobatum, triste, appendiculatum, flavum, œnotheræ, chamædrifolium, ovale, trichostomon, blattarium, eriostemon, elegans, stipulaceum, articulatum, tabulare, alchimilloides, odoratissimum, grossularioides, anceps, athœoides, columbinum, coronopifolium, capillare, tricolor, seneciodes, myrrhifolium, lacerum, multicaule, coriandrifolium, caucalifolium, minimum, glaucum, diversifolium, betulinum, acetosum, scandens, stenopetalum, hybridum, zonale, inquinans, heterogamum, monstrum, crassicaule, peltatum, lateripes, tetragonum, cordatum, cucullatum, angulosum, acerifolium, papilionaceum, cortusæfolium, fuscatum, saniculæfolium, patulum, grandiflorum, variegatum, cotyledonis, echinatum, australe, vitifolium, capitatum, glutinosum, hispidum, tomentosum, ribifolium, quercifolium, graveolens, asperum, balsameum, radula, denticulatum, bicolor, tricuspidatum, scabrum, spinosum, rigidum, crispum, hermannifolium, adulterinum, semitrilobum, tripartitum, fulgidum, gibbosum, exstipulatum, ternatum, lævigatum, fragile, incisum, carnosum, ferulaceum, alternans, ceratophyllum, crithmifolium, ramosissimum, abrotanifolium, fruticosum, hirtum, tenuifolium.

ORDER IV. OCTANDRIA.

1265. PISTIA, or *Water House-leek*.

One species; viz. stratiotes. Asia, Africa, South America.

1266. AITONIA.

One species; viz. capensis. C. of G. Hope.

ORDER V. DECANDRIA.

1267. CRINODENDRUM.

One species; viz. patagua. Chili.

1268. CONNARUS, or *Ceylon Sumach*.

Seven species; viz. africanus, asiaticus, pentagynus, decumbens, pinnatus, santaloides, mimosoides. Ceylon, Africa.

1269. HUGONIA.

Three species; viz. mystax, serrata, tomentosa. India.

1270. SENRÆA.

One species; viz. incana.

1271. GERANIUM, or *Cranes-bill*.

39 species; viz. spinosum, sessiliflorum, sibiricum, * sanguineum, tuberosum, anemonefolium, macrorhizum, * phæum, fuscum, reflexum, lividum, * nodosum, striatum, angulatum, ibericum, * sylvaticum, palustre, asphodeloides, aconitifolium, collinum, * pratense, maculatum, pilosum, canescens, incanum, argenteum, varium, * pyrenaicum, bohemicum, divaricatum, * lucidum, molle, carolinianum, * columbinum, * dissectum, * rotundifolium, pusillum, robertianum, purpureum. Europe, Africa, N. America.

ORDER VI. ENDECANDRIA.

1272. BROWNEA.

Four species; viz. coccinea, grandiceps, rosa de monte, paucifora. S. America.

ORDER VII. DODECANDRIA.

1273. ACIA.

Two species; viz. dulcis, amara. Guiana.

1274. MONSONIA.

Five species; viz. tenuifolia, speciosa, lobata, ovata, spinosa. C. of G. Hope.

1275. PLAGIANTHUS.

One species; viz. divaricatus. S. S. isles.

1276. HELICTERIS, or *Screw-tree*.

Eight species; viz. baruensis, jamaicencis, isora, hirsuta, angustifolia, pentandra, carthaginensis, apetala. Malabar, China, Jamaica.

1277. CIENFUEGIA.

One species; viz. digitata. Senegal.

1278. ANSONIA.

One species; viz. populnea. Isle of Bourbon.

1279. DOMBEYA.

12 species; viz. palmata, acutangula, angulata, tiliæfolia, tomentosa, umbellata, ferruginea, erythroxylon, decanthera, velutina, ovata, punctata. Chili.

1280.

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1280. PENTAPETES.

One species; viz. phœnicea. Arabia, India, St Helena.

1281. PTEROSPERMUM.

Two species; viz. suberifolium, acerifolium.

ORDER VIII. POLYANDRIA.

1282. CAROLINEA.

Two species; viz. princeps, insignis. W. Indies.

1283. ADANSONIA, or *Sour-gourd, Monkeys-bread.*

One species; viz. digitata. Senegal, Egypt.

1284. BOMBAX, or *Silk Cotton-tree.*

Six species; viz. pentandrum, erianthos, ceiba, heptaphyllum, globosum, gossypinum. E. and W. Indies, S. Amer.

1285. LAGUNÆA.

Three species; viz. lobata, ternata, aculeata. Coast of Coromandel.

1286. SIDA, or *Indian Mallow.*

99 species; viz. linifolia, angustifolia, acuta, canariensis, lanceolata, spinosa, frutescens, carpinifolia, jamaicensis, orientalis, glomerata, maculata, suberosa, capensis, microphylla, micans, pusilla, rhombifolia, canescens, retusa, alnifolia, ciliaris, periplocifolia, excelsior, hernandioides, nudiflora, triquetra, fragrans, lignosa, reflexa, humilis, repens, bivalvis, ulmifolia, multiflora, microsperma, viscosa, fœtida, calycina, crispa, persica, sylvatica, arborea, mauritiana, occidentalis, americana, abutilon, abutiloides, asiatica, populifolia, hirta, indica, mollissima, sonneratiana, pubescens, althæifolia, glutinosa, exstipularis, nutans, borbonica, flavescens, radicans, arguta, multicaulis, pilosa, rotundifolia, supina, truncata, herbacea, emarginata, alba, cordifolia, hederifolia, verticillata, urens, umbellata, pyramidata, paniculata, dumosa, ramosa, spicata, terminalis, vesicaria, crassifolia, biflora, obtusa, gigantea, javensis, hastata, cristata, dilleniana, triloba, ternata, pterosperma, ricinoides, jatrophoides, napæa, dioica, phyllanthus. E. and W. Indies, Cape, America.

1287. PALAVIA.

Two species; viz. malvifolia, moschata. Lima, Peru.

1288. MALACHRA.

Six species; viz. capitata, fasciata, scæfolia, radiata, bracteata, plumosa. W. Indies.

1289. ALTHÆA, or *Marsh-mallow.*

Nine species; viz. * officinalis, narbonensis, cannabina, hirsuta, ludwigii, acaulis, rosea, pallida, ficifolia. Europe, Hispaniola.

officinalis. * A. leaves undivided, angular, cottony. This plant grows wild in marshes and other moist places in several parts of England, though frequently cultivated for medicinal use in gardens. All the parts of it have a slimy taste, and abound with a soft mucilaginous substance which is readily extracted by water: the mucilage of the roots appears to be the strongest; and hence this part is generally made use of in preference to the others.

This plant has the general virtues of an emollient medicine, and proves serviceable where the natural mucus of the intestines is abraded. It is chiefly recommended in sharp defluxions upon the lungs, hoarseness, dysenteries, and likewise in nephritic and calculous complaints; not, as some have supposed, that this medicine has any particular power of dissolving or expelling the calculus, but as, by lubricating and relaxing the vessels, it procures a more free and easy passage. Althæa root is sometimes employed externally for softening and maturating hard tumours; chewed, it is said to give ease in difficult dentition of children.

1290. MALVA, or *Mallow.*

55 species; viz. spicata, polystachya, tomentosa, scoparia, gangetica, coromandeliana, americana, calycina, cuneifolia, angustifolia, subhastata, scabra, peruviana, limensis, capitata, bryonifolia, umbellata, abutiloides, abulensis, lobata, fastigiata, bonariensis, stricta, lactea, operculata, fragrans, capensis, balsamica, grossularifolia, virgata, miniata, retusa, tridactylides, althæoides, caroliniana, prostrata, cretica, parviflora, nicæensis, *rotundifolia, acaulis, sherardiana, *sylvestris, mauritiana, hispanica, verticillata, crispa, papaver, stipulæca, alcea, *moschata, elegans, tournefortiana, ægyptia, trifida. Europe, Barbary, Cape, China, America.

* M. stem rough; leaves 5 or 7-lobed; toothed; outer calyx leafets partly united at the base.—The leaves of this plant have a somewhat mucilaginous sweetish taste. They are ranked the first of emollient herbs: they were formerly in some esteem as food of a laxative quality; at present decoctions of them are sometimes employed in dysenteries, heat and sharpness of urine, and in general for obtunding acrimonious humours; their principal use is in emollient glysters, cataplasms, and fomentations. The leaves enter the officinal decoction for glysters, and a conserve was formerly prepared from the flowers. *sylvestris.*

1291. LAVATERA, or *Mallow-tree.*

12 species; viz. *arborea, micans, hispida, olbia, triloba, lusitanica, maritima, thuringiaca, cretica, flava, punctata, trimestris. Europe.

1292. RUIZIA.

Three species; viz. cordata, lobata, variabilis. Isle of Bourbon.

1293. MALOPE, or *Base Mallow.*

Three species; viz. malacoides, multiflora, trifida. Hetruria, Mauritania.

1294. KITAIBELIA.

One species; viz. vitifolia.

1295. URENA, or *Indian Mallow.*

Eight species; viz. lobata, reticulata, tricuspis, americana, sinuata, multifida, procumbens, viminea. China, E. Indies, Surinam.

1296. GOSSYPIUM, or *Cotton-tree.*

Ten species; viz. herbaceum, indicum, micranthum, arboreum, vitifolium, hirsutum, religiosum, latifolium, barbadense, peruvianum. Lev. E. and W. Indies.

1297. HIBISCUS, or *Syrian Mallow.*

66 species; viz. moscheutos, incanus, lasiocarpus, palustris, militaris, hastatus, ferrugineus, cordifolius, populneus, tiliaceus, elatus, lampas, membranaceus, lunarifolius, rosa sinensis, spiralis, brasiliensis, unilateralis, acuminatus, phœniceus, ovalifolius, clandestinus, rigidus,

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rigidus, micranthus, gosypinus, ovatus, æthiopicus, microphyllus, urens, calycinus, mutabilis, syriacus, rhombifolius, liliiflorus, bifurcatus, trilobus, diversifolius, domingensis, ficulneus, sabdariffa, speciosus, cannabinus, fraternus, sororius, surrattensis, radiatus, manihot, digitatus, flavescens, spicatus, micans, abelmoschus, columnaris, pendunculatus, esculentus, longifolius, clypeatus, senegalensis, tubulosus, obtusifolius, vitifolius, tricuspis, virginicus, pentacarpos, vesicarius, trionum. Syria, Cape, E. and W. Indies, N. Amer.

The seeds of the *hibiscus abelmoschus* are the product of a plant indigenous in Egypt, and in many parts both of the East and West Indies. They are of a small size and reniform shape; they are very remarkable from possessing a peculiar and very fragrant odour; the smell which they give out may be compared to that of musk and amber conjoined; those brought from the island of Martinico are generally esteemed the most odorous, but we have seen some, the product of hothouses in Britain, which in point of flavour seemed not inferior to any imported from abroad.

These seeds, although introduced into some of the foreign pharmacopœias, have hitherto been used principally, if not only, as a perfume; and as their medical powers still remain to be ascertained, it is perhaps with propriety, that hitherto no place has been given them in the list either of the London or Edinburgh colleges. But their flavour as well as other sensible qualities point them out as a subject well deserving a particular investigation.

1298. PAVONIA.

15 species; viz. præmorsa, leptocarpa, typhalea, hastata, spinifex, papilionacea, cancellata, racemosa, corymbosa, paniculata, odorata, coccinea, columella, urens, zeylanica. E. and W. Indies, Africa, S. America.

1299. ACHANIA, or *Base Hibiscus*.

Three species; viz. malvaïscus, mollis, pilosa. Jamaica, S. America.

1300. STUARTIA.

Two species; viz. malachodendron, pentagyna.

1301. GORDONIA, or *Bobbally-bay*.

Four species; viz. lasianthus, hæmatoxylon, pubescens, franklini. N. America.

1302. CAMELLIA, or *Japan-rose*.

Two species; viz. japonica, sasanqua. China, Japan.

1303. MESUA, or *Indian Rose-chesnut*.

One species; viz. ferrea. Egypt, India.

1304. MYRODIA.

Two species; viz. turbinata, longiflora. Guiana.

1305. MORISONIA.

One species; viz. americana.

1306. POURRETIA.

One species; viz. arborea.

1307. CROSSOSTYLIS.

One species; viz. biflora. South sea isles.

1308. BARRINGTONIA.

One species; viz. speciosa. Chili, Moluc. South sea isles.

1309. GUSTAVIA.

One species; viz. angusta, fastuosa. Surinam, Cayenne.

In the class Monadelphia are

60 Genera, including 682 species, of which 16 are found in Britain.

CLASSIS XVII.

DIADELPHIA (G).

ORDO I. PENTANDRIA.

851. MONNIERIA. Cal. 5-partitus. Cor. ringens. Filamentum superus antheris 2; inferius 3. Capsulæ 5.

CLASS XVII.

DIADELPHIA.

ORDER I. PENTANDRIA.

M. Cal. 5-parted. Cor. gaping. Superior filam. with 2 anthers, inferior with 3. Capsules 5.

ORDO

(G) This class comprehends the butterfly-shaped flowers, and the leguminous plants of some authors. Linnæus takes the character of the class from the number of the stamens, and the character of the orders from their number. From the title of this class, Diadelphia or *two brotherhoods*, it might be supposed, that the filaments are always found in two sets. This, however, is by no means always correctly the case. The papilionaceous or butterfly shape of the corolla or blossom, as in a garden pea, will therefore be a surer guide. The class is not artificial, but perfectly natural, and the structure of the flowers extremely singular: their situation is generally obliquely pendent. The seeds of this class furnish food for men and other animals; they are farinaceous and flatulent. The leaves are food for cattle. None of them are poisonous.

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Ordo II. HEXANDRIA.

* 849. Fumaria. Cal. 2-phyllus. Cor. ringens, basi gibbosa nectarifera. Filamenta antheris 3.

1267. Saraca. Cal. 0. Cor. 4-fida. Filamenta utrinque 3, connexa.

Ordo III. OCTANDRIA.

* 850. Polygala. Cal. 2 laciniæ, alæformes. Cor. vexillum cylindricum. Stamina connexa. Caps. obcordata, 2-locularis.

852. Securidæa. Cal. 3-phyllus, Vexillum nullum. Legum 1-spermum, ala ligulata.

1461. Dalbergia. Staminum filamenta 2, apice 4-fida. Fructus pedicellatus, non dehiscens, leguminosus, membranaceo-compressus, seminiferus.

Ordo IV. DECANDRIA.

Sect. I. *Stamina omnia connexa.*

853. Nissolia. Legum. 1-spermum, terminatum ala ligulata.

854. Pterocarpus. Legum. foliaceum. Stamina bina trianthera.

861. Amorpha. Alæ carinaque nullæ.

855. Erythrina. Alæ carinaque brevissimæ. Cal. poro mellifero.

1286. Abrus. Filamenta 9, basi infima connexa, latere superiore distincta. Sem. sphærica.

* 858. Spartium. Filamenta adhærentia germini. Stigma adnatum, villosum.

* 859. Genista. Pistillum deprimens carinam. Stigma involutum.

865. Lupinus. Antheræ alternæ rotundæ; alternæ oblongæ. Legum. coriaceum.

* 864. Anthyllis. Cal. turgidus, includens siliquam.

856. Piscidia. Legumen, alis 4 longitudinalibus.

857. Borbonia. Legumen mucronatum. Stigma emarginatum.

* 881. Ulex. Cal. diphyllus. Legum. vix calyce longius.

876. Arachis. Cor. resupinata. Legum. coriaceum.

895. Ebenus. Cor. alis obliteratis. Legum. monospermum.

860. Aspalathus. Legumen mutisum, ovatum, subdispermum.

* 863. Ononis. Legumen rhombeum, sessile. Vexillum striatum.

862. Crotalaria. Legumen pedicellatum, turgidum.

Sect. II. *Stigma pubescens (nec priorum notæ).*

880. Colutea. Legumen inflatum, supra basin dehiscens.

866. Phaseolus. Carina stylusque spirales.

867. Dolichos. Vexillum basi callis duobus.

Order II. HEXANDRIA.

* F. Cal. 2-leaved. Cor. gaping, with a bulging base, nectariferous. Filaments with 3 anthers.

S. No cal. Cor. 4-cleft. Filaments on both sides 3, connected.

Order III. OCTANDRIA.

* P. Cal. 2 segments, wing-shaped. Cor. standard cylindrical. Stamens connected. Caps. heart-shaped reversed, 2-celled.

S. Cal. 3-leaved. No standard. Legume 1-seeded, wing strap-shaped.

D. Filam. of the stamens 2, with the apex 4-cleft. Fruit pedicled, not open, leguminous, compressedly membranaceous, seed-bearing.

Order IV. DECANDRIA.

Sect. I. *All the stamens connected.*

N. A legume, i. e. leguminous plant, 1-seeded, terminated by a strap-shaped wing.

P. Legume leafy. Two stamens, 3-anthered.

A. Wings and keel none.

E. Wings and keel very short. Cal. with a melliferous little hole.

A. Filam. 9, connected at the lowest base, on the upper side distinct. Seeds spherical.

* S. Filam. adhering to the germen. Stigma connected, woolly.

* G. Pistil depressing the keel. Stigma rolled inwards.

L. Anthers alternately round and oblong. Legume leather-like.

* A. Cal. swelling, including a pod.

P. Legume, with 4 longitudinal wings.

B. Legume dagger-pointed. Stigma notched at the end.

* U. Cal. 2-leaved. Legume scarce longer than the calyx.

A. Cor. horizontally turned upside down. Legume leather-like.

E. Cor. with obscure wings. Legume 1-seeded.

A. Legume awnless, oval, nearly 2-seeded.

* O. Legume diamond-shaped, sitting. Standard streaked.

C. Legume pedicled, turgid.

Sect. II. *Stigma pubescent*, i. e. *downy (not marked like the above).*

C. Legume inflated, open above the base.

P. Keel and style spiral.

D. Standard, with 2 calli or hardnesses at the base.

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* 871. OROBUS. Stylus linearis, teretiusculus, supra villosus.
* 870. PISUM. Stylus supra carinatus villosusque.
* 872. LATHYRUS. Stylus supra planus villosusque.
* 873. VICIA. Stylus sub stigmate barbatus.

* O. Style strap-shaped, rather tapering, woolly above.
* P. Style keeled and woolly above.
* L. Style above flat and woolly.
* V. Style barbed under the stigma.

Sect. III. *Legumen sub-biloculare (nec priorum).*

Sect. III. *Legume nearly 2-celled (not marked as above.)*

* 892. ASTRAGALUS. Legum. 2-loculare, rotundatum.
893. BISSERRULA. Legum. 2-loculare, planum, dentatum.
891. PHACA. Legum. semibiloculare.

* A. Legume 2-celled, rounded.
B. Legume 2-celled, flat, toothed.
P. Legume half 2-celled.

Sect. IV. *Legumina submonosperma (nec priorum.)*

Sect. IV. *Leguminous, nearly 1-seeded (not as above.)*

894. PSORALEA. Cal. punctis glandulosis.
* 896. TRIFOLIUM. Legum. viz. calyce longius, 1 s. 2-spermum. Flores capitati.
882. GLYCYRRHIZA. Cal. 2-labiatus, superiore 3-fido.

P. Cal. with glandular points.
* T. Legume scarce longer than the cal. 1 or 2-seeded. Flowers growing in heads.
G. Cal. 2-lipped, upper 3-cleft.

Sect. V. *Legumen subarticulatum.*

Sect. V. *Legume nearly jointed.*

888. ÆSCHYNOMENE. Legum. articulis monospermis. Cal. bilabiatus.

Æ. Legume, with 1-seeded joints. Cal. 2-lipped.

* 887. HEDYSARUM. Legum. articulis subrotundis. compressis. Carina obtusissima.
883. CORONILLA. Legum. isthmis interceptum, rectum.
* 884. ORNITHOPUS. Legum. articulatum, arcuatum.
886. SCORPIURUS. Legum. isthmis interceptum, teretiusculum, involutum.
* 885. HIPPOCREPIS. Legum. compresso-membranaceum; altera sutura emarginat. ad medium excisa.
* 899. MEDICAGO. Legum. spirale membranaceo-compressum. Pistillum carinam deflectens.

* H. Legume with joints nearly round, compressed. Keel very obtuse.
C. Legume interrupted by necks, straight.

* O. Legume jointed, bowed.

S. Legume interrupted by necks, tapering, rolled inwards.
* H. Legume compressed, membranous; one seam notched, cut at the middle.
* M. Legume spiral, membranous compressed. Pistil bending away the keel.

Sect. VI. *Legumen uniloculare polyspermum (nec priorum.)*

Sect. VI. *Legume 1-celled, many-seeded (not as above.)*

898. TRIGONELLA. Vexillum alæque patentes quasi tripetale. Carina minuta.
868. GLYCINE. Carina vexillum reflectens.
869. CLITORIA. Vexillum amplum, alas obtegens. Cor. resupinata.
879. ROBINIA. Vexillum reflexo-patens, subrotundum.
889. INDIGOFERA. Carina utrinque denticulo.
875. CICER. Calycis 4 laciniæ superiores vexillo incumbentes.
* 874. ERVUM. Cal. 5-partitus, subæqualis, longitudine fere corollæ.
1319. LIPARIA. Calycis lacinia infima elongata. Alæ inferius bilobæ.
877. CYTISUS. Legum. pedicellatum. Cal. bilobiatus.
1417. MULLERA. Pericarpium elongatum, carnosum, moniliforme, globulis monospermis.
890. GALEGA. Legum. lineare, striis oblique transversis.
* 897. LOTUS. Legum. teres, farctum seminibus cylindricis.
878. GEOFFROYA. Drupa, nucleo ligneo.

T. Standard and wings expanding, as if 3-petaled. Keel minute.
G. Keel bending back the standard.
C. Standard large, covering the wings. Cor. horizontally turned upside down.
R. Standard bent back, expanding, nearly round.

I. Keel toothed on both sides.
C. Four upper segments of the cal. leaning on the standard.
* E. Cal. 5-parted, nearly equal, almost of the length of the cor.
L. Lower segments of the cal. long. Wings 2-lobed below.
C. Legume pedicled. Cal. 2-lobed.

M. Pericarp. elongated, fleshy, bracelet-shaped, with 1-seeded globules.
G. Legume strap-shaped, with streaks obliquely transverse.
* L. Legume tapering, filled with cylindrical seeds.

G. Drupe, with a woody kernel.

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Order I. PENTANDRIA.

851. Monniera.
One species; viz. trifolia.

Order II. HEXANDRIA.

1267. Saraca.
One species; viz. indica. India.

849. Fumaria, or *Fumitory*.
14 species; viz. cucullaria, spectabilis, nobilis, bulbosa, sempervirens, lutea, sibirica, * capnoides, enneaphylla, * officinalis, * capreolata, spicata, * claviculata, vesicaria. Europe, Barb. Cape, N. America.

officinalis. * F. seed vessels in bunches, 1 seed in each; stem spreading.—Cows and sheep eat it. Goats are not fond of it. Horses and swine refuse it. The leaves are succulent, saline, and bitter. The expressed juice, in doses of two or three ounces, is useful in hypochondriacal, scorbutic, and cachectic habits. It corrects acidity, and strengthens the tone of the stomach. Some prefer it to all other medicines as a sweetener of the blood. There is no doubt of its utility in obstructions of the viscera and the diseases arising therefrom. An infusion of the leaves is used as a cosmetic to remove freckles and clear the skin.

Order III. OCTANDRIA.

851. Polygala, or *Milk-wort*.
38 species; viz. incarnata, aspalatha, brasiliensis, trichosperma, amara, * vulgaris, major, monspeliaca, paniculata, sibirica, bracteolata, umbellata, myrtifolia, oppositifolia, spinosa, teretifolia, theezans, trinervia, penaca, diversifolia, microphylla, æstuans, chinensis, chamæbuxus, alopecuroides, mixta, squarrosa, heisteria, stipulacea, senega, lutea, viridescens, triflora, glaucoides, ciliata, sanguinea, verticillata, cruciata. Europe, Cape, India, N. America.

vulgaris. * P. flowers in bunches; stems herbaceous, simple, trailing: leaves strap-spear-shaped.—This plant has been found to possess the properties of the Senega rattlesnake root (*polygala senega*), but in an inferior degree. The powdered root may be given in doses of half a dram. Cows, goats, and sheep eat it. Swine refuse it. An infusion of the herb, which is very bitter, taken in the morning fasting, about one fourth of a pint daily, promotes expectoration, and is good for a catarrhous cough.

The *polygala senega* grows spontaneously in Virginia, and bears the winters of our own climate. This root is usually about the thickness of the little finger, variously bent and contorted, and appears as if composed of joints, whence it is supposed to resemble the tail of the animal whose name it bears: A kind of membranous margin runs on each side, the whole length of the root. Its taste is at first acid, afterwards very hot and pungent.

The Senegavo Indians are said to prevent the fatal effects which follow from the bite of the rattlesnake, by giving it internally, and by applying it externally to the wound. It has been strongly recommended in pleurisies, peripneumonies, and other inflammatory distempers. Its more immediate effects are those of a diuretic, diaphoretic, and cathartic; sometimes it proves emetic: the two last operations may be occasionally prevented by giving the root in small doses along with aromatic simple waters, as that of cinnamon. The usual dose of the powder is 30 grains or more.

Some have likewise employed this root in hydropic cases and not without success. There are examples of its occasioning a plentiful evacuation by stool, urine, and perspiration; and by this means removing the disease, after the common diuretics and hydragogues had failed. Where this medicine operates as a cathartic it generally proves successful; if it acts by liquefying the blood and juices, without occasioning the due discharge, it should either be abstained from, or assisted by proper additions.

852. Securidæa, or *Hatchet-vetch*.
Two species; viz. erecta, volubilis. W. Indies.

1416. Dalbergia.
Two species; viz. lanceolaria, monetaria. Surinam, Ceylon.

Order IV. DECANDRIA.

853. Nissolia.
Two species; viz. arborea, fruticosa. S. Amer.

1286. Abrus, or *Jamaica Wild Liquorice*.
One species; viz. precatorius. E. and W. Indies.

854. Pterocarpus, or *Red Sanders*.
Five species; viz. draco, lunatus, santalinus, ecastaphyllum, buxifolius. E. and W. Indies.

855. Erythrina, or *Coral Tree*.
Five species; viz. herbacea, corollodendrum, picta, crista galli, planisiliqua. Carolina, E. and W. Indies, Brazil.

856. Piscidia, or *Dogwood Tree*.
Two species; viz. erythrina, carthaginensis. West Indies.

857. Borbonia.
Six species; viz. ericifolia, lævigata, trinervia, lanceolata, cordata, ternata. C. of G. Hope.

858. Spartium, or *Broom*.
16 species; viz. contaminatum, sepiarium, junceum, monospermum, sphærocarpon, purgans, aphyllum, scorpius, angulatum, patens, supranulium, complicatum, * scoparium, radiatum, cytisoides, spinosum. S. Europe, Barbary, Cape, Madeira.

scoparium. * S. leaves in threes, and solitary; branches without prickles.—The young flowers are sometimes preserved as pickles. The plant, when burnt, affords a tolerable pure alkaline salt. Dr Mead relates the case of a dropsical patient, that was cured by taking half a pint of a decoction of green broom-tops, with a spoonful of whole mustard seed, every morning and evening. The patient had been tapped three times, and tried the usual remedies before. An infusion of the seeds, drank freely, has been known to produce similar happy effects; but whoever expects these effects to follow in every dropsical case, will be greatly deceived. A strong lixivium of the ashes was used in the Swedish army in the year 1759, to cure dropsies, consequential to a catarrhal epidemic fever. The urine became plentiful, and the dropsies soon disappeared. Some use the seeds,

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seeds toasted, so as to make a kind of coffee. The plant, when growing large, merits a place among our flowering-shrubs, on account of the profusion of its golden-coloured blossoms. Cows, horses, and sheep refuse it.

859. GENISTA, or *Dyers Broom.*

14 species; viz. canariensis, candicans, linifolia, sagittalis, tridentata, * tinctoria, sibirica, florida, * pilosa, humifusa, * anglica, germanica, hispanica, lusitanica. Europe, Canaries.

tinctoria. * G. branches scored, cylindrical, upright; leaves spear-shaped, smooth; legumen cylindrical.—A yellow colour may be prepared from the flowers; and for wool that is to be dyed green, the dyers prefer it to all others. A dram and a half of the powdered seeds operates as a mild purgative. A decoction of the plant is sometimes diuretic, and therefore has proved serviceable in dropsical cases. Horses, cows, goats, and sheep, eat it.

The wood or root of the *genista canariensis* is chiefly brought to us from the Canary islands. In the shops of the apothecaries it usually receives the appellation of *lignum rhodium.* It is in long crooked pieces full of knobs, which when cut, appear of a yellow colour like box, with a reddish cast. The largest, smoothest, most compact, and deepest coloured pieces, should be chosen; and the small, thin, or pale ones, rejected. The taste of this wood is lightly bitterish, and somewhat pungent; its smell very fragrant, resembling that of roses: long kept, it seems to lose its smell; but, on cutting or rubbing one piece against the other, it smells as well as at first. Distilled with water, it yields an odoriferous essential oil, in very small quantity. Rhodium is at present in esteem, only upon account of its oil, which is employed as a high and agreeable perfume in scenting pomatums and the like. But if we may reason from analogy, this odoriferous simple might be advantageously applied to more useful purposes; a tincture of it in rectified spirit of wine, which contains in small volume the virtues of a considerable deal of the wood, bids fair to prove a serviceable cordial, not inferior perhaps to any thing of this kind.

860. ASPALATHUS, or *African Broom.*

35 species; viz. spinosa, verrucosa, capitata, glomerata, astroites, chenopoda, albens, thymifolia, ericifolia, nigra, carnosa, ciliaris, genistoides, hystrix, galioides, retroflexa, uniflora, araneosa, asparagoides, sericea, canescens, heterophylla, indica, ebenus, cretica, quinquefolia, tridentata, pilosa, anthylloides, laxata, argentea, callosa, orientalis, mucronata, pinnata. Crete, Cape, E. Indies.

881. ULEX, or *Furze, Whins, Gorse.*

Two species; viz. * europæus, capensis. Germany, France, Cape.

europæus. * U. leaves woolly, acute; thorns scattered.—Gorse is in some respects a very hardy plant, and will make fences upon the bleakest mountains, and close to the sea-side, where the spray of the sea destroys almost every other shrub; but it is impatient of cold, is often destroyed by severe frost, and is rarely found in the northern parts of our island. In Cornwall, where fuel is scarce, it is cultivated to advantage, and it is generally cut to make faggots for heating ovens, which it does very soon, burning rapidly, and with a great degree of heat. The ashes are used to make ley. Team horses may be supported by this plant, if it is cut young and bruised in a mill to break the thorns. Goats, cows, sheep, and horses feed upon the tender tops.

861. AMORPHA, or *Shrubby Bass Indigo.*

One species; viz. fruticosa. Carolina.

862. CROTALARIA, or *Rattle-wort.*

23 species; viz. perfoliata, perfoliata, amplexicaulis, sagittalis, chinensis, juncea, imbricata, retusa, sessiliflora, triflora, verrucosa, biflora, opposita, linifolia, bifaria, latifolia, lanaris, laburnifolia, cordifolia, incana, incanescens, heterophylla, quinquefolia. E. and W. Indies, Africa, America.

863. ONONIS, or *Rest-harrow.*

31 species; viz. antiquorum, * spinosa, * arvensis, repens, minutissima, mitissima, alopecuroides, variegata, pubescens, hircina, cernua, umbellata, argentea, involucrata, filiformis, capensis, prostrata, reclinata, cenisia, cherleri, viscosa, ornithopodioides, pinguis, natrix, tridentata, crispa, hispanica, fruticosa, rotundifolia, microphylla, mauritanica. Europe, Cape.

spinosa. * O. flowers in bunches, solitary; leaves solitary or three together; branches thorny.—A decoction of the roots has been recommended in cases of stone and jaundice. Cows and goats eat it. Sheep are very fond of it. Horses and swine refuse it. A horse is said to have refused the whole branch, but ate of the younger shoots when picked off.

863. ANTHYLLIS, or *Lady's Finger, Kidney vetch.*

15 species; viz. tetraphylla, * vulneraria, montana, cornicina, lotoides, gerardi, quinquefloa, involucrata, linifolia, barba-jovis, heterophylla, visciflora, cytisoides, hermanise, erinacea. Europe.

vulneraria. * A. herbaceous; leaves winged, unequal; flowers in a double head.—The country people get a yellow dye from it. It makes an excellent pasturage for sheep. Where the soil was a reddish clay, Linnæus observed the blossoms to be red, but in white clay white. Goats and cows eat it.

876. ARACHIS, or *Ground Nut.*

One species; viz. hypogæa. Carolina, S. Amer.

895. EBENUS, or *Ebony of Crete.*

One species; viz. cretica. Crete, Lev. Barb.

865. LUPINUS, or *Lupine.*

Seven species; viz. perennis, albus, varius, hirsutus, pilosus, angustifolia, luteus. S. Europe, Egypt, Virginia.

The seeds of the *lupinus albus* have a leguminous taste, accompanied with a disagreeable bitter one. They are said to be anthelmintic, both internally taken, and applied externally. Hoffman cautions against their internal use, and tells us that they have sometimes occasioned death. Simon Pauli also observes, that he saw a boy of eight or ten years of age, after taking a drachm of these seeds in powder, seized with exquisite pains of the abdomen, a difficulty of respiration, and almost total loss of voice; and that he was relieved from these complaints by a glyster of milk and sugar, which brought away a vast quantity of worms. But Mr Geoffroy observes, very justly, that either these

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these symptoms were owing to the worms, and not to the medicine; or that these seeds, if they have any noxious quality, lose it, with their bitterness, in boiling, since they were commonly used among the Greeks as food, and recommended by Galen as very wholesome.

866. PHASEOLUS, or *Kidney Bean.*

17 species; viz. vulgaris, lunatus, bipunctatus, inamoenus, farinosus, vexillatus, helvalus, semierectus, alatus, caracalla, aconitifolius, nanus, radiatus, max, mungo, lathyroides, sphaerospermus. E. and W. Indies, Africa, America.

887. DOLICHOS, or *Cow-itch.*

31 species; viz. benghalensis, lablab, sinensis, uncinatus, luteolus, unguiculatus, tranquebaricus, ensiformis, tetragonolobus, sesquipedalis, altissimus, pruriens, urens, minimus, lineatus, capensis, scarabaeoides, incurvus, bulbosus, trilobus, aristatus, filiformis, purpureus, regularis, lignosus, polystachios, ensiformis, saja, catiang, biflorus, repens. Egypt, E. and W. Indies, Cape, America.

The *dolichos pruriens* is a plant growing in great abundance in warm climates, particularly in the West India islands, and there it is very troublesome to cattle and other domestic animals: for on account of the spiculae of the seed-pod, it excites, when touched, a very uneasy itching. These spiculae have been long used in South America, in cases of worms; and have of late been frequently employed in Britain. The spiculae of one pod, mixed with syrup or molasses, and taken in the morning fasting, is a dose for an adult. The worms are said to appear with the second or third dose; and by means of a purge in some cases, the stools are said to have consisted almost entirely of worms; and in cases of lumbrici it is said to produce a safe and effectual cure. Those who have used it most affirm, that they have never seen any inconvenience resulting from the internal use of it, notwithstanding the great uneasiness it occasions, on the slightest touch, to any part of the surface.

868. GLYCINE, or *Kidney-bean tree.*

15 species; viz. subterranea, monoica, triloba, villosa, javanica, comosa, tomentosa, bituminosa, nummularia, labialis, striata, suaveolens, apios, frutescens, monophylla. Cape, East and West Indies, North America.

869. CLITORIA.

Five species; viz. ternatea, brasiliana, virginiana, mariana, galactia. East and West Indies, America.

870. PISUM, or *Pea.*

Four species; viz. sativum, arvense, * maritimum, ochrus. Europe, North America.

maritimum. * P. leaf-stalks flattish above; stem angular; stipulae arrow-shaped; fruitstalks many-flowered.—In 1555, during a time of great scarcity, the people about Orford in Sussex were preserved from perishing by eating the seeds of this plant which grew there in great abundance upon the sea coast. Cows, horses, sheep, and goats eat it.

871. OROBUS, or *Bitter Vetch.*

12 species; viz. lathyroides, hirsutus, luteus, vernus, * tuberosus, * sylvaticus, angustifolius, albus, canescens, niger, pyrenaicus, sylvaticus. Europe.

tuberosus. * O. leaves winged, spear-shaped; stipula half-arrow-shaped, very entire; stem simple.—The roots, when boiled, are savoury and nutritious; ground to powder they may be made into bread. They are held in high esteem by the Highlanders of Scotland, who chew them as our people do tobacco, and find that they prevent the uneasy sensation of hunger. They imagine that they promote expectoration, and are very efficacious in curing disorders of the lungs. They know how to prepare an intoxicating liquor from them. Horses, cows, goats, and sheep eat it.

LATHYRUS, or *Chickling Vetch.*

21 species; viz. * apliaca, * nissolia, amphicarpos, cicera, sativus, inconspicuus, setifolius, angulatus, articulatus, odoratus, annuus, tingitanus, clymenum, * hirsutus, tuberosus, * pratensis, * sylvestris, * latifolius, heterophyllus, * palustris, pisiformis. Europe, Barbary, Ceylon.

pratensis. * L. tendrils with two leaves, quite simple, leafets spear-shaped.—This has been recommended as a new plant for the experiments of the farmers, and premiums have been offered for its cultivation. But it does not seem to be a plant at all agreeable to cattle, as where they have a choice of food they seldom touch it. Besides it produces very few seeds, and those are for the most part devoured by a species of curculio.

873. VICIA, or *Vetch, Bean, Tare.*

20 species; viz. pisiformis, dumetorum, * sylvatica, cassubica, * cracca, gerardi, onobrychioides, nissoliana, biennis, benghalensis, * sativa, * lathyroides, * lutea, * hybrida, peregrina, * sepium, * bithynica, narbonensis, faba, serratifolia. Europe, Egypt, India.

sativa. * V. legumens mostly in pairs, upright; leafets inversely spear-shaped, blunt, notched; stipulae toothed; seeds compressed.—In Gloucestershire and Worcestershire, they sow it as pasturage for horses, and eat it off early enough to allow of turnips being sown the same year.—The seeds are excellent food for pigeons. Horses, cows, sheep, and goats, eat it.

sepium. * V. legumens mostly four together, upright; leafets egg-shaped, very entire, the outer ones gradually smaller.—This plant shoots earlier in spring than any plant eaten by cattle, vegetates late in the autumn, and continues green all winter; but it is difficult to collect the seeds, as the pods burst and scatter them about, and moreover, hardly a third part of them will vegetate, being made the nidus of an insect. A patch of them sown in drills in a garden was cut five times in the course of the second year, and produced at the rate of 24 tons per acre of green food, which when dry would weigh near $4\frac{1}{2}$ tons.

The seeds of the *vicia faba*, or common bean, are a strong flatulent food, sufficiently nutritious, but not easy of digestion, especially when growing old. A water distilled from the flowers has been celebrated as a cosmetic, and still retains its character among some female artists.

874. ERVUM, or *Bitter Vetch.*

Six species; viz. lens, * tetraspermum, * hirsutum, soloniense, monanthos, ervilia. Europe, Asia.

hirsutum. * E. fruitstalks many-flowered; seeds 2, globular.—Horses, cows, goats, and sheep eat it. In wet seasons whole fields of corn have been overpowered and wholly destroyed by it.

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875. CICER, or *Chick-pease.*
One species; viz. arietinum. S. Eur. Lev.

1319. LIPARIA.
Five species; viz. sphærica, graminifolia, umbellata, villosa, sericea. C. of G. Hope.

876. CYTISUS, or *Trefoil-tree.*
17 species; viz. laburnum, nigricans, wolgaricus, sessilifolius, cajan, patens, hirsutus, capitatus, austriacus, supinus, prolifer, argenteus, pendulinus, purpureus, glaber, græcus, tener. Eur. Cape, E. Indies.

1417. MULLERA.
One species; viz. moniliformis. Surinam.

878. GEOFFROYA, or *Base Cabbage-tree.*
One species; viz. spinosa. Jam. Brazil.

879. ROBINIA, or *False Acacia.*
Nine species; viz. pseud-acacia, violacea, hispida, mitis, holodendron, caragana, spinosa, frutescens, pygmæa. Siberia, Tartary, N. Amer. W. Indies.

880. COLUTEA, or *Bladder-senna.*
Four species; viz. arborescens, frutescens, perennans, herbacea. Austria, Italy, Levant, Africa.

882. GLYCIRRHIZA, or *Liquorice.*
Four species; viz. echinata, glabra, hirsuta, asperrima. Spain, Italy, Levant, Apulia.

883. CORONILLA, or *Joint-podded Colutea.*
11 species; viz. emerus, juncea, valentina, glauca, coronata, minima, argentea, securidæa, varia, cretica, scandens. S. Europe, Amer.

884. ORNITHOPUS, or *Birds-foot.*
Four species; viz. * perpusillus, compressus, scorpioides, tetraphyllus. S. Eur. Jam. Barbary.

885. HIPPOCREPIS, or *Horse-shoe Vetch.*
Four species; viz. unisiliquosa, multisiliquosa, * comosa, balearica. S. Europe.

886. SCORPIURUS, or *Caterpillars.*
Four species; viz. vermiculata, muricata, sulcata, subvillosa. S. Eur.

888. ÆSCHYNOMENE, or *Base Sensitive Plant.*
Eight species; viz. grandiflora, arborica, coccinea, aspera, americana, indica, sesban, pumila. Egypt, E. and W. Indies.

887. HEDYSARUM, or *French honeysuckle.*
97 species; viz. alhagi, bupleurifolium, linifolium, nummularifolium, moniliferum, styracifolium, reniforme, sororium, vespertilionis, gangeticum, muculatum, latebrosum, vaginale, imbricatum, triquetrum, strobiliferum, diphyllum, pulchellum, spartium, lineatum, retroflexum, umbellatum, biarticulatum, heterocarpon, viscidum, canadense, canescens, marilandicum, frutescens, viridiflorum, hirtum, junceum, violaceus, paniculatum, nudiflorum, repens, hamatum, triflorum, barbatum, lagopodioides, microphyllum, racemosum, caudatum, tomentosum, sericeum, virgatum, pilosum, striatum, volubile, gyrans, argentatum, alpinum, obscurum, coronarium, flexuosum, humile, spinosissimum, virgimicum, fruticosum, pumilum, * onobrychis, saxatile, caput galli, crista galli, crinitum, cornutum, incanum. S. Eur. E. and W. Indies, N. Amer.

* H. leaves winged; legumens with one seed prickly; wings as long as the calyx; stem growing long.—This plant is cultivated like clover for feeding cattle, and is particularly advantageous in dry hilly situations and chalky soils. *onobrychis.*

889. INDIGOFERA, or *Indigo.*
23 species; viz. sericea, ovata, trifoliata, psoraloides, procumbens, sarmentosa, denudata, mexicana, trita, filiformis, digitata, stricta, frutescens, enneaphylla, pentaphylla, glabra, cytisoides, hirsuta, angustifolia, anil, tinctoria, disperma, argentea. Arabia, E. and W. Indies, Cape, Carolina.

890. GALEGA, or *Goats-rue.*
12 species; viz. officinalis, cinerea, littoralis, virginiana, villosa, spinosa, maxima, purpurea, caribæa, cœrulea, tinctoria, senticosa. S. Europe, E. and W. Indies, America.

The *galega officinalis* was celebrated as an alexipharmac; but its sensible qualities discover no foundation for any virtues of this kind; the taste is merely leguminous, and in Italy, where it grows wild, it is said to be used as food.

891. PHACA, or *Base Milk-vetch.*
Ten species; viz. bætica, alpina, salsuta, sibirica, australis, trifoliata, vesicaria, prostrata, microphylla, muricata. Lapland, Siber. S. Eur.

892. ASTRAGALUS, or *Liquorice,* or *Milk-vetch.*
45 species; viz. alopecuroides, christianus, capitatus, pilosus, sulcatus, galegiformis, chinensis, onobrychis, uliginosus, carolinianus, asper, canadensis, cicer, microphyllus, * glycyphyllos, hamosus, contortuplicatus, bæticus, laxmanni, stella, sesameus, austriacus, leontinus, pentaglottis, epiglottis, * hypoglottis, syriacus, arenarius, glaux, sinicus, alpinus, ammodytes, trimestris, verticillaris, montanus, vesicarius, physodes, caprinus, * uralensis, monspessulanus, incanus, campestris, depressus, uncatus, exscapus. Europe, Egypt, Barbary.

893. BISSERULA, or *Base Hatchet-vetch.*
One species; viz. pelecinus. S. Eur.

894. PSORALEA.
23 species; viz. rotundifolia, pinnata, aculeata, bracteata, spicata, axillaris, stachydes, aphylla, tenuifolia, capitata, hirta, repens, bituminosa, glandulosa, palæstina, americana, tetragonalia, corylifolia, pentaphylla, prostrata, dalea, enneaphylla, lævigata. S. Europe, India, Africa, America.

896. TRIFOLIUM, or *Trefoil, Clover.*
46 species; viz. cœrulea, indica, messanense, polonica, * officinalis, italica, cretica, * ornithopodioides, lupinasta, reflexum, strictum, * hybridum, * repens, comosum, alpinum, * subterraneum, globosum, cheleri, lappaceum, rubens, * pratense, alpestre, pannonicum, squarrosum, incarnatum, * ochroleucum, angustifolium, * arvense, stellatum, clypeatum, * scabrum, * glomeratum, * striatum, alexandrinum, uniflorum, spinosum, resupinatum, tomentosum, * fragiferum, montanum, agrarium, spacticeum, * procumbens, filiforme, biflorum, * suffocatum. Europe, India, Africa, N. America.

* T. capsules in bunches, often 2-seeded, wrinkled, acute; stem upright.—This plant is more fragrant when *officinalis.*

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when dry than when green. A water distilled from the flowers possesses but little odour in itself, but improves the flavour of other substances. Horses are extremely fond of it. Cows, goats, sheep, and swine eat it.

repens. * T. heads like umbels; legumens 4-seeded; stem creeping.—Horses, cows, and goats eat it. Sheep are not fond of it. Swine refuse it. The leaves stand upright against rain. Wherever this plant abounds spontaneously, it is considered as an indication of the goodness of the soil, and this is a thing well known to farmers. The richness of meadows and pastures is naturally owing to their abounding principally with the trefoils, and others of the same class, with a due mixture of the more acceptable grasses.

pratense. * T. spikes crowded: blossoms unequal; calyx with four of the teeth equal; stipulæ awned; stems ascending.—In a great scarcity of provisions, bread has been made of the flowers. The heads are used in Sweden to dye woollen green. With alum they give a light, with copperas a dark green.

897. LOTUS, or *Birds-foot Trefoil.*

18 species; viz. maritimus, siliquosus, tetragonolobus, conjugatus, tetraphyllus, edulis, peregrinus, angustissimus, arabicus, ornithopodioides, jacobæus, creticus, hirsutus, græcus, rectus, * corniculatus, cytisoides, dorycnium. Europe, Arabia, Madeira.

corniculatus. * L. heads of the flowers flatted at the top; stems herbaceous, trailing: legumens cylindrical, expanding.—The flowers of this plant become greenish when dried, in which respect they resemble the flowers of the plants which produce indigo. Cows, goats, and horses eat it. Sheep and swine are not fond of it. In Hertfordshire it is cultivated as pasturage for sheep. There is no doubt but it might be cultivated to great advantage. In moist meadows it grows to a great height, and makes extremely good hay.

898. TRIGONELLA, or *Fenugreek.*

12 species; viz. ruthenica, platycarpos, striata, polyceræta, hamosa, spinosa, corniculata, monspeliaca, laciniata, fœnum græcum, sylvestris, indica. Siberia, S. Europe, Egypt, India.

The *trigonella fœnum græcum* is cultivated chiefly in the southern parts of France, Germany, and Italy; from whence the seeds are brought to us. They are of a yellow colour, rhomboidal figure, a disagreeable strong smell, and a mucilaginous taste. Their principal use is in cataplasms, fomentations, and the like, and in emollient glysters.

899. MEDICAGO, or *Medich, Moon-trefoil.*

24 species; viz. arborea, virginica, radiata, circinnata, * sativa, * falcata, * lupulina, marina, polymorpha, prostrata, orbicularis, scutellata, tornata, turbinata, intertexta, * arabica, coronata, ciliaris, hirsuta, rigidula, * minima, * muricata, nigra, laciniata. Europe, North America.

* M. flowers in bunches; legumens narrow, regular, twisted; stem upright, smooth.—Modern writers upon husbandry strongly recommend the cultivation of this plant, for the purpose of feeding cattle; but it is not yet generally adopted. *sativa.*

* M. flowers in bunches; legumens crescent-shaped; stem prostrate.—In hot, dry, barren sandy places it is well worth the trouble of sowing for the purpose of making hay; a practice long since adopted in some parts of Sweden. Cows, horses, goats, and sheep eat it. *falcata.*

* M. spikes oval; seed-vessels kidney-shaped, with 1 cell and 1 seed; stems trailing.—Cows, horses, goats, and sheep eat it; but it is less grateful to them than the other species. It is cultivated in Norfolk under the name of *nonsuch*, and is usually sown mixed with rye-grass. The crop is then called black and white nonsuch. It has been sown in the isle of Wight. It is sometimes sown along with clover and rye grass. *lupulina.*

In the class Diadelphia are

56 Genera, including 710 Species, of which 59 are found in Britain.

CLASSIS XVIII.

POLYADELPHIA (H).

ORDO I. PENTANDRIA.

900. THEOBROMA. Cal. 3-phyllus. Cor. 5-petala, nectariis 5. Stam. 5. Anther. 3. Pistill. 3.

1418. ABROMA. Pentagyna. Caps. 5-locularis, 1-valvis, apice dehiscens. Semina reniformia, receptaculo hirsuto.

CLASS XVIII.

POLYADELPHIA.

ORDER I. PENTANDRIA.

T. Cal. 3-leaved. Cor. 5-petaled. Nectaries 5. Stam. 5. Anthers 3. Pistils 3.

A. Pistils 5. Caps. 5-celled, 1-valved, open at the extremity. Seeds kidney-shaped. Receptacle shaggy.

ORDO

(H) This class comprehends the plants whose flowers have stamens united by the filaments into three or more sets. The orders depend upon the number of stamens. There is only a single genus of British plants belonging to this class, viz. the *hypericum*.

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Ordo II. DODECANDRIA.

1268. Monsonia. Cal. 5-phyllus. Cor. 5-petala. Stam. 5. Anther 3. Pistill. 5-fidum.

Ordo III. ICOSANDRIA.

901. Citrus. Cal. 5-dentatus. Cor. 5-petala. Stam. 20, in cylindrum passim connata. Pistill. 1. Bacca locularis, pulpa vesiculari.

Ordo IV. POLYANDRIA.

1269. Melaleuca. Cal. 5-partitus superus. Cor. 5-petala. Caps. semivestita calyce baccato.

1270. Hopea. Cal. 5-fidus, superus. Cor. 5-petala. Drupa nucleo 3-loculari.

Durio. Cal. 5-fidus, urceolatus, inferus. Cor. 5-petala, parva. Stylus 1. Stam. phalanges 5, ex septem. Pomum 5-loculare.

1320. Glabraria. Cal. 5-fidus, inferus. Cor. 5-petala. Stylus 1. Stam. phalanges 5 ex senis. Drupa.

1321. Munchhausia. Cal. inferus, 6-fidus. Cor. 6-petala. Caps. 6-locularis.

677. Symplocos. Cal. 5-fidus, inferus. Cor. 5-petala. Stam. 4-plici serie corollæ adnata.

* 902. Hypericum. Cal. 5-partitus, inferus. Cor. 5-petala. Styli 1, 3, s. 5. Caps. locularis.

* 903. Ascyrum. Cal. 2-phyllus, inferus. Cor. 4-petala. Styli 2. Caps. 2-valvis.

Order II. DODECANDRIA.

M. Cal. 5-leaved. Cor. 5-petaled. Stam. 5. Anthers 3. Pistil. 5-cleft.

Order III. ICOSANDRIA.

C. Cal. 5-toothed. Cor. 5-petaled. Stam. 20, everywhere united into a cylinder. Pistil 1. Berry celled, in a vesicular pulp.

Order IV. POLYANDRIA.

M. Cal. 5-parted superior. Cor. 5-petaled. Caps. half covered with a berry-like cal.

H. Cal. 5-cleft superior. Cor. 5-petaled. Drupe with a 3-celled nut.

D. Cal. 5-cleft, pitcher-shaped, inferior. Cor. 5-petaled, small. Style 1. Stam. phalanxes 5 of 7. Apple many-celled.

G. Cal. 5-cleft, inferior. Cor. 5-petaled. Style 1, Stam. phalanxes 5 of 6. Drupe.

M. Cal. inferior, 6-cleft. Cor. 6-petaled. Caps. 6-celled.

S. Cal. 5-cleft, inferior. Cor. 5-petaled. Stam. connected with the corol. by a 5-fold series.

* H. Cal. 5-parted inferior. Cor. 5-petaled. Styles 1, 3, or 5. Caps. celled.

A. Cal. 2-leaved, inferior. Cor. 4-petaled. Styles 2. Caps. 2-valved.

Order I. PENTANDRIA.

900. Theobroma, or *Chocolate-nut Tree.*

Two species; viz. cacao, guamma. Jamaica, S. America.—The nuts of the *theobroma cacao* are the fruit of an American tree resembling the almond. The tree, though small, bears a large fruit, shaped like a cucumber, which contains 30 or more of the nuts. These, by pressure, yield a considerable quantity of a fluid oil. Boiled in water, they give out a large portion of a sebaceous matter, which congeals on the surface of the liquor as it cools. The principal use of these nuts is for the preparation of the dietetic liquor chocolate. This is a mild, unctuous, nutritious fluid, capable of softening acrimonious humours, and of great service in consumptive disorders, especially if made with milk, and with only a small proportion of aromatics.

1418. Abroma.

One species; viz. augusta. California.

Order II. DODECANDRIA.

1268. Monsonia.

Three species; viz. filia, speciosa, lobata. C. of G. Hope.

Order III. ICOSANDRIA.

901. Citrus, or *Lemon-orange, Shaddock.*

Four species; viz. medica, aurantium, decumana, japonica. Asia, India.

The citron, or the *citrus medica*, is an evergreen tree or shrub, of the same genus with the orange and lemon: it was first brought from Assyria and Media (whence the fruit is called *mala assyria, mala medica*) into Greece, and thence into the southern parts of Europe, where it is now cultivated. Citrons are rarely made use of among us; they are of the same quality with lemons, except that their juice is somewhat less acrid. They are with us frequently employed as a condiment.

The juice of lemons is similar in quality to that of oranges, from which it differs little otherwise than in being more acid. The yellow peel is an excellent aromatic, and is frequently employed in stomachic tinctures and infusions: it is considerably less hot than orange peel, and yields in distillation with water a less quantity of essential oil; its flavour is nevertheless more perishable, yet does not arise so readily with spirit of wine; for a spirituous extract made from lemon peel possesses the aromatic taste and smell of the subject, in much greater perfection than an extract prepared in the same manner from

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from the peel of oranges. In the shops a syrup is prepared from the juice, and the peel is candied: the peel is an ingredient in the bitter infusions and wines: the essential oil enters the volatile aromatic spirit, or *spiritus ammoniæ compositus*, as it is now called, and some other formulæ.

The orange or the *citrus aurantium* is a beautiful evergreen tree, or rather shrub; it is a native of the warmer climates, and does not easily bear the winters of this.

The flowers are highly odoriferous, and have been for some time past in great esteem as a perfume; their taste is somewhat warm, accompanied with a degree of bitterness. They yield their flavour by infusion to rectified spirit, and in distillation both to spirit and water: the bitter matter is dissolved by water, and on evaporating the decoction, remains entire in the extract. An oil distilled from these flowers is brought from Italy, under the name of *oleum* or *essentia neroli*.

Orange flowers were at one time said to be an useful remedy in convulsive and epileptic cases; but experience has not confirmed the virtues attributed to them. The leaves of the orange have also been recommended for the same purpose, but have by no means answered the expectations entertained by some.

The outer yellow rind of the fruit is a grateful aromatic bitter; and proves an excellent stomachic and carminative, promoting appetite, warming the habit, and strengthening the tone of the viscera. Orange peel appears to be very considerably warmer than that of lemons, and to abound more with essential oil: to this circumstance, therefore, regard ought to be had in the use of these medicines. The flavour of the first is likewise supposed to be less perishable than that of the other; hence the London college employ orange-peel in the spirituous bitter tincture, which is designed for keeping; whilst in the bitter watery infusion, lemon peel is preferred. A syrup and distilled water are for the same reason prepared from the rind of oranges in preference to that of lemons.

The outer rind of the orange is the basis of a conserve both in the Edinburgh and London pharmacopœias; and this is perhaps one of the most elegant and convenient forms for exhibiting it.

The juice of oranges is a grateful acid liquor, of considerable use in febrile or inflammatory distempers, for allaying heat, abating exorbitant commotions of the blood, quenching thirst, and promoting the salutary excretions; it is likewise of use in genuine scorbutus or sea-scurvy. Although the Seville or *bitter orange*, as it is called, has alone a place in our pharmacopœias, yet the juice of the China or sweet orange, is much more employed. It is more mild and less acid; and it is employed in its most simple state with great advantage, both as a cooling medicine, and as an useful antiseptic in fevers of the worst kinds, as well as in many other acute diseases, being highly beneficial in alleviating thirst.

Order IV. POLYANDRIA.

1320. Glabraria.

One species; viz. tersa. E. Indies.

1321. Munnhausia.

One species; viz. speciosa.

Durio.

One species; viz. zibethinus. E. Indies.

1269. Melaleuca, or *Cuputi-tree*.

Seven species; viz. leucadendron, latifolia, angustifolia, lucida, villosa, scoparia, virgata. New S. Wales, New Zealand.

1270. Hopea.

One species; viz. tinctoria. Carolina.

677. Symplocos.

One species; viz. martinicensis. Jamaica, Martinico.

902. Hypericum, or *St John's Wort*.

42 species; viz. balearicum, kalmianum, cayanense, bacciferum, calycinum, guineense, petiolatum, patulum, ascyron, * androsæmum, olympicum, petiolatum, canariense, hircinum, ægyptium, orientale, scabrum, repens, prolificum, oricoides, canadense, virginicum, mexicanum, reflexum, * quadrangulare, * perforatum, * humifusum, crispum, * montanum, barbatum, * hirsutum, tomentosum, perfoliatum, * elodes, * pulchrum, nummularium, japonicum, erectum, coris, mutilum, setosum, monogynum. Europe, Azores, China, North America.

* H. stem 2-edged; leaves blunt; with pellucid dots.—This plant has long held a place in the materia medica, but its use is very much undetermined. The semitransparent dots on the leaves are the receptacles of an essential oil. The leaves given in substance are said to destroy worms. The flowers tinge spirits and oils of a fine purple colour, which is probably derived from the little glands upon the anther, and upon the edges of the petals. Cows, goats, and sheep eat it. Horses and swine refuse it.

903. Ascyrum, or *St Peter's Wort*.

Three species; viz. crux andreæ, hypericoides, villosum. N. America.

In the class Polyadelphia are

12 Genera, which include 65 species. Of these 8 are found in Britain.

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CLASSIS XIX.

SYNGENESIA (1).

ORDO I. POLYGAMIA ÆQUALIS.

Sect. I. *Semiflosculi Tournefortii, corollis ligulatis omnibus.*

922. SCOLYMUS. Recept. paleaceum. Pappus nullus. Cal. imbricatus, spinosus.
* 921. CICHORIUM. Recept. subpaleaceum. Pappus sub 5-dentatus. Cal. calyculatus.
920. CATANANCHE. Recept. paleaceum. Pappus aristatus, sessilis. Cal. imbricatus, scariosus.
917. SERIOLA. Recept. paleaceum. Pappus subpilosus. Cal. simplex.
* 918. HYPOCHÆRIS. Recept. paleaceum. Pappus plumosus. Cal. imbricatus.
904. GEROPOGON. Recept. paleaceum. Pappus plumosus disci, 5-aristatus radii. Cal. simplex.
915. ANDRYALA. Recept. villosum. Pappus pilosus, sessilis. Cal. subæqualis, rotundatus.
* 905. TRAGOPOGON. Recept. nudum. Pappus plumosus, stipitatus. Cal. simplex.
* 907. PICRIS. Recept. nudum. Pappus plumosus, stipitatus. Cal. calyculatus.
* 912. LEONTODON. Recept. nudum. Pappus plumosus, stipitatus. Cal. imbricatus squamis laxis.
906. SCORZONERA. Recept. nudum. Pappus plumosus, stipitatus. Cal. imbricatus, margine scarioso.
* 914. CREPIS. Recept. nudum. Pappus pilosus. Cal. calyculatus, squamis difformibus.
910. CHONDRILLA. Recept. nudum. Pappus pilosus, stipitatus. Cal. calyculat. multiflorus.
* 911. PRENANTHES. Recept. nudum. Pappus pilosus. Cal. calyculat. sub 5-florus.
* 909. LACTUCA. Recept. nudum. Pappus pilosus, stipitatus. Cal. imbricatus, margine scarioso.

CLASS XIX.

SYNGENESIA, OR COMPOUND FLOWERS.

ORDER I. POLYGAMIA ÆQUALIS, or with both stamens and pistils in the same florets.

Sect. I. *Semifloscular of Tournefort, all the florets ligulate, or strap-shaped.*

S. Recept. chaffy. No down. Cal. tiled, prickly.

* C. Recept. nearly chaffy. Down nearly 5-toothed. Cal. calycled, i. e. having a double calyx.
C. Recept. chaffy. Down awned, sitting. Cal. tiled, skinny.
S. Recept. chaffy. Down somewhat hairy. Cal. simple.
* H. Recept. chaffy. Down feathered. Cal. tiled.

G. Recept. chaffy. Down of the disc feathered, of the radius 5-awned. Cal. simple.
A. Recept. woolly. Down hairy, sitting. Cal. nearly equal, rounded.
* T. Recept. naked. Down feathered, pedicled. Cal. simple.
* P. Recept. naked. Down feathered, pedicled. Cal. calycled.
* L. Recept. naked. Down feathered, pedicled. Cal. tiled with loose scales.
S. Recept. naked. Down feathered, pedicled. Cal. tiled, with a skinny border.
* C. Recept. naked. Down hairy. Cal. calycled, with irregular scales.
C. Recept. naked. Down hairy, pedicled. Cal. calycled, many-flowered.
* P. Recept. naked. Down hairy. Cal. calycled, nearly 5-flowered.
* L. Recept. naked. Down hairy, pedicled. Cal. tiled, with a skinny border.

* 913.

(1) This class comprehends those flowers which botanists have very generally agreed to call *compound*. The essential character of a compound flower, consists in the anthers being united so as to form a cylinder, and a single seed being placed upon the receptacle under each floret. The dandelion and thistle are compound flowers; that is, each of these flowers is composed of a number of small flowers called *florets*. The plants of this class are supposed to have various specific virtues. Most of them are bitter; almost none of them are poisonous. The *lactuca virosa*, when growing in shady situations, is however said to be an exception to this last rule.

The elasticity of the calyx in the *picris*, *carduus*, and many other genera, is too remarkable to pass unnoticed by the slightest observer. It seems as if the expansion of the plants first burst the calyx open, and when these wither it closes again. The downy hairs that crown the seeds, before upright, now begin to expand, and by this expansion again open the leaves of the calyx, and bend them quite back. The seeds now escape, and the calyx, becoming dry and withered, no longer retains its elastic power.

The hairy or downy appendages of the seeds occasion them to be wafted about in the air, and disseminated far and wide. The structure of this down deserves our notice; there is hardly a child that is insensible to its curious and beautiful appearance in the *leontodon* or *dandelion*.

In this class the orders are determined by the state of the florets with regard to stamens and pistils.

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* 913. HIERACIUM. Recept. nudum. Pappus pilosus, sessilis. Cal. imbricatus, ovatus.
* 908. SONCHUS. Recept. nudum. Pappus pilosus, sessilis. Cal. imbricatus, gibbus.
* 919. LAPSANA. Recept. nudum. Pappus nullus. Cal. calyculatus.
* 916. HYOSERIS. Recept. nudum. Pappus calyculo coronatus. Cal. subæqualis.

Sect. II. *Capitati.*

930. ATRACTYLIS. Corolla radiata.
1419. BARNADESIA. Cor. radiata. Cal. nudus, imbricatus, pungens. Pappus radii plumosus; disci setosus, retrofractus.
* 929. CARLINA. Cal. radiatus, radiis coloratus.

926. CNICUS. Cal. bracteis obvallatus.
* 923. ARCTIUM. Cal. squamis apice incurvato-hamosis.
931. CARTHAMUS. Cal. squamis squarrosus foliaceis.
928. CYNARA. Cal. squamis squarrosus canaliculatis, spinosis.
* 925. CARDUUS. Cal. squamis spinosis, ventricosus.
* 927. ONOPORDON. Cal. squamis ventricosus spinosis. Recept. favosum.
* 924. SERRATULA. Cal. squamis acutiusculis muticis imbricatus, subcylindricus.

Sect. III. *Discoidei.*

934. ETHULIA. Recept. nudum. Pappus nullus. Cal. æqualis.
936. AGERATUM. Recept. nudum. Pappus 5-aristatus. Cal. subæqualis. Corollulæ 4-fidæ.
933. BACALIA. Recept. nudum. Pappus pilosus. Cal. calyculus.
939. CHRYSOCOMA. Recept nudum. Pappus pilosus. Cal. imbricatus. Pist. brevissima.
* 935. EUPATORIUM. Recept. nudum. Pappus plumosus. Cal. imbricatus. Pist. longissima.
* 942. SANTOLINA. Recept. paleaceum. Pappus nullus. Cal. imbricatus, hemisphæricus.
941. CALEA. Recept. paleaceum. Pappus pilosus. Cal. imbricatus.
943. ATHANASIA. Recept. paleaceum. Pappus paleaceus. Cal. imbricatus.
1287. SPILANTHUS. Recept. paleaceum. Pappus bidentatus. Cal. subæqualis.
* 932. BIDENS. Recept. paleaceum. Pappus aristatus. Cal. imbricatus.
938. STÆHELINA. Recept. paleaceum. Pappus plumosus, ramosus. Antheræ caudatæ.
937. PTERONIA. Recept. setis partitis. Pappus subplumosus. Cal. imbricatus.
940. TRACHONANTHUS. Recept. pilosum. Pappus pilosus, vestiens. Cal. turbinatus, monophyllus.

ORDO II. POLYGAMIA SUPERFLUA.

Sect. I. *Discoidei.*

* 945. ARTEMISIA. Recept. subnudum. Papp. nullus. Cor. radii nulla.

* H. Recept. naked. Down hairy, sitting. Cal. tiled, oval.
* S. Recept. naked. Down hairy, sitting. Cal. tiled, bulged.
* L. Recept. naked. No down. Cal. calycled.

* H. Recept. naked. Down crowned with a calycle. Cal. nearly equal.

Sect. II. *Capitate, or growing in heads.*

A. Cor. radiated.
B. Cor. radiated. Cal. naked, tiled, pungent. Down of the radius feathered; of the disc bristly, broken backwards.
* C. Cal. radiated (or with the outer different from the central florets); radii (outer florets) coloured.
C. Cal. surrounded by floral leaves.
* A. Cal. with scales hooked, curved at the point.

C. Cal. scurfy, with leafy scales.

C. Cal. scurfy, with channelled scales, thorny.

* C. Cal. bellied, with thorny scales.
* O. Cal. bellied, with thorny scales. Recept. honeycombed.
* S. Cal. tiled with sharp awnless scales, nearly cylindrical.

Sect. III. *Discoid (florets tubular).*

E. Recept. naked. No down. Cal. equal.

A. Recept. naked. Down 5-awned. Cal. nearly equal. Cor. 4-cleft.
B. Recept. naked. Down hairy. Cal. calycled.

C. Recept. naked. Down hairy. Cal. tiled. Pist. very short.
* E. Recept. naked. Down feathered. Cal. tiled. Pist. very long.
* S. Recept. chaffy. No down. Cal. tiled, hemispherical.
C. Recept. chaffy. Down hairy. Cal. tiled.

A. Recept. chaffy. Down chaffy. Cal. tiled.

S. Recept. chaffy. Down 2-toothed. Cal. nearly equal.
* B. Recept. chaffy. Down awned. Cal. tiled.

S. Recept. chaffy. Down feathered, branched. Anthers tailed.
P. Recept. with parted bristles. Down nearly feathered. Cal. tiled.
T. Recept. hairy. Down hairy, covering. Cal. turban-like, 1-leaved.

ORDER II. POLYGAMIA SUPERFLUA.
(See p. 66.)

Sect. I. *Discoid (without ligulate florets).*

* A. Recept. nearly naked. No down. No cor. in the florets of the radius.

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948. CARPESIUM. Recept. nudum. Papp. nullus. Cor. radii 5-fidæ.

* 944. TANACETUM. Recept. nudum. Papp. submargin. Cor. radii 3-fidæ.

968. COTULA. Recept. subnudum. Papp. margin. natus. Cor. disci 4-fidæ.

949. BACCHARIS. Recept. nudum. Papp. pilosus. Cor. femineæ hermaphroditis mixtæ.

* 950. CONYZA. Recept. nudum. Papp. pilosus. Cor. radii 3-fidæ.

* 946. GNAPHALIUM. Recept. nudum. Papp. plumosus. Cal. scariosus, squam. concavis.

947. XERANTHEMUM. Recept. paleaceum. Papp. sub-setaceus. Cal. scariosus, radio explanato.

969. ANACYCLUS. Recept. paleaceum. Papp. nullus. Sem. marginata, emarginata.

Sect. II. *Semiflosculosi, sub-bilabiati.*

960. PERDICIUM. Recept. nudum. Papp. pilosus. Cor. trifidæ, exteriore majore, 3-loba.

Sect. III. *Radiati.*

* 962. BELLIS. Recept. nudum. Papp. nullus. Cal. squamis æqualibus simplex.

* 967. MATRICARIA. Recept. nudum. Pap. nullus. Cal. squamis imbricatus acutis.

* 966. CHRYSANTHEMUM. Recept. nudum. Papp. nullus. Cal. squamis intimis scariosis.

1420. UNXIA. Recept. nudum. Papp. nullus. Cal. 5-phyllus. Flores radii et disci quinque.

* 959. DORONICUM. Recept. nudum. Papp. pilosus. Pappus radii nullus.

958. ARNICA. Recept. nudum. Papp. pilosus. Stamina radii castrata.

* 956. INULA. Recept. nudum. Papp. pilosus. Antheræ basi bisetæ.

* 951. EPIGERON. Recept. nudum. Papp. pilosus. Cor. radii capillares.

* 955. SOLIDAGO. Recept. nudum. Papp. pilosus. Cor. radii subseni, remoti.

* 957. CINERARIA. Recept. nudum. Papp. pilosus. Cal. æqualis, simplex.

* 953. SENECIO. Recept. nudum. Papp. pilosus. Cor. squamis apice sphacelatis.

* 952. TUSSILAGO. Recept. nudum. Papp. pilosus. Cal. squamis sub-membranaceis.

* 954. ASTER. Recept. nudum. Papp. pilosus. Cal. sub-squarrosus.

1421. MUTISIA. Recept. nudum. Papp. plumosus. Cal. cylindricus imbricatus. Corollæ radii ovali-oblongæ; disci trifidæ.

1322. BELLIUM. Recept. nudum. Papp. aristatus, 8-phyllusque. Cal. simplex.

964. TAGETES. Recept. nudum. Papp. aristatus. Cal. 1-phyllus. Radius 5-florus.

961. HELENIUM. Recept. seminudum. Papp. 5-aristatus. Cal. multipartitus. Radiis cor. 3-fidis.

965. PECTIS. Recept. nudum. Papp. aristatus. Cal. 5-phyllus. Radius 5-florus.

963. LEYSERA. Recept. semipaleaceum. Papp. plumosus. Cal. scariosus.

C. Recept. naked. No down. Cor. of the outer florets 5-cleft.

* T. Recept. naked. Down with a slight border. Cor. of the ray 3-cleft.

C. Recept. nearly naked. Down with a border. Cor. of the disc 4-cleft.

R. Recept. naked. Down hairy. Cor. female, mixed with hermaphrodites.

* C. Recept. naked. Down hairy. Cor. of the ray 3-cleft.

* G. Recept. naked. Down feathered. Cal. skinny, with concave scales.

X. Recept. chaffy. Down a little bristly. Cal. skinny, the ray flattened.

A. Recept. chaffy. No down. Seeds bordered and not bordered.

Sect. II. *Florets half tubular, nearly 3-lipped.*

P. Down hairy. Cor. 3-cleft, the outer largest, 3-lobed.

Sect. III. *Radiate.*

* B. Recept. naked. No down. Cal. simple with equal scales.

* M. Recept. naked. No down. Cal. tiled with sharp scales.

* C. Recept. naked. No down. Cal. inner scales skinny.

U. Recept. naked. No down. Cal. 5-leaved. Flowers of the ray and disc (extremity and centre) five.

* D. Recept. naked. Down hairy. No down of the ray.

A. Recept. naked. Down hairy. Stamens of the ray without anthers.

* I. Recept. naked. Down hairy. Anthers at the base 2-bristled.

* E. Recept. naked. Down hairy. Cor. of the ray hairy-like.

* S. Recept. naked. Down hairy. Cor. of the ray nearly in sixes, remote.

* C. Recept. naked. Down hairy. Cal. equal, simple.

* S. Recept. naked. Down hairy. Cor. with scales, brittle at the point.

* T. Recept. naked. Down hairy. Cal. with scales nearly membranous.

* A. Recept. naked. Down hairy. Cal. nearly scurfy.

M. Recept. naked. Down feathered. Cal. cylindrical, tiled. Cor. of the ray oval-oblong, of the disc 3-cleft.

B. Recept. naked. Down awned, and 8-leaved. Cal. simple.

T. Recept. naked. Down awned. Cal. 1-leafed. Ray 5-flowered.

H. Recept. half naked. Down 5-awned. Cal. many-parted. Cor. with 3-cleft rays.

P. Recept. naked. Down awned. Cal. 5-leaved. Ray 5-flowered.

L. Recept. half chaffy. Down feathered. Cal. skinny.

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973. SIGESBECKIA. Recept. paleaceum. Papp. nullus. Radius dimidiatus.

1321. ECLIPTA. Recept. paleaceum. Papp. nullus. Cor. disci 4-fidæ.

* 970. ANTHEMIS. Recept. paleaceum. Papp. nullus. Cal. hemisphæricus.

* 971. ACHILLEA. Recept. paleaceum. Papp. nullus. Radius sub 5-florus. Cal. oblongus.

977. BUPHTHALMUM. Recept. paleaceum. Papp. marginatus. Stigma hermaphrodit. simplex.

978. AMELLUS. Recept. paleaceum. Papp. pilosus. Cal. imbricatus.

972. TRIDAX. Recept. paleaceum. Papp. pilosus. Cor. radii 3-partitæ.

975. VERBESINA. Recept. paleaceum. Papp. aristatus. Flosculi radii circiter 5.

974. ZINNIA. Recept. paleaceum. Papp. aristatus. Radius 5-florus, persistens. Cal imbricat.

Tetragonotheca, vide *Polymniam*.

S. Recept. chaffy. No down. Ray extending half round.

E. Recept. chaffy. No down. Cor. of the disc 4-cleft.

* A. Recept. chaffy. No down. Cal. hemispherical.

* A. Recept. chaffy. No down. Ray nearly 5-flowered. Cal. oblong.

B. Recept. chaffy. Down bordered. Stigm. hermaphrodite, simple.

A. Recept. chaffy. Down hairy. Cal. tiled.

T. Recept. chaffy. Down hairy. Cor. of the ray 3-parted.

V. Recept. chaffy. Down awned. Florets of the ray about 5.

Z. Recept. chaffy. Down awned. Ray 5-flowered, permanent. Cal. tiled.

ORDO III. POLYGAMIA FRUSTRANEA.

ORDER III. POLYGAMIA FRUSTRANEA.

SCLEROCARPUS. Recept. nudum. Papp. nullus. Cal. sulcatus.

982. GORTERIA. Recept. nudiusculum. Papp. pilosus. Radius corollæ ligulatus.

* 984. CENTAUREA. Recept. setosum. Papp. pilosus. Radius corollæ tubulosus.

1271. ZOEGEA. Recept. setosum. Papp. setaceus. Radius corollæ ligulatus.

980. RUDBECKIA. Recept. paleaceum. Papp. marginatus. Cal. serie duplici.

981. COREOPSIS. Recept. paleaceum. Papp. aristatus. Cal. calyculatus.

979. HELIANTHUS. Recept. paleaceum. Papp. aristatus. Cal. squarrosus.

983. OSMITES. Recept. paleaceum. Papp. obsoletus. Cal. imbricatus.

S. Recept. naked. No down. Cal. furrowed.

G. Recept. naked. Down hairy. Cor. of the ray strap-shaped.

* C. Recept. bristly. Down hairy. Cor. of the ray tubular.

Z. Recept. bristly. Down bristly. Cor. of the ray strap-shaped.

R. Recept. chaffy. Down with a margin. Cal. in a double series.

C. Recept. chaffy. Down awned. Cal. calycled.

H. Recept. chaffy. Down awned. Cal. scurfy.

O. Recept. chaffy. Down obscure. Cal. tiled.

ORDO IV. POLYGAMIA NECESSARIA.

ORDER IV. POLYGAMIA NECESSARIA.

* 995. FILAGO. Recept. nudum. Papp. nullus. Flosc. fœmin. inter squamas calycis.

996. MICROPUS. Recept. nudum. Papp. nullus. Flosc. fœmin. squamis calycis vaginati.

985. MILLERIA. Recept. nudum. Papp. nullus. Flosc. fœmineus subsolitarius.

1323. BALTIMORA. Recept. nudum. Papp. nullus. Cal. cylindricus. Radius 5-florus.

993. OTHONNA. Recept. nudum. Papp. pilosus. Cal. monophyllus.

1224. HIPPIA. Recept. nudum. Papp. nullus. Sem. glabra, compresso-marginata. Radius obsoletus.

992. OSTEOSPERMUM. Recept. nudum. Papp. nullus. Sem. globosa, ossea.

* 990. CALENDULA. Recept. nudum. Papp. nullus. Sem. membranacea.

991. ARCTOTIS. Recept. subpilosum. Papp. 5-phyllus. Sem. tomentosa.

ERIOCEPHALUS. Recept. villosum. Papp. nullus. Flosc. radii quini.

987. POLYMNIA. Recept. paleaceum. Papp. nullus. Cal. 5-phyllus.

989. MELAMPODIUM. Recept. paleaceum. Papp. valvatus. Cal. 5-phyllus.

* F. Recept. naked. No down. Female florets between the scales of the calyx.

M. Recept. naked. No down. Female florets sheathed by the scales of the cal.

M. Recept. naked. No down. Female florets nearly solitary.

B. Recept. naked. No down. Cal. cylindrical. Ray 5-flowered.

O. Recept. naked. Down hairy. Cal. 1-leaved.

H. Recept. naked. No down. Seeds smooth, compressed-bordered. Ray obscure.

O. Recept. naked. No down. Seeds globular, bony.

* C. Recept. naked. No down. Seeds membraneous.

A. Recept. somewhat hairy. Down 5-leaved. Seeds cottony.

E. Recept. woolly. No down. Florets of the ray 5.

P. Recept. chaffy. No down. Cal. 5-leaved.

M. Recept. chaffy. Down curtained. Cal. 5-leaved.

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986. Silphium. Recept. paleaceum. Papp. 2-aristatus. Cal. squarrosus.

988. Chrysogonum. Recept. paleaceum. Papp. 3-aristatus. Sem. calyculis propriis.

Ordo V. POLYGAMIA SEGREGATA.

1001. Stoebe. Perianth. 1-florum. Papp. plumosus. Polyg. æqualis.

1325. Oedera. Recept. paleaceum. Papp. paleaceus. Perianth. proprium, flosculis tubulosis ligulatisque.

999. Echinops. Perianth. 1-florum. Papp. pubescens. Polyg. æqualis.

998. Elephantopus. Perianth. 4-florum. Papp. setosus. Polyg. æqualis.

1000. Gundelia. Recept. 5-florum. Papp. nullus. Polyg. frustranea.

1422. Jungia. Recept. paleaceum. Perianth. commune, triflorum. Flosculi tubulosi, bilabiati; labio exteriori ligulato; labio interiori bipartito.

900. Sphæranthus. Recept. multiflorum. Papp. nullus. Polyg. necessaria.

Ordo VI. MONOGAMIA.

1003. Strumpfia. Cal. 5-dentatus. Cor. 5-petala, regularis. Bacca infera, 1-sperma.

1002. Seriphium. Cal. imbricatus. Cor. 1-petala, regularis. Sem. 1, oblongum.

1004. Corymbium. Cal. 2-phyllus. Cor. 1-petala, regularis. Sem. 1, lanatum.

1006. Lobelia. Cal. 5-dentatus. Cor. 5-petala, regularis. Caps. infera, 2-locularis.

1007. Viola. Cal. 5-phyllus. Cor. 5-petala, irregularis. Caps. supera, 3-valvis.

1000. Impatiens. Cal. 5-phyllus. Cor. 5-petala irregularis. Caps. supera, 5-valvis.

S. Recept. chaffy. Down 2-awned. Cal. scaly.

C. Recept. chaffy. Down 3-awned. Seeds with peculiar calyxes.

Order V. POLYGAMIA SEGREGATA.

S. Perianth. 1-flowered. Down feathered. Polygamy equal. (See page 66.)

O. Recept. chaffy. Down chaffy. Perianth. proper, with tubular and strap-shaped florets.

E. Perianth. 1-flowered. Down pubescent. Polygamy equal.

E. Perianth. 4-flowered. Down bristly. Polygamy equal.

G. Recept. 5-flowered. No down. Polygamy frustr. (See page 66.)

J. Recept. chaffy. Perianth. common, 3-flowered. Florets tubular, 2-lipped; outer lip strap-shaped, the inner 2-parted.

S. Recept. many-flowered. No down. Polygamy necessary. (See p. 66.)

Order VI. MONOGAMIA.

S. Cal. 5-toothed. Cor. 5-petaled, regular. Berry inferior, 1-seeded.

S. Cal. tiled. Cor. 1-petaled, regular. One oblong seed.

C. Cal. 2-leaved. Cor. 1-petaled, regular. One cottony seed.

L. Cal. 5-toothed. Cor. 5-petaled, regular. Caps. inferior, 2-celled.

V. Cal. 5-leaved. Cor. 5-petaled, irregular. Caps. superior, 3-valved.

I. Cal. 5-leaved. Cor. 5-petaled, irregular. Caps. superior, 5-valved.

Order I. POLYGAMIA ÆQUALIS.

904. Geropogon, or *Old Man's Beard.*

Three species; viz. glabrum, hirsutum, calycolatum. Italy.

905. Tragopogon, or *Goats Beard.*

14 species; viz. * pratense, mutabile, undulatum, orientale, majus, * porrifolium, crocifolium, villosum, dalechampii, picroides, asperum, dandelion, lanatum, virginicum. Europe, North America.

pratense. * T. calyx as long as the rays of the blossom; leaves entire, quite straight; fruit-stalk cylindrical. *Yellow goats beard.*—Before the stems shoot up, the roots boiled like asparagus have the same flavour, and are nearly as nutritious. Cows, sheep, and horses eat it. Swine devour it greedily. Goats are not fond of it.

906. Scorzonera, or *Vipers Grass.*

14 species; viz. tomentosa, humilis, parviflora, hispanica, graminifolia, purpurea, angustifolia, hirsuta, resedifolia, laciniata, orientalis, taraxacifolium, tingitana, picroides. Europe, Arabia, Barbary.

907. Picris, or *Ox Tongue.*

Four species; viz. * echioides, * hieracioides, japonica, asplenioides. Germany, France, Italy, Japan.

908. Sonchus, or *Sow-thistle.*

13 species; viz. * canadensis, * arvensis, * palustris, * oleraceus, maritimus, fruticosus, tenerrimus, plumieri, alpinus, floridanus, sibiricus, tataricus, tuberosus. Europe, Madeira, N. Amer. Jam.

* S. fruit and calyxes rough with hair in a sort of umbels; leaves naked, heart-shaped at the base. *Corn or sow thistle.*—The flowers follow the sun very regularly. Cows and goats eat it; horses are very fond of it. *arvensis.*

* S. fruitstalks cottony; calyxes smooth. *Common sow-thistle.*—The leaves are good among other potherbs. They are a very favourite food with hares and rabbits. Sheep, goats, and swine, eat it. Horses are very fond of it. *oleraceus.*

909. Lactuca, or *Lettuce.*

Ten species; viz. * scariola, * virosa, * saligna, quercina, intybacea, sativa, tuberosa, canadensis, indica, perennis. Europe, E. Indies, N. America.

* L. all the leaves horizontal, toothed; their mid-rib prickly on the back. *Wild lettuce.*—The juice smells like opium. It is milky, acrid and bitter. Dr Cullen relates 24 cases of dropsy, out of which 23 were cured by taking the extract prepared from the expressed juice in *virosa.*

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in doses, from 18 grains to three drams in the 24 hours. It commonly proves laxative, promotes urine and gentle sweats, and removes the thirst. It must be prepared when the plant is in flower.

910. CHONDRILLA, or *Gum Succory.*

Three species; viz. juncea, crepoides, nudicaulis. Germany, Switzerland, France.

911. PRENANTHES, or *Wild Lettuce.*

19 species; viz. tenuifolia, chinensis, viminea, purpurea, * muralis, altissima, chondrilloides, japonica, alba, repens, pinnata, integra, debilis, dentata, hastata, humilis, multiflora, lyrata, squarrosa. Europe, Japan, N. America.

912. LEONTODON, or *Dandelion.*

10 species; viz. *taraxacum, bulbosum, aureum, hastile, tuberosum, *autumnale, alpinum, *hispidum, *hirtum, tomentosum. Europe, Africa, N. America.

913. HIERACIUM, or *Hawkweed.*

39 species; viz. incanum, pumilum, * alpinum, * taraxaci, alpestre, venosum, * pilosella, * dubium, * auricula, cymosum, præmorsum, aurantiacum, gronovii, gmelini, sanctum, capense, pontanum, paniculatum, porrifolium, chondrilloides, * murorum, humile, * paludosum, lyratum, cerinthoides, amplexicaule, pyrenaicum, blattarioides, pilosum, austriacum, helveticum, * molle, stipitatum, * villosum, glutinosum, kalmii, sprengerianum, * sabandum, * umbellatum.

alpinum. * H. leaves oblong, entire, toothed; stalk almost naked; calyx hairy.—This differs from the other lactescent plants, being less bitter and more astringent. It is esteemed hurtful to sheep. Goats eat it. Sheep are not fond of it. Horses and cows refuse it.

914. CREPIS, or *Base Hawkweed.*

16 species; viz. pygmæa, bursifolia, barbata, vesicaria, alpina, rubra, * fœtida, aspera, rhagadioloides, sibirica, *tectorum, *biennis, virens, dioscoridis, pulchra, neglecta. Siberia, Alps, Azores, Arabia.

915. ANDRYALA, or *Downy Sow-thistle.*

Three species, viz. integrifolia, ragusina, lanata. S. Europe, Archipelago, Canary.

916. HYOSERIS, or *Yellow-eye.*

Nine species; viz. fœtida, radiata, lucida, scabra, virginica, * minima, hedypnois, rhagadioloides, cretica. Europe, N. America, Madeira.

917. SERIOLA.

Four species; viz. lævigata, æthnensis, cretensis, urens. S. of Europe.

918. HYPOCHÆRIS, or *Goshmore.*

Four species; viz. helvetica, * maculata, * glabra, * radicata. Europe.

maculata. * H. stem almost bare, with a solitary branch; leaves egg-oblong, entire, toothed.—The leaves of this plant are boiled, and eaten as cabbage. Horses are fond of this plant when green, but they do not like it when dry. Cows, goats, and swine eat it. Sheep are not fond of it. The country people believe it a cure for tetters and other cutaneous eruptions, possibly through a vulgar prejudice, founded on its spotted leaves.

919. LAPSANA, or *Nipple-wort.*

Five species; viz. * communis, zacintha, stellata, kolpinii, rhagadiolus. Siberia, S. of Europe.

920. CATANANCHE, or *Candia Lion's-foot.*

Three species; viz. cœrulea, lutea, græca. South of Europe.

921. CICHORIUM, or *Succory, Endive.*

Three species; viz. * intybus, endivia, spinosum. Europe.

* C. flowers in pairs, sitting; leaves notched.—The leaves, when blanched, are eaten early in the spring in salads. They lose their bitterness by cultivation. The roots, gathered before the stem shoots up, are eatable, and when dried, will make bread. Sheep, goats, and swine eat it. *intybus.*

The seed of the *cichorium endivia* is raised in gardens for culinary use. It is a gentle cooler and aperient, nearly of the same quality with the former species. The seeds are ranked among the four lesser cold seeds.

922. SCOLYMUS, or *Golden Thistle.*

Two species; viz. maculatus, hispanicus. S. Eur.

923. ARCTIUM, or *Burdock.*

Three species; viz. lappa, personata, carduelis. Europe.

* A. leaves heart-shaped, without thorns, on leaf-stalks. —Before the flowers appear, the stems, stripped of their rind, are boiled, and eaten like asparagus; when raw, they are good with oil and vinegar. A decoction of the roots is esteemed by some very sensible physicians, as equal, if not superior to that of sarsaparilla. Boys catch bats by throwing the prickly heads up into the air. Cows and goats eat it. Sheep and horses refuse it. Swine are not fond of it. *lappa.*

924. SERATULLA, or *Saw-wort, Way-thistle.*

15 species; viz. * tinctoria, coronata, japonica, * alpina, salicifolia, multiflora, noveboracensis, præalta, glauca, squarrosa, scariosa, spicata, amara, centauroides, * arvensis. Europe, N. America.

* S. leaves lyre-shaped and wing-cleft; the terminating segments very large; florets all alike.—This plant is very much used by the dyers to give a yellow colour, but is inferior to the reseda; therefore its use is confined to the coarser woollen cloths. Goats eat it. Horses are not fond of it. Sheep, swine, and cows refuse it. *tinctoria.*

* S. leaves toothed, thorny.—This species is said to yield a very pure vegetable alkali when burnt. Goats eat it: neither cows, horses, sheep, or swine are fond of it. Horses sometimes eat the young tops. *arvensis.*

925. CARDUUS, or *Thistle.*

38 species; viz. leucographus, * lanceolatus, arabicus, * nutans, * acanthoides, crispus, polyanthemus, * palustris, pycnocephalus, argentatus, australis, dissectus, cyanoides, canus, pectinatus, defloratus, monspessulanus, pannonicus, tuberosus, chius, parviflorus, linearis, casabonæ, stellatus, * marianus, syriacus, eriophorus, altissimus, virginianus, heterophyllus, * helenioides, serratuloides, tataricus, ciliatus, flavescens, rivularis, mollis, * acaulis. Europe, North America, Barbary, Japan.

* C. leaves toothed, thorny at the edge; flowers in bunches, upright; fruitstalks without thorns.—This, and almost all the other species of this genus, may be eaten like the burdock, before the flowers are formed. Swine eat it. Horses are very fond of it. Cows refuse it. *palustris.*

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lanceolatus. * C. leaves with winged clefts, hispid; segments straddling; calyx egg-shaped, thorny, woolly; stem hairy.—Few plants are more disregarded than this, and yet its use is very considerable. If a heap of clay is thrown up, nothing would grow upon it for several years, did not the seeds of this plant, wafted by wind, fix and vegetate thereon. Under the shelter of this other vegetables appear, and the whole soon becomes fertile. The flowers, like those of the artichoke, have the property of curdling milk. Sheep and swine refuse it. Neither horses, cows, nor goats are fond of it.

marianus. * C. leaves embracing the stem, halberd-shaped and wing-cleft, thorny; calyx without any leaves near it; thorns channelled, and set with other little thorns.—This plant is eaten as a salad when young. The young stalks, peeled and soaked in water to take off the bitterness, are excellent. The scales of the cup are as good as artichokes. The root is good to eat early in the spring.

acaulis. * C. stemless; calyx smooth.—Cows refuse the plant. It kills all plants which grow beneath it, whence it is very injurious.

926. CNICUS, or *Blessed Thistle.*

Nine species; viz. oleraceus, erisithales, ferox, pygmæus, acarna, spinosissimus, centauroides, uniflorus, cernuus. Europe.

927. ONOPORDUM, or *Woolly* or *Cotton Thistle.*

Five species; viz. * acanthium, illyricum, arabicum, græcum, acaulon. Europe, Arabia.

acanthium. * O. calyx scales expanding, their points standing out; leaves egg-oblong, indented.—The receptacle and the young stems may be boiled and eaten like artichokes. The ancients thought this plant a specific in cancerous cases. Cows, sheep, and horses refuse it.

928. CYNARA, or *Artichoke.*

Four species; viz. scolymus, cardunculus, humilis, acaulis. S. Europe, Madeira, Barbary.

929. CARLINA, or *Carline Thistle.*

Eight species; viz. acaulis, lanata, corymbosa, * vulgaris, racemosa, pyrenaica, xeranthemoides, atractyloides. Europe, Cape, Barbary.

vulgaris. * C. stem, with many flowers in a corymbus; flowers terminating; rays of the calyx yellow white.—Its flowers expand in dry, and close in moist weather. They retain this property a long time, and therefore are employed as hygrometers. It is said to be an excellent remedy in hysterical cases. Goats eat it. Cows refuse it. Its presence indicates a very barren soil.

The *carlina acaulis* is a very prickly sort of thistle, growing spontaneously in the southern parts of France, Spain, Italy, and the mountains of Switzerland; from whence the dried roots are brought to us. This root is about an inch thick, externally of a pale rusty brown colour, corroded, as it were, on the surface, and perforated with numerous small holes, appearing, when cut, as if worm-eaten. It has a strong smell, and a subacrid, bitterish, weakly aromatic taste. Carlina is looked upon as a warm diaphoretic and alexipharmac; and has been for some time greatly esteemed by foreign physicians, but never came much into use among us: the present practice has entirely rejected it, nor is it often to be met with in the shops.

930. ATRACTYLIS, or *Distaff Thistle.*

Eight species; viz. gummifera, humilis, cancellata, lanceæ, ovata, oppositifolia, purpurea, mexicana. S. Europe, Mexico, Japan.

1419. BARNADESIA.

One species; viz. spinosa. S. America.

931. CARTHAMUS, or *Base Saffron.*

10 species; viz. tinctorius, lanatus, creticus, tingitanus, cæruleus, mitissimus, carduncellus, arborescens, salicifolius, corymbosus. S. Eur. Barb. Madeira, Carolina.

The *carthamus tinctorius* is a soft kind of thistle, with only a few prickles about the edges of the leaves. It is cultivated in large quantity in some parts of Germany, from whence the other parts of Europe are supplied with the flowers as a colouring drug, and the seeds as a medicinal one. The flowers, well cured, are not easily distinguishable by the eye from saffron; but their want of smell readily discovers them. The seeds are white, smooth, of an oblong roundish shape, yet with four sensible corners, about a quarter of an inch in length, so heavy as to sink in water; of a viscid sweetish taste, which in a little time becomes acrid and nauseous. These seeds have been celebrated as a cathartic: they operate very slowly, and for the most part disorder the bowels, especially when given in substance. Triturated with aromatic distilled waters, they form an emulsion less offensive, yet inferior in efficacy to more common purgatives.

1287. SPILANTHUS.

Seven species; viz. urens, pseudo-acmella, acmella, salivaria, atriplicifolia, insipida, oleracea. E. Indies, Peru, Jamaica.

932. BIDENS, or *Water Hemp-agrimony.*

12 species; viz. * tripartita, minima, nodiflora, tenella, * cernua, frondosa, pilosa, bipinnata, nivea, verticillata, scandens, bullata. Europe, E. and W. Ind. America.

933. CACALIA, or *Foreign Colts-foot.*

27 species; viz. papillaris, anteuphorbium, cuneifolia, kleinia, ficoides, laciniata, repens, suffruticosa, laurifolia, cordifolia, asclepiadea, appendiculata, tomentosa, porrophyllum, sonchifolia, incana, saracenica, hastata, suaveolens, atriplicifolia, alpina, echinata, albifrons, bipinnata, acaulis, radicans, articulata. Alps, E. Indies, N. America.

934. ETHULIA.

Five species; viz. conyzoides, sparganophora, divaricata, tomentosa, bidentis. India, Jam. Carolina.

935. EUPATORIUM, or *Hemp Agrimony.*

28 species; viz. dalea, hyssopifolium, scandens, houstonis, zeylanicum, sessilifolium, album, chinense, rotundifolium, altissimum, hastatum, syriacum, trifoliatum, * cannabinum, cinereum, purpureum, maculatum, scabrum, perfoliatum, cœlestinum, aromaticum, ageratoides, odoratum, ivæfolium, urticæfolium, stœchadifolium, microphyllum, japonicum. Europe, America, E. and W. Indies, Japan.

cannabinum. * E. calyx 5-flowered; leaves with finger-like divisions.—An infusion of a handful of it vomits and purges smartly. An ounce of the root, in decoction, is

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is a full dose. In similar doses the Dutch peasants take it as an alterative, and as an antiscorbutic. Goats eat it. Cows, horses, sheep, and swine refuse it.

936. AGERATUM, or *Base Hemp-agrimony.*
Two species; viz. conyzoides, ciliare. America.

937. PETRONIA.
17 species; viz. camphorata, oppositifolia, flexicaulis, retorta, hirsuta, glabrata, inflexa, scariosa, glomerata, cinerea, villosa, membranacea, spinosa, cephalotes, pallens, minuta, fasciculata. C. of G. Hope.

938. STACHELINA.
Eight species; viz. gnaphaloides, dubia, arborescens, fruticosa, ilicifolia, corymbosa, chamæpeuce, imbricata. S. of France, Spain, Cape, S. America.

939. CHRYSOCOMA, or *Goldylocks.*
13 species; viz. oppositifolia, comaurea, dichotoma, sericea, patula, cernua, ciliata, tomentosa, scabra, linosyris, biflora, graminifolia, villosa. Europe, Cape, Carolina.

940. TRACHONANTHUS, or *Shrubby African Flea-bane.*
Three species; viz. camphoratus, glaber, ericoides. C. of G. Hope.

941. CALEA, or *Halbert-weed.*
Four species; viz. jamaicensis, oppositifolia, amellus, scoparia. W. Indies, S. sea isles, Carolina.

942. SANTOLIA, or *Lavender Cotton.*
Four species; viz. chamæcyparissus, rosmarinifolia, alpina, anthemoides. S. of Europe.

943. ATHANASIA.
20 species; viz. squarrosa, sessiliflora, pumila, crenata, uniflora, capitata, maritima, genistifolia, pubescens, annua, trifurcata, crithmifolia, linifolia, dentata, parviflora, pinnata, pectinata, dentata, filiformis, cinerea. S. Europe, Africa, Carolina.

ORDER II. POLYGAMIA SUPERFLUA.

944. TANACETUM, or *Tansey.*
Seven species; via. sibiricum, incanum, cotuloides, annuum, monanthos, * vulgare, balsamita. Europe, C. of G. Hope.

vulgare. * T. leaves doubly winged, cut, serrated.—This plant is a warm deobstruent bitter, and its flavour not ungrateful. The tender leaves are sometimes used to give a colour and flavour to puddings. If a dead animal substance is rubbed with this plant, the flesh-fly will not attack it. The Finlanders obtain a green dye from it. Cows and sheep eat it. Horses, goats, and swine refuse it. The seeds are an excellent vermifuge.

The *tanacetum balsamita* was formerly a very common garden plant, and of frequent use both for culinary and medicinal purposes; but it is at present very little regarded for either, though it should seem from its sensible qualities to be equal or superior, as a medicine, to some aromatic herbs which practice has retained. The leaves have a bitterish warm aromatic taste; and a very pleasant smell, approaching to that of mint, or a mixture of mint and maudlin. Water elevates their flavour in distillation, and rectified spirit extracts it by infusion. It has been recommended in hysterical affections; and by some it has been supposed to be very powerful in correcting the influence of opium. The leaves should be collected in the month of July or August.

945. ARTEMISIA, or *Wormwood, Mugwort.*
29 species; viz. vermiculata, capillaris, judaica, æthiopica, contra, abrotanum, arborescens, santonica, * campestris, palustris, crithmifolia, maritima, glacialis, rupestris, spicata, pontica, austriaca, annua, tanacetifolia, * absinthium, * vulgaris, pectinata, integrifolia, japonica, cœrulescens, dracunculus, chinensis, maderaspatana, minima. Eur. Cape, Egypt, China.

* A. leaves many-cleft, cottony; bunches on crooked footstalks; female florets 3.—This plant, in its wild state, smells like marum or camphor; but in our gardens it is less grateful, though still much more grateful than the next species. It is used as an ingredient in distilled waters, and beat with thrice its weight of fine sugar, it is formed into a conserve. Its virtues are the same with those of the next species, but in a weaker degree. Horses eat it. Cows, goats, and sheep, refuse it. *maritima.*

* A. leaves compound, many-cleft; flowers somewhat globular, pendant; receptacle woolly.—The leaves and flowers of this species are very bitter: the roots are warm and aromatic. A considerable quantity of essential oil rises from it in distillation. This oil is used both externally and internally to destroy worms. The leaves put into sour beer, soon destroy the acescency. They resist putrefaction, and are therefore a principal ingredient in antiseptic fomentations. An infusion of them is a good stomachic; and, with the addition of fixed alkaline salt, a powerful diuretic in some dropsical cases. The ashes afford a more pure alkaline salt than most other vegetables, excepting bean-stalks, broom, and the larger trees. Linnæus mentions two cases, wherein an essence prepared from this plant, and taken for a considerable time, prevented the formation of stones in the kidneys or bladder: the patients forbearing the use of wine and acids. It might be suspected, that, like other bitters, its long continued use must weaken the action of the nervous system; but in these instances no such effect took place. An infusion of it given to a woman that suckles, makes her milk bitter. It gives a bitterness to the flesh of sheep that eat it. Horses and goats are not fond of it. Cows and swine refuse it. Turkeys are fond of it. The plant, steeped in boiling water, and repeatedly applied to a bruise, will remove the pain in a short time, and prevent the swelling and discoloration of the part. *absinthium.*

* A. leaves wing-cleft, flat, cut, cottony underneath; bunches simple, bending; florets of the circumference 5.—In some countries this plant is used as a culinary aromatic. A decoction of it is taken by the common people to cure the ague. The Chinese make use of it in healing wounds, applying the fresh plant bruised. A dram of the leaves, powdered, was given four times a-day, by Dr Home, to a woman who had been affected with hysteric fits for many years. The fits ceased in a few days. Sheep and swine refuse it. Neither horses, cows, or goats, are fond of it. Dr Anderson informs us, that sheep are very fond of it, devouring it with great greediness, especially the roots, which seem to form a most delicate morsel. *vulgaris.*

The *artemisia abrotanum*, or southernwood, is a shrub-

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by plant, clothed with very finely divided leaves, of a light-green colour. The flowers, which are very small and yellowish, hang downwards, several together, from the middle of the branches to the top. It is not, like some other species of the *artemisia*, indigenous in Britain; but although a native of warm climates, it readily bears the vicissitudes of ours, and is easily cultivated in gardens; from thence alone it is obtained when employed for medical purposes. The leaves fall off every winter, but the roots and stalks continue for many years.

Southernwood has a strong smell, which to most people is not disagreeable. It has a pungent, bitter, and somewhat nauseous taste. These qualities are very completely extracted by rectified spirit, and the tincture, thus formed, is of a beautiful green colour. They are less perfectly extracted by watery liquors, the infusion being of a light brown colour.

Southernwood, as well as some other species of the same genus, particularly the *absinthium* and *santonicum*, has been recommended as an anthelmintic; and it has also been sometimes used as a stimulant, detergent, and sudorific. It has likewise been employed externally in discutient and antiseptic fomentations. It has also been used under the form of lotion and ointment for cutaneous eruptions, and for preventing the hair from falling off. It is at present very little employed in practice.

The worm-seed of the *artemisia austriaca* is the produce of a plant of the wormwood or mugwort kind, growing in the Levant. It is a small, light, chaffy seed, composed, as it were, of a number of thin membranous coats, of a yellowish colour, an unpleasant smell, and a very bitter taste. These seeds are celebrated for anthelmintic virtues, which they have in common with other bitters; and are sometimes taken with this intention, either mixed with molasses or candied with sugar: their unpleasant taste renders the form of a powder or decoction inconvenient.

946. GNAPHALIUM, or *Everlasting*, or *Cudweed*.

59 species; viz. eximium, arboreum, grandiflorum, fruticans, crispum, appendiculatum, coronatum, discolorum, muricatum, ericoides, teretifolium, mucronatum, stoechas, ignescens, dentatum, serratum, patulum, petiolatum, crassifolium, maritimum, repens, umbellatum, hispidum, cylindricum, orientale, arenarium, rutilans, milleflorum, imbricatum, cymosum, nodifolium, * luteo-album, pedunculare, odoratissimum, sanguineum, fœtidum, undulatum, crispum, helianthemifolium, squarrosum, stellatum, obtusifolium, * margaritaceum, plantagineum, * dioicum, alpinum, indicum, purpureum, denudatum, * sylvaticum, verticillatum, oculus cati, pilosellum, declinatum, coronatum, * supinum, uliginosum, glomeratum, japonicum. Eur. Ind. Africa, N. America.

947. XERANTHEMUM, or *Austrian Sneeze-wort*.

16 species; viz. annuum, vestitum, speciosissimum, proliferum, imbricatum, canescens, retortum, spinosum, sesamoides, virgatum, stachelina, variegatum, paniculatum, fulgidum, stoloniferum, recurvatum. S. Europe, Cape.

948. CARPESIUM.

Two species; viz. cernuum, abrotanoides. Austria, Spain, Italy, China.

949. BACCHARIS, or *Ploughman's Spikenard*.

Eight species; viz. ivæfolia, nerviifolia, arborea, halimifolia, dioscoridis, indica, brasiliana, fœtida. Cape, India, America.

750. CONYZA, or *Greater Fleabane*.

25 species; viz. * squarrosa, linifolia, sordida, saxatilis, canescens, rupestris, scabra, asteroides, bifrons, lubata, bifoliata, pubigera, tortuosa, candida, anthelmintica, balsamifera, cinerea, odorata, chinensis, hirsuta, arborescens, fruticosa, virgata, decurrens, aurita. Europe, Cape, E. and W. Indies, America.

951. ERIGERON, or *Lesser Fleabane*.

22 species; viz. viscosum, graveolens, glutinosum, siculum, carolinianum, * canadense, bonariense, jamaicense, philadelphicum, ægyptiacum, gouani, * acre, * alpinum, uniflorum, gramineum, camphoratum, japonicum, scandens, tuberosum, fœtidum, tricuneatum, pinnatum. Europe, China, Africa, America.

952. TUSSILAGO, or *Colts-foot*.

12 species; viz. anandria, dentata, nutans, alpina, discolor, sylvestris, * farfara, japonica, frigida, alba, * hybrida, * petasites. Europe, Japan, Newfoundland, Jamaica.

* T. stalks with one flower, tiled; leaves somewhat heart-shaped, angular, finely toothed.—This is the first plant that vegetates in marle, or limestone rubble. The downy substance on the under surface of the leaves, wrapped in a rag, dipped in a solution of saltpetre, and dried in the sun, makes the best tinder; the leaves are the basis of the British herb-tobacco. They are somewhat austere, bitterish, and mucilaginous to the taste. They were formerly much used in coughs and consumptive complaints; and perhaps, not without reason, for *Dr Cullen* has found them to do considerable service in scrophulous cases: he gives a decoction of the dried leaves, and finds it succeed where sea water has failed. And Fuller relates a case of a girl, with 12 scrophulous sores, who was cured by drinking daily as much as she could, for above four months, of a decoction of the leaves made so strong as to be sweetish and glutinous. Goats and sheep eat it. Cows are fond of it. Horses and swine refuse it. It may be destroyed by cutting off the crown of the root in March. *farfara.*

* T. panicle egg-shaped; female florets few.—Its roots abound with a resinous matter. They have a strong smell, and a bitterish acrid taste. Horses, cows, goats, and sheep eat it. Its large leaves afford shelter from showers to poultry and other small animals. *petasites.*

953. SENECIO, or *Groundsel, Ragwort*.

59 species; viz. hieracifolius, purpureus, cernuus, persicifolius, virgatus, divaricatus, pseudo-chyna, reclinatus, vulgaris, arabicus, peucedanifolius, japonicus, triflorus, ægyptius, lividus, trilobus, * viscosus, * sylvaticus, nebrodensis, glaucus, varicosus, hastatus, pubigerus, elegans, squalidus, erucifolius, incanus, abrotanifolius, canadensis, diffusus, * jacobæa, * tenuifolius, aureus, lyratus, alpinus, umbellatus, linifolius, rosmarinifolius, * paludosus, nemorensis, * sarracenicus, sibiricus, dorea, doronicum, longifolius, cruciatus, juniperinus, byzantinus, halimifolius, ilicifolius, rigidus, polifolius, angulatus, maritimus, erosus, marginatus, lanatus, cordifolius, glastifolius. Europe, Africa, E. Indies, Japan, N. America.

* S.

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vulgaris. * S. leaves winged, indented, embracing the stem; flowers scattered.—A strong infusion of this plant vomits. The bruised leaves are a good application to boils. The seeds are very acceptable to linnets and goldfinches when confined in cages. Cows are not fond of it. Goats and swine eat it. Horses and sheep refuse it.

jacobæa. * S. leaves lyre-shaped, almost winged; segments finely jagged; stem upright. If this plant is gathered before the flowers open, and used fresh, it dyes wool of a full green, but the colour is apt to fade. If woollen cloth is boiled in alum water, and then in a decoction of the flowers, it takes a beautiful deep yellow. Horses and sheep refuse it. Cows are not fond of it. Horses and cows, however, eat it when young.

954. ASTER, or *Starwort.*

38 species; viz. taxifolius, reflexus, crinitus, fruticulosus, tenellus, alpinus, sibiricus, * tripolium, amellus, divaricatus, hissopifolius, dumosus, ericoides, tenuifolius, linariifolius, linifolius, acris, concolor, rigidus, novæangliæ, undulatus, grandiflorus, cordifolius, puniceus, annuus, vernus, indicus, lævis, mutabilis, tradescanti, novi-belgii, tardiflorus, miser, macrophyllus, chinensis, tataricus, hispidus, scaber. Europe, Cape, Asia, N. America.

tripolium. * A. leaves strap-spear-shaped, fleshy, smooth, 3-fibred; calyx scales blunt, somewhat membranaceous.—Goats and horses eat this species. Cows and swine refuse it. Sheep are not fond of it.

955. SOLIDAGO, or *Golden Rod.*

14 species; viz. sempervirens, canadensis, altissima, lateriflora, bicolor, lanceolata, cæsia, mexicana, flexicaulis, latifolia, * virgaurea, minuta, rigida, noveboracensis. Europe, N. America.

virgaurea * S. stem serpentine, branched; leaves mostly sitting; flowers in crowded panicles.—This plant is found wild on heaths and in woods, producing spikes of yellow flowers in August. The leaves have a moderately astringent bitter taste; and hence prove serviceable in debility and laxity of the viscera, and disorders proceeding from that cause.

957. CINERARIA, or *Sky-flower.*

26 species; viz. geifolia, cymbalarifolia, sibirica, glauca, sonchifolia, cordifolia, crispa, * integrifolia, longifolia, * palustris, aurea, maritima, canadensis, capillacea, linifolia, purpurata, amelloides, americana, alata, elongata, cacalioides, denticulata, perfoliata, lineata, hastifolia, japonica. Europe, Africa, N. America, Jamaica.

956. INULA, or *Elecampane.*

29 species; viz. * helenium, odora, suaveolens, odorus-christi, britannica, * dysenterica, undulata, indica, pulicaria, arabica, spiræifolia, squarrosa, bubonium, salicina, hirta, mariana, germanica, japonica, dubia, ensifolia, crithmifolia, provincialis, montana, æstuans, bifrons, cærulea, aromatica, pinifolia, fœtida. Europe, Cape, E. Indies, N. America.

helenium. * I. leaves embracing the stem, egg-shaped, wrinkled, cottony underneath; scales of the calyx egg-shaped.—This is a large downy plant, sometimes found wild in moist rich soils. The elecampane, or root, especially when dry, has an agreeable aromatic smell; its taste on first chewing, is glutinous, and as it were, somewhat rancid; in a little time it discovers an aromatic bitterness, which by degrees becomes considerably acrid and pungent. Elecampane root possesses the general virtues of alexipharmacs; it is principally recommended for promoting expectoration in humoral asthmas and coughs; liberally taken, it is said to excite urine, and loosen the belly. In some parts of Germany large quantities of this root are candied and used as a stomachic, for strengthening the tone of the viscera in general, and for attenuating tenacious juices; spirituous liquors extract its virtues in greater perfection than watery ones: the former scarcely elevate any thing in distillation; with the latter an essential oil arises, which concretes into white flakes: this possesses at first the flavour of the elecampane, but is very apt to lose it on keeping. An extract made with water, possesses the bitterness and pungency of the root, but in a less degree than one made with spirit. The root is esteemed a good pectoral. Dr Hill says, he knows, from his own experience, that an infusion of the fresh root, sweetened with honey, is an excellent medicine in the hooping-cough. A decoction of the root cures sheep that have the scab. Horses and goats eat it. Cows, sheep, and swine refuse it.

dysenterica. * I. leaves embracing the stem, heart-oblong; stem woolly, forming a kind of panicle; scales of the calyx bristle-shaped.—It has a peculiar scent, compared by some to that of soap. The Russian soldiers in the Persian expedition under General Keit were much troubled with the bloody flux, which was cured by the use of this plant. Cows are not fond of it. Sheep and goats refuse it.

958. ARNICA, or *Leopard's Bane.*

11 species; viz. montana, piloselloides, scorpioides, doronicum, maritima, crocea, ciliata, japonica, palmata, gerbera, coronopifolia. Europe, Africa, Japan.

The *arnica montana* had formerly a place in our pharmacopœias, under the title of *doronicum germanicum.* Then, however, it was little known or used; and being justly considered as one of the deleterious vegetables, it was rejected: but it has again been introduced into the list both of the London and Edinburgh colleges on the authority of fresh observations, particularly of those of Dr Collins of Vienna, who has lately published a dissertation on the medical virtues of the arnica.

This plant grows in different parts of Europe, particularly Germany. It has an acrid bitter taste, and when bruised, emits a pungent odour, which excites sneezing. On this account the country people in some parts of Germany use it in snuff, and smoke it like tobacco. It was formerly represented as a remedy of great efficacy against effusions and suffusions of blood from falls, bruises, and the like; and it was then also mentioned as a remedy in jaundice, gout, nephritis, &c. but in these affections it is now very little if at all employed.

Of late it has been principally recommended in paralytic affections, or in cases where a loss or diminution of sense arises from an affection of the nerves, as in instances of amaurosis. In those it has chiefly been employed under the form of infusion. From a dram to half an ounce of the flowers has been directed to be infused in a pint of boiling water, and taken in differ-

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ent doses in the course of the day; sometimes it produces vomiting, sometimes sweating, sometimes diuresis: but frequently its use is attended with no sensible operation, unless it can be considered as such, that in some cases of paralysis, the cure is said to be preceded by a peculiar prickling, and by shooting pains in the affected parts.

Besides being employed in paralytic affections, it has also been of late represented as a very powerful antispasmodic; and it is said to have been successfully employed in fevers, particularly those of the intermittent kind, and likewise in cases of gangrene. In those diseases it has been said to prove as efficacious as the Peruvian bark, when employed under the form of a pretty strong decoction, taken in small doses frequently repeated, or under the form of an electuary with honey.

But these alleged virtues of the arnica have not been confirmed by any trials made in Britain, with which we are acquainted; and we are of opinion that its real influence still remains to be determined by future observations. It is, however, one of those active substances from which something may be expected.

959. DORONICUM, or *Leopard's Bane.*

Three species; viz. * pardalianches, plantagineum, bellidiastrum. Europe, N. Amer.

960. PERDICIUM.

Five species; viz. semiflosculare, radiale, brasiliense, magellanicum, tomentosum. Cape, Japan, Jamaica, S. America.

1421. MUTISIA.

One species; viz. clematis. New Granada.

961. HELENIUM, or *Base Sun-flower.*

One species; viz. autumnale. N. Amer.

962. BELLIS, or *Daisy.*

Two species; viz. * perennis, annua. Europe.

perennis. * B. stalk naked.—The leaves are slightly acrid. The roots have a penetrating purgency. No attention is paid to it, except what it claims from the beauty of its flowers. The flowers close at night. Horses, sheep, and cows refuse it.

1322. BELLIUM, or *Base Daisy.*

Two species; viz. bellidioides, minutum. Levant, India.

964. TAGETES, or *African Marygold.*

Three species; viz. patula, erecta, minuta. Mex. Chili.

963. LEYSERA.

Three species; viz. gnaphalodes, callicornia, paleacea. Cape, California, Carolina.

974. ZINNIA.

Two species; viz. pauciflora, multiflora. N. America, Peru.

965. PECTIS.

Three species; viz. ciliaris, punctata, linifolia. America.

966. CHRYSANTHEMUM, or *Corn Marygold.*

24 species; viz. frutescens, serotinum, atratum, alpinum, * leucanthemum, montanum, graminifolium, monspeliense, balsamita, * inodorum, achilleæ, corymbosum, indicum, pinnatifidum, arcticum, pectinatum, * segetum, myconis, italicum, millefoliatum, bipinnatum, coronarium, flosculosum, japonicum. Europe, India, Africa, N. Amer.

* C. leaves embracing the stem, oblong, serrated upwards, toothed at the base.—The young leaves may be eaten in salads. Horses and goats eat it. Cows and swine refuse it. *leucanthemum.*

* C. leaves embracing the stem, jagged upwards, tooth-serrated towards the base.—This species was imported into Sweden along with corn from Jutland about the end of the last century. In Denmark there is a law to oblige the farmers to root it up from their corn fields. It may be destroyed by dunging the ground in autumn, followed by a summer fallow, and harrowing the land about five days after sowing the grain. Its yellow flowers, however, which follow the sun in a very remarkable manner, give a very remarkable brilliancy to the fields in tillage, and please the eye of the passing traveller.—A large quantity which grew on some arable land, was cut when in flower, dried and eaten by horses as a substitute for hay. It is used by the Germans for dyeing yellow. *segetum.*

967. MATRICARIA, or *Feverfew.*

Six species; viz. * parthenium, * maritima, suaveolens, * chamomilla, argentea, asteroides. Europe, Curaçoa, S. Amer.

* M. leaves compound, flat; leafets egg-shaped, cut; fruitstalks branched.—The whole plant has a strong smell and a bitter taste, and yields an essential oil by distillation. A horse refused it. *parthenium.*

* M. receptacle conical, rays expanding; calyx scales equal at the edges.—Its properties resemble those of *anthemis nobilis.* The Finlanders use an infusion of it in consumptive cases. Cows, goats, and sheep eat it. Horses are not fond of it. Swine refuse it. *chamamilla.*

1420. UNXIA.

One species; viz. camphorata. Surinam.

968. COTULA, or *May-weed.*

13 species; viz. anthemoides, aurea, stricta, coronopifolia, umbellata, quinqueloba, viscosa, turbinata, tanacetifolia, verbesina, capensis, pilulifera, servicea. S. Eur. Barb. Cape, Jam.

969. ANACYCLUS.

Four species; viz. creticus, orientalis, aureus, valentinus. Europe.

970. ANTHEMIS, or *Chamomile.*

18 species; viz. cota, altissima, * maritima, tomentosa, mixta, alpina, chia, * nobilis, arvensis, austriaca, * cotula, pyrethrum, valentina, repanda, trinervia, americana, * tinctoria, arabica. Europe, Africa, N. America.

* A. receptacle conical; chaff bristle-shaped; seeds naked.—Toads are said to be fond of this plant. It is very ungrateful and displeasing to bees. Goats and sheep are not fond of it. Horses, cows, and swine refuse it. It frequently blisters the skin of reapers, and of children who happen to gather it. The heads rubbed between the fingers smell intolerably disagreeable. *cotula.*

* A. leaves winged compound, strap-shaped, acute, somewhat woolly.—The leaves and flowers have a strong not ungrateful smell, and a bitter nauseous taste. They afford an essential oil. An infusion of the flowers is often used as a stomachic, and as an antispasmodic. In large quantities it excites vomiting. The powdered flowers *nobilis.*

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flowers in large doses have cured agues, even when the bark had failed. Both the leaves and flowers possess very considerable antiseptic properties, and are therefore used in antiseptic fomentations and poultices. From their antispasmodic powers they are frequently found to relieve pain, either applied externally or taken internally. Ray recommends the flowers in calculous cases.

tinctoria. * A. leaves doubly winged, serrated, cottony underneath; stem supporting a corymbus.—The flowers afford a remarkably clean and good yellow dye. The flowers of the *chrysanthemum segetum* resemble them much in appearance, but experience proves they cannot be substituted in their place. Horses and goats eat it. Sheep are not fond of it. Cows and swine refuse it.

971. ACHILLEA, or *Milfoil, Yarrow.*

21 species; viz. santolina, ageratum, falcata, tomentosa, pubescens, abrotanifolia, bipinnata, ægyptiaca, macrophylla, impatiens, clavennæ, * ptarmica, alpina, atrata, moschata, nana, magna, * millefolium, nobilis, odorata, cretica. Europe, Africa.

ptarmica. * A. leaves strap spear-shaped, embracing the stem, finely serrated.—The roots have a hot biting taste. The young tops are sharp and pleasant in spring salads. The powdered leaves excite sneezing. Horses, cows, sheep, goats, and swine eat it.

millefolium. * A. leaves doubly winged; segments of the wings strap-shaped, toothed.—The flowers of this plant yield an essential oil. The leaves are celebrated by the materia medica writers for a variety of purposes, but they are little attended to at present. Sheep and swine refuse it. Horses, cows, and goats are not fond of it.

972. TRIDAX, or *Trailing Star-wort.*

One species; viz. procumbens. Vera Cruz.

973. SIGESBECKIA.

Two species; viz. orientalis, occidentalis. India, China, Virginia, Peru.

975. VERBESINA, or *Indian Hemp-agrimony.*

11 species; viz. alata, chinensis, virginica, lavenia, dichotoma, biflora, calendulacea, nodiflora, fruticosa, gigantea, bosvallea. E. and W. Indies, China, North America.

977. BUPHTHALMUM, or *Ox-eye.*

11 species; viz. frutescens, arborescens, sericeum, spinosum, aquaticum, maritimum, durum, salicifolium, grandiflorum, speciosissimum, helianthoides. Europe, N. America, Arabia, Jamaica.

978. AMELLUS, or *Star-flower.*

Two species; viz. lychnites, umbellatus. Cape, Jamaica, Carolina.

1321. ECLIPTA.

Four species; viz. erecta, punctata, latifolia, prostrata. E. and W. Indies.

ORDER III. POLYGAMIA FRUSTRANEA.

979. HELIANTHUS, or *Sun-flower.*

13 species; viz. annuus, indicus, multiflorus, tuberosus, decapetalus, frondosus, strumosus, giganteus, altissimus, lævis, angustifolius, divaricatus, atrorubens. America.

980. RUDBECKIA, or *Dwarf Sun-flower.*

Six species; viz. laciniata, triloba, hirta, purpurea, oppositifolia, angustifolia. N. America.

981. COREOPSIS, or *Tick-seed Sun-flower.*

12 species; viz. verticillata, coronata, leucantha, chrysantha, tripteris, alba, reptans, baccata, auriculata, lanceolata, bidens, alternifolia. N. America.

982. GORTERIA.

12 species; viz. personata, rigens, squarrosa, setosa, ciliaris, asteroides, herbacea, hispida, spinosa, cernua, uniflora, barbata. C. of G. Hope.

SCLEROCARPUS.

One species; viz. africanus. Africa.

983. OSMITES.

Four species; viz. bellidiastrum, camphorina, asteriscoides, calycina. C. of G. Hope.

1271. ZOEGEA.

Two species; viz. leptaurea, capensis. C. of G. Hope.

984. CENTAUREA, or *Blue-bottle, Knapweed.*

66 species; viz. crupina, moschata, erucifolia, lippii, alpina, centaureum, purygia, capillata, uniflora, linifolia, pectinata, * nigra, pullata, montana, * cyanus, paniculata, spinosa, ragusina, cineraria, argentea, sibirica, sempervirens, * scabiosa, tatarica, stoebe, acaulis, orientalis, behen, repens, jacea, amara, alba, splendens, rhapontica, babylonica, glastifolia, conifera, sonchifolia, seridis, romana, sphærocephala, isnardi, napifolia, aspera, benedicta, eriophora, ægyptiaca, * calcitrapa, calcitrapoides, * solstitialis, melitensis, sicula, centauroides, collina, rupestris, verutum, salmantica, cichoracea, muricata, peregrina, radiata, nudicaulis, crocodilium, pumila, tingitana, galactites. Europe, Egypt, Arabia, Persia.

cyanus. * C. calyx scales serrated; leaves strap-shaped, very entire; the lower ones toothed.—The expressed juice of the petals is a good blue ink; it stains linen of a beautiful blue, but the colour is not permanent in the mode it has hitherto been applied. Mr Boyle says, the juice of the central florets, with the addition of a very small quantity of alum, makes a lasting transparent blue, not inferior to ultramarine. Cows, goats, and sheep eat it. Horses and swine refuse it.

The *centaurea centaurium* is a large plant cultivated in gardens. The root has a rough, somewhat acrid taste, and abounds with a red viscid juice; its rough taste has gained it some esteem as an astringent; its acrimony as an aperient; and its glutinous quality as a vulnerary. The present practice takes little notice of it with any intention.

The *centaurea benedicta* is an annual plant cultivated in gardens; it flowers in June and July, and perfects its seeds in the autumn. The herb should be gathered when in flower, dried in the shade, and kept in a very dry airy place, to prevent its rotting or growing mouldy, which it is very apt to do. The leaves have a penetrating bitter taste, not very strong or durable, accompanied with an ungrateful flavour, which they are in a great measure freed from by keeping. Water extracts, in a little time, even without heat, the lighter and more grateful parts of this plant; if the digestion be continued for some hours, the disagreeable parts are taken up;

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up; a strong decoction is very nauseous and offensive to the stomach. Rectified spirit gains a very pleasant bitter taste, which remains uninjured in the extract.

The virtues of this plant seem to be little known in the present practice. The nauseous decoction is sometimes used to provoke vomiting, and a strong infusion to promote the operation of other emetics. But this elegant bitter, when freed from the offensive parts of the herb, may be advantageously applied to other purposes. Excellent effects have frequently been experienced from an infusion of this plant, in loss of appetite, where the stomach was injured by irregularities. A stronger infusion made in cold or warm water, if drank freely, and the patient kept warm, occasions a plentiful sweat, and promotes all the secretions in general.

The seeds of this plant are also considerably bitter, and have been sometimes used with the same intentions as the leaves.

Order IV. POLYGAMIA NECESSARIA.

985. Milleria.

Two species; viz. quinqueflora, biflora. Panama, Vera Cruz.

1323. Baltimora.

One species; viz. recta. Maryland, Virginia.

986. Silphium, or *Base Chrysanthemum.*

Eight species; viz. laciniatum, terebinthinaceum, perfoliatum, connatum, asteriscus, solidaginoides, trifoliatum, trilobatum. N. America.

987. Polymnia, or *Dwarf Sun-flower.*

Seven species; viz. canadensis, carnosa, uvedalia, tetragonotheca, abyssinica, spinosa, wedelia. Africa, Canada, Virginia.

988. Chrysogonum.

One species; viz. virginianum. Virginia.

989. Melampodium.

Two species; viz. americanum, australe. Jamaica, St Domingo, S. America.

990. Calendula, or *Marygold.*

Nine species; viz. arvensis, sancta, officinalis, pluvialis, hybrida, nudicaulis, graminifolia, fruticosa, tomentosa. Europe, Cape.

arvensis. * C. seeds boat-shaped, prickly, turned inwards; the innermost crowded together, the outermost upright, furnished with a tail.—This is a very common plant in the corn fields, and in the vineyards in Portugal; and is used as food for milch cows. It is found in England near Falmouth, to which place it has probably been imported from Portugal, in consequence of the frequent communication by the packets and otherwise. The milk yielded by the cows which are fed upon it is very good.

The herb of the *calendula officinalis* is common in gardens, where it is found in flower greatest part of the summer. Marygold flowers are supposed to be aperient and attenuating, and also cardiac, alexipharmac, and sudorific; they have been principally celebrated in uterine obstructions, in the jaundice, and for throwing out the smallpox. Their sensible qualities give little foundation for these virtues; they have scarcely any taste and no considerable smell. The leaves of the plant discover a viscid sweetishness, accompanied with a more durable saponaceous pungency and warmth: these seem capable of answering some useful purposes as a stimulating and aperient medicine; but at present they are so little employed in Britain, that they have now no place in our pharmacopœias, and they are also rejected from several of the latest and best foreign ones.

991. Arctotis.

12 species; viz. calendulacea, hypochondriaca, tristis, coruscans, superba, serrata, tenuifolia, plantaginea, angustifolia, aspera, paradoxa, dentata, anthemoides, tenuifolia, acaulis. Cape, Carolina.

992. Osteospermum, or *Hard-seeded Chrysanthemum.*

15 species; viz. spinosum, pisiferum, moniliferum, ilicifolium, ciliatum, junceum, triquetrum, corymbosa, imbricatum, herbaceum, niveum, perfoliata, polygaloides, calendulaceum, arctotoides. Cape, E. Indies.

993. Othonna, or *African Rag-wort.*

26 species; viz. bulbosa, tagetes, trifida, pectinata, abrotanifolia, atbanasiæ, ciliata, pinnata, trifurcata, munita, coronopifolia, cheirifolia, crassifolia, parviflora, tenuissima, linifolia, digitata, lingua, lateriflora, heterophylla, cacalioides, ericoides, capillaris, virginea, frutescens, arborescens. Africa.

1324. Hippia, or *Shrubby Tansy.*

Three species; viz. integrifolia, minuta, frutescens. Cape, E. Indies, America.

994. Eriocephalus.

Two species; viz. africanus, racemosus. C. of G. Hope.

995. Filago, or *Cotton*, or *Cud-weed.*

Seven species; viz. acaulis, * germanica, pyramidata, * montana, * gallica, arvensis, leontopodium. Europe.

996. Micropus, or *Base Cud-weed.*

Two species; viz. supinus, erectus. Spain, Portugal, Italy, Levant.

Order V. POLYGAMIA SEGREGATA.

997. Elephantopus, or *Elephants-foot.*

Two species; viz. scaber, tomentosus. E. and W. Indies.

1325. Oedera.

Two species; viz. prolifera, aliena. C. of G. Hope.

998. Sphæranthus, or *Globe-flower.*

Three species; viz. indicus, africanus, chinensis. E. Indies, China.

999. Echinops, or *Globe-thistle.*

Four species; viz. sphærocephalus, spinosus, ritro, strigosus. Siberia, Austria, France, Spain, Italy.

1000. Gundelia.

One species; viz. tournefortii. Syria, Aleppo, Amer.

1422. Jungia.

One species; viz. ferruginea. S. America.

1001. Stoebe, or *Base Ethiopian Elychrisum.*

Nine species; viz. æthiopica, ericoides, prostrata, gnaphaloides,

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gnaphaloides, gomphrenoides, scabra, reflexa, rhinocerotis, disticha. C. of G. Hope.

Order VI. MONOGAMIA.

1002. Strumpfia.

One species; viz. maritima. America.

1003. Seriphium.

Four species; viz. cinereum, plumosum, fuscum, ambiguum. C. of G. Hope.

1004. Corymbium.

Four species; viz. scabrum, glabrum, filiforme, villosum. C. of G. Hope.

1005. Jasione, or *Sheep's Scabious.*

Two species; viz. * montana, perennis. Eur. Cape.

1006. Lobelia, or *Cardinal-flower.*

42 species; viz. simplex, pinifolia, * dortmanna, tupa, anceps, kalmii, paniculata, grandis, cornuta, phyteuma, columnese, bellidiflora, bulbosa, triquetra, longiflora, tomentosa, secunda, patula, assurgens, cardinalis, lævigata, ferruginea, debilis, siphilitica, surinamensis, inflata, cliffortiana, urens, minuta, volubilis, bulbosa, laurentia, erinus, erinoides, zeylanica, lutea, hirsuta, coronopifolia, comosa, tenella, depressa. Cape, E. and W. Indies, America.

The *lobelia siphilitica* grows in moist places in Virginia, and bears our winters. It is perennial, has an erect stalk three or four feet high, blue flowers, a milky juice, and a rank smell. The root consists of white fibres about two inches long; resembles tobacco in taste, which remains on the tongue, and is apt to excite vomiting. It is used by the North American Indians as a specific in the venereal disease. The form is that of decoction; the dose of which is ordered to be gradually increased, till it bring on very considerable purgings, then to be intermitted for a little, and again used in a more moderate degree till the cure be completed. The ulcers are also washed with the decoction, and the Indians are said to sprinkle them with the powder of the inner bark of the spruce tree. The same strictness of regimen is ordered as during a salivation or mercurial course. The benefit to be derived from this article, has not, as far as we know, been confirmed either in Britain or by the practitioners in Virginia; for there, as well as in this country, recourse is almost universally had to the use of mercury; and it is probably from this reason that the London college have not received it into their list. It, however, seems to be an article, which, in some cases at least, deserves a trial.

1007. Viola, or *Violet.*

28 species; viz. palmata, pedata, pinnata, lanceolata, primulifolia, * hirta, * palustris, * odorata, * canina, montana, cenisia, canadensis, mirabilis, biflora, uniflora, decumbens, * tricolor, * grandiflora, calcarata, cornuta, arborescens, anneasperma, suffruticosa, calceolaria, oppositifolia, hybanthus, ipecacuanha, diandra. Alps, Pyrenees, Cape, America.

The *viola odorata* is often found wild in hedges and shady places, and flowers in March: the shops are generally supplied from gardens. In our markets we meet with the flowers of different species; these may be distinguished from the others by their being large, of a pale yellow colour, and of no smell. The officinal flowers have a very pleasant smell, and a deep purplish blue colour, denominated from them *violet.* They impart their colour and flavour to aqueous liquors: A syrup made from this infusion has long maintained a place in the shops, and proves an agreeable and useful laxative for children.

1008. Impatiens, or *Balsam, Balsamine.*

Seven species; viz. chinensis, latifolia, oppositifolia, cornuta, balsamina, triflora, noli-tangere. Europe, N. America, E. Indies, China.

In the class Syngenesia are

115 Genera, including 1252 Species, of which 113 are found in Britain.

CLASSIS XX.

GYNANDRIA (K).

Ordo I. DIANDRIA.

* 1009. Orchis. Nectarium corniculatum.
* 1010. Satyrium. Nect. scrotiforme.
* 1011. Ophrys. Nect. subcarinatum.

CLASS XX.

GYNANDRIA.

Order I. DIANDRIA.

* O. Nectary horned.
* S. Nect. purse-shaped.
* O. Nect. nearly keel-shaped.

* 1012.

(K) This class is distinguished from the others by the situation of the stamens (male parts of the flower) upon the pistils (female parts). The stamens are either placed upon the style itself, or upon the receptacle, which in that case is lengthened into the appearance of the style which supports the pistil with the stamens, and forms a part of the pistil. The orders are determined by the number of stamens.

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* 1012. SERAPIAS. Nect. ovatum, subtus gibbum.
1013. LIMODORUM. Nect. pedicellatum.
* 1015. CYPRIPEDIUM. Nect. inflato-ventricosum.
1016. EPIDENDRUM. Nect. turbinatum.
1014. ARETHUSA. Nect. connatum, cum corolla ringente.
1272. GUNNERA. Digyna. Amenti cal. 0. Cor. 0. Sem. 1.
1423. DISA. Spatha 1-valvis. Petala 3; tertium minus, bipartitum, basi gibbosum.
1424. FORSTERA. Cal. duplex; exterior inferus, 3-phyllus; interior superus, 6-fidus. Cor. tubulosa.

* S. Nect. oval, bulged beneath.
L. Nect. on a pedicle.
* C. Nect. inflate-bellied.
E. Nect. turban-shaped.
A. Nect. united at the base, with a gaping cor.

G. Two pistils. Catkin no cal. No cor. One seed.
D. Sheath 1-valved. Three petals; the third less, bipartite, bulged at the base.
F. Cal. double, the outer inferior, 3-leaved; the inner superior, 9-cleft. Cor. tubular.

ORDO II. TRIANDRIA.

1017. SISYRINCHIUM. Monogyna. Cal. 0. Cor. 6-petala, plana. Stigmata 3. Caps. 3-locularis, infera.
1018. FERRARIA. Monogyna. Cal. 0. Cor. 6-petala, crispa. Stigma cucullatum. Caps. 3-locularis, infera.
1326. SALACIA. Monogyna. Cal. 5-partitus. Cor. 5-petala. Antheræ germini insidentes.
1273. STILAGO. Monogyna. Cal. 1-phyllus. Cor. 0. Bacca.

ORDER II. TRIANDRIA.

S. No cal. Cor. 6-petaled, flat. Stigmas 3. Caps. 3-celled, inferior.

F. One pistil. No cal. Cor. 6-petaled, crisp. Stigm. cone-shaped. Caps. 5-celled, inferior.

S. One pistil. Cal. 5-parted. Cor. 5-petaled. Anthers sitting on the germen.
S. One pistil. Cal. 1-leafed. No cor. Berry.

ORDO III. TETRANDRIA.

1019. NEPENTHES. Monogyna. Cal. 4-partitus. Cor. nulla. Caps. 4-locularis.

ORDER III. TETRANDRIA.

N. One pistil. Cal. 4-parted. No cor. Caps. 4-celled.

ORDO IV. PENTANDRIA.

1327. GLUTA. Monogyna. Cal. 1-phyllus. Cor. 5-petala. Germen columnæ, corollæ adglutinatæ, insidens.
1020. AYENIA. Monogyna. Cal. 5-phyllus. Cor. 5-petala. Caps. 5-cocca.
1021. PASSIFLORA. Trigyna. Cal. 5-partitus. Cor. 5-petala. Bacca pedicellata.

ORDER IV. PENTANDRIA.

G. One pist. Cal. 1-leafed. Cor. 5-petaled. Germ. fixed to a pillar attached to the cor.

A. One pist. Cal. 5-leaved. Cor. 5-pet. Caps. 5-celled.
P. Three pist. Cal. 5-parted. Cor. 5-petaled. Berry pedicled.

ORDO V. HEXANDRIA.

* 1022. ARISTOLOCHIA. Hexagyna. Cal. nullus. Cor. 1-petala. Caps. 6-locularis.

Cui similis, Cleome.

ORDER V. HEXANDRIA.

* A. Six pist. No cal. Cor. 1-petaled. Caps. 6-celled.

ORDO VI. OCTANDRIA.

1425. SCOPOLIA. Cal. 2-phyllus, multiflorus. Cor. 4-fida. Antheræ connatæ in duplici columna.

ORDER VI. OCTANDRIA.

S. Cal. 2-leaved, many-flowered. Cor. 4-cleft. Anthers united in a double pillar.

ORDO VII. DECANDRIA.

1024. KLEINHOVIA. Monogyna. Cal. 5-phyllus. Cor. 5-petala. Nectarium staminiferum. Caps. 5-cocca.
1025. HELICTERIS. Monogyna. Cal. 1-phyllus. Cor. 5-petala. Caps. 5, 1-loculares, polyspermæ.

ORDER VII. DECANDRIA.

K. One pist. Cal. 5-leaved. Cor. 5-petaled. Nect. bearing the stamens. Caps. 5-celled.

H. One pist. Cal. 1-leafed. Cor. 5-petaled. Five caps. 1-celled, many-seeded.

ORDO VIII. DODECANDRIA.

1232. CYTINUS. Monogynus. Cal. 4-fidus. Cor. 0. Bacca 8-locularis.

ORDER VIII. DODECANDRIA.

C. One pist. Cal. 4-cleft. No cor. Berry 8-celled.

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ORDO IX. POLYANDRIA.

1027. XYLOPIA. Monogyna. Cal. 1-phyllus. Cor. 6-petala. Drupa sicca.
1026. GREWIA. Monogyna. Cal. 5-phyllus. Cor. 5-petala. Bacca locularis.
1031. POTHOS. Spatha. Cal. nullus. Cor 4-petala. Bacca 1-sperma.
1029. DRACONTIUM. Spatha. Cal. nullus. Cor. 5-petala. Bacca polysperma.
1030. CALLA. Spatha. Cal. nullus. Cor nulla. Stam. mixta pistillis.
* 1028. ARUM. Spatha. Cal. nullus. Cor. nulla. Stam. supra pistilla.
1238. AMBROSINIA. Spatha. Cal. nullus. Cor. nulla. Stamina alterius lateris dissepimenti.
* 1032, ZOSTERA. Folium. Cal. nullus. Cor. nulla. Sem. alterna, nuda.

ORDER IX. POLYANDRIA.

X. One pist. Cal. 1-leaved. Cor. 6-petaled. Drupe dry.
G. One pist. Cal. 5-leaved. Cor. 5-petaled. Berry celled.
P. Sheath. No cal. Cor. 4-petaled. Berry 1-seeded.
D. Sheath. No cal. Cor. 5-petaled. Berry many seeded.
C. Sheath. No. cal. No cor. Stam. mixed with pistils.
* A. Sheath. No cal. No cor. Stam. above the pistils.
A. Sheath. No cal. No cor. Stam. on one side of a division.
* Z. A leaf. No cal. No cor. Alternate seeds, naked.

ORDER I. DIANDRIA.

1009. ORCHIS, *Orch* or *Butterfly Flower*.

50 species; viz. bicornis, biflora, cornuta, spathulata, flexuosa, tripetaloides, sagittalis, barbata, draconis, tenella, sancta, susannæ, ciliaris, habenaria, * bifolia, ornithis, flexuosa, cucullata, globosa, * pyramidalis, coriophora, cubitalis, * morio, mascula, * ustulata, * militaris, fusca, moravica, papilionacea, rubra, pallens, hispidula, speciosa, * latifolia, incarnata, sambucina, maculata, odoratissima, * conopsea, flava, friscescens, strateumatica, hyperborea, * abortiva, psycodes, spectabilis, filicornis, tipuloides, japonica, falcata. Europe, Cape, Asia, W. Indies.

mascula. * O. lip of the nectary 4-lobed, finely scolloped; horn blunt; upper petals turned back.—This species is called *satyrion*, or *early orchis*. It is frequent in shady places and moist meadows. Each plant has two oval roots of a whitish colour, a viscid sweetish taste, and a faint unpleasant smell. They abound with a glutinous slimy juice. With regard to their virtues, like other mucilaginous vegetables, they defend the solids against acrimonious humours: they have also been celebrated, though on no good foundation, for analeptic and aphrodisiac virtues, and frequently made use of with these intentions. Salep, a celebrated restorative among the Turks, is the prepared root of plants of this genus. It has been successfully imitated by means of the roots of this species. Mr Moult, in a letter to Dr Percival, describes his method of making salep. He observes, that the best time to gather the roots, is when the seed is formed and the stalk going to fall, for then the new bulb, of which salep is made, is arrived at its full size. The new roots being separated from the stalk, are to be washed in water, and the outer thin skin taken off. They are then to be set on a tin-plate in an oven, heated to the degree of a bread oven. In six, eight, or ten minutes, they will have acquired a transparency like horn, without being diminished in size. They are then to be removed into another room to dry and harden, which will be done in a few days; or they may be finished in a very slow heat in a few hours. Salep, thus prepared, may be sold for less than a shilling a pound, and affords a mild nutriment, which in times of scarcity, in cases of dysentery and strangury, and on shipboard, may be extremely useful. The salep, hitherto imported from Turkey, may thus be prepared at home. The plants must be propagated by the roots, as the seeds seldom come to perfection.

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1010. SATYRIUM, or *Lizard-flower*.

15 species; viz hircinum, tabulare, triste, giganteum, aculeatum, viride, nigrum, albidum, epigogium, plantagineum, repens, capense, hians, orobanchoides, pedicellatum. Europe, Cape, America.

1011. OPHRYS, *Twy*, or *Tway-blade*.

28 species; viz. * nidus avis, * coralorhiza, * spiralis, cernua, ovata, * cordata, lilifolia, * loeselii, paludosa, monophyllos, alata, myodes, arachnides, * monorchis, alpina, camtschatea, * anthropophera, crucigera, volucris, bracteata, atrata, catholica, circumflexa, caffra, bivalvata, alaris, patens, nervosa. Alps. N. America, Cape.

1012. SERAPIAS, or *Helleborine*.

11 species; viz. * ensifolia, * grandiflora * lancifolia, * latifolia, * longifolia, * rubra, lingua, cordigera, capensis, erecta, falcata. S. Europe, Cape, W. Indies.

1013. LIMODORUM, or *Base Hellebore*.

Three species; viz. tuberosum, altum, striatum.

1014. ARETHUSA.

Seven species; viz. bulbosa, ophioglossoides, divaricata, capensis, villosa, ciliaris, biplumata. Cape, N. America.

1423. DISA.

Four species; viz. grandiflora, racemosa, longicornu, maculata. C. of G. Hope.

1016. EPIDENDRUM, or *Vanelloe*.

32 species; viz. vanilla, flos æris, tenuifolium, spatulatum,

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tulatum, furvum, coccineum, secundum, lineare, punctatum, caudatum, ovatum, ciliare, nocturnum, cæsullatum, teres, nodosum, carinatum, aloifolium, guttatum, juncifolium, scriptum, retusum, amabile, cochleatum, tuberosum, pusillum, ensifolium, moniliforme, ophioglossoides, ruscifolium, graminifolium, capense. E. and W. Indies, China, Japan.

1015. CYPRIPEDIUM, or *Lady's Slipper.*
Three species; viz. * calceolus, bulbosum, japonicum. Europe, Asia, Japan, America.

1424. FORSTERA.
One species; viz. sedifolia. New Zealand.

1272. GUNNERA.
One species; viz. perpensa. Cape, straits of Magellan.

ORDER II. TRIANDRIA.

1017. SISYRINCHIUM, or *Bermudiana.*
Two species; viz. bermudiana, palmifolium. Bermudas, West Indies.

1018. FERRARIA.
Two species; viz. undulata, pavonia. Cape, Mexico.

1326. SALACIA.
One species; viz. chinensis. China.

1273. STILAGO.
One species; viz. bunius.

ORDER III. TETRANDRIA.

1019. NEPENTHES.
One species; viz. distillatoria. Ceylon.

ORDER IV. PENTANDRIA.

1020. AYENIA.
Three species; viz. pusilla, tomentosa, magna. Jamaica, Cumana, Peru.

1327. GLUTA.
One species; viz. benghas. Java.

1021. PASSIFLORA.
28 species; viz. serratifolia, pallida, cuprea, tiliæfolia, maliformis, quadrangularis, laurifolia, multiflora, adulterina, perfoliata, rubra, normalis, murucuja, vespertilio, capsularis, rotundifolia, punctata, lutea, minima, suberosa, holosericea, hirsuta, fœtida, incarnata, mixta, cærulia, serrata, pedata. West Indies, South America.

ORDER V. HEXANDRIA.

1022. ARISTOLOCHIA, or *Birthwort.*
22 species; viz. * clematitis, bilobata, trilobata, pentandra, peltata, maxima, bilabiata, erecta, arborescens, caudata, odoratissima, anguicida, maurorum, indica, bætica, sempervirens, serpentaria, pistolochia, rotunda, longa, hirsuta, clematitis. South Europe, America.

1023. PISTIA, or *Water House-leek.*
One species; viz. stratiotes. Asia, Africa, South America.

ORDER VI. OCTANDRIA.

1425. SCOPOLIA.
One species; viz. composita. South sea isles.

ORDER VII. DECANDRIA.

1024. KLEINHOVIA.
One species; viz. hospita. E. Indies.

1025. HELICTERES, or *Screw-tree.*
Six species; viz. barvensis, isora, angustifolia, pentandra, carthaginensis, apetala. Malabar, China, Jam.

ORDER VIII. DODECANDRIA.

1232. CYTINUS.
One species; viz. hypocistis. Spain, Italy.

ORDER IX. POLYANDRIA.

1027. XYLOPIA, or *Bitter-wood.*
Two species; viz. muricata, glabra. America.

1026. GREWIA.
Six species; viz. occidentalis, orientalis, asiatica, malococca, salvifolia, microcos. Asia, Cape, America, South seas.

1228. AMBROSINIA.
One species; viz. bassii. Palermo, Turkey.

1028. ARUM, or *Wake-robin, Dragon.*
25 species; viz. * maculatum, dracunculus, dracontium, pentaphyllum, triphyllum, ternatum, colocasia, esculentum, macrorhizon, peregrinum, divaricatum, trilobatum, sagittæfolium, virginicum, proboscideum, arisarum, pictum, ovatum, tenuifolium, cannæfolium, muscivorum, arborescens, hederaceum, lingulatum, auritum. S. Europe, E. Indies, America.

* A. leaves halberd-shaped, very entire; spikestalk club-shaped.—This root grows wild under hedges, and by the sides of banks, in most parts of England. It sends forth in March three or four triangular leaves, which are followed by a naked stalk, bearing a purplish pistil, enclosed in a long sheath: this is succeeded in July by a bunch of reddish berries. In some plants the leaves are spotted with black, in others with white spots, and in others not spotted at all: the black spotted sort is supposed to be the most efficacious in medicine. All the parts of the *arum maculatum*, particularly the root, have an extremely pungent acrimonious taste; if the root be but slightly chewed, it continues to burn the tongue for some hours, occasioning at the same time a considerable thirst: these symptoms are alleviated by butter milk and oily liquors. Dried and kept some time, it loses much of its acrimony, and becomes at length an almost insipid farinaceous substance. The root is a powerful stimulant and attenuant. It is reckoned a medicine of great efficacy in some cachectic and chlorotic cases, in weakness of the stomach occasioned by a load of phlegm. Great benefit is said to *maculatum.*

have

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have been obtained from it in deeply seated rheumatic pains. In these cases it may be given from 10 grains to a scruple of the fresh root, twice or thrice a-day, made into a bolus or emulsion, with unctuous or mucilaginous substances, which cover its pungency, and prevent its making any painful impression on the tongue. Neither wine nor spirits extract its virtues. The root, dried and powdered, is used by the French to wash the skin, and is sold at a high price under the name of *cypress powder*. It is undoubtedly a good and an innocent cosmetic. Starch may be made from the roots.

1029. DRACONTIUM, or *Dragons*.
Five species; viz. polyphyllum, spinosum, fœtidum, camschatcense, pertusum. Ceylon, W. Indies, America.

1030. CALLA, or *Ethiopian Arum*.
Two species; viz. æthiopica, palustris. Europe, Cape.

1031. POTHOS, or *Scunk-weed*.
Seven species; viz. scandens, acaulis, lanceolata, crenata, cordata, pinnata, palmata. India, America.

1032. ZOSTERA, or *Grass-wrack*.
Two species; viz. * marina, * oceanica.
* Z. seed-vessels sitting, stems much branched; leaves floating, long, grass-like, blunt from leaf-scales.—It is thrown on the sea-shore by the tide in great plenty, and mounds or walls are built with it to resist the encroachment of the sea. Exposure to the weather bleaches it white. Buildings are thatched with the green leaves, and it will endure upwards of a century. It is used by the inhabitants of Gothland in Sweden as a manure, and also for stuffing beds, in preference to hay, as being softer. Horses and swine eat it. Cows are not fond of it. *marina*.

In the class Gynandria are
32 Genera, including 270 Species, of which 28 are found in Britain.

CLASSIS XXI.

MONŒCIA (L).

ORDO I. MONANDRIA.

* 1203. CHARA. (1) Cal. nulla. Cor. nulla. (2) Cal. 4-phyllus. Cor. 0. Stigma 3-fidum. Sem. 1.
* 1034. ZANNICHELLIA. (1) Cal. 0. Cor. 0. (2) Cal. 1-phyll. Cor. 0 Pist. 4. Sem. 4.
1035. CERATOCARPUS. (1) Cal. 2-partitus. Cor. 0. (2) Cal. 2-phyllus. Cor. 0. Styl. 2. Sem. 1. inferum.
1426. ARTOCARPUS. (1) Cal. bivalvis. Cor. 0. (2) Cal. 0. Cor. 0. Styl. 1. Drupa multilocularis.
NIPA. (1) Spatha. Cor. 6-petala. (2) Spatha. Cor. 0. Drupæ angulatæ.
1036. ELATERIUM. (1) Cal. 0. Cor. hypocrateriform. (2) Cal. 0. Cor. hypocrateriform. Caps. infera, pulposa, 1-locularis, polysperma.
1033. CYNOMORIUM. (1) Cal. amenti. Cor. 0. (2) Cal. amenti. Cor. 0. Styl. 1. Sem. 1, subrotundum.
1427. PHYLLACHNE. (1) Cal. 3-phyllus superus. Cor. infundibuliformis. (2) Cal. 3-phyllus, superus. Cor. infundibuliformis. Styl. 1. Stigma tetragonum. Caps. infera, polysperma.
1428. CASUARINA. (1) Cal. amenti. Cor. squamulæ bipartitæ. (2) Cal. amenti. Cor. 0. Styl. bifidus. Strobilus.

CLASS XXI.

MONŒCIA.

ORDER I. MONANDRIA.

* C. (1) No cal. No cor. (2) Cal. 4-leaved. No cor. Stigm. 3-cleft. Seed 1.
* Z. (1) No cal. No cor. (2) Cal. 1-leaved. No cor. Pist. 4. Seeds 4.
C. (1) Cal. 2-parted. No cor. (2) Cal. 2-leaved. No cor. Styl. 2. Seed 1, inferior.
A. (1) Cal. 2-valved. No cor. (2) No cal. No cor. Styl. 1. Drupe many-celled.
N. (1) Sheath. Cor. 6-petaled. (2) Sheath. No cor. Angular drupes.
E. (1) No cal. Cor. salver-shaped. (2) No cal. Cor. salver-shaped. Caps. inferior, pulpy, 1-celled, many-seeded.
C. (1) Cal. catkin. No cor. (2) Cal. catkin. No cor. Styl. 1. Seed 1, roundish.

P. (1) Cal. 3-leaved, superior. Cor. funnel-shaped. (2) Cal. 3-leaved, superior. Cor. funnel-shaped. Styl. 1. Stigm. 4-gon. Caps. inferior, many-seeded.

C. (1) Cal. catkin. Cor. scales 2-parted. (2) Cal. catkin. No cor. Styl. 2-cleft. A cone.

1429.

(L) In this class the stamens and pistils are found in different flowers on the same plant. The flowers that have stamens, but want pistils, are, according to the principles of Linnæus's sexual system, which we have adopted, called *male flowers*; whereas the flowers that have pistils, but want stamens, are styled *female flowers*. In the following account of the genera the definition of the male flowers is marked (1), and that of the female flowers (2).

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1429. Ægopricon. (1) Cal. 3-fidus, Cor. o. (2) Flores solitarii. Cal. ut in mare. Cor. o. Styli tres. Bacca 3-cocca.

Æ. (1) Cal. 3-cleft. No cor. (2) Flowers solitary. Cal. as in the male. No cor. Styl. 3. Berry 3-celled.

Ordo II. DIANDRIA.

Order II. DIANDRIA.

1037. Auguria. (1) Cal. 5-fidus. Cor. 5-petala. (2) Cal. 5-fidus. Cor. 5-petala. Pomum biloculare, polyspermum.

A. (1) Cal. 5-cleft. Cor. 5-petaled. (2) Cal. 5-cleft. Cor. 5-petaled. Apple 2-celled, many-seeded.

* 1038. Lemna. (1) Cal. 1-phyllus. Cor. o. (2) Cal. 1-phyllus. Cor. o. Styl. 1. Caps. 1-locularis.

* L. (1) Cal. 1-leaved. No cor. (2) Cal. 1-leaved. No cor. Style 1. Caps. 1-celled.

Gunnera.

Ordo III. TRIANDRIA.

Order III. TRIANDRIA.

1042. Zea. (1) Glum. 2-flora, 2-valvis. (2) Glum. 1-flora, 2-valvis. Styl. 1. Sem. 1, nudum, subrotundum.

Z. (1) Glume or husk 2-flowered, 2-valved. (2) Husk 1-flowered, 2-valved. Style 1. Seed 1, naked, roundish.

1044. Tripsacum. (1) Glum. 4-flora, 2-valvis. (2) Glum. 2 s. 4-part. 2-valvis. Styl. 2. Sem. 1. Gluma sinu perforata.

T. (1) Husk 4-flowered, 2-valved. (2) Husk 2 or 4-parted, 2-valved. Styles 2. Seed 1. Husk perforated.

1043. Coix. (1) Glum. 2-flora, 2-valvis. (2) Glum. biflora, 2-valvis. Styl. 2-fid. Sem. 1, tectum nuce.

C. (1) Glume 2-flowered, 2-valved. (2) Glume 2-flowered, 2-valved. Style 2-cleft. Seed 1, covered with a nut.

1045. Olyra. (1) Glum. 1-flora, 2-valvis. (2) Gl. 1-flora, 2-valvis. Styl. 2-fid. Sem. 1, nudum.

O. (1) Glumes 1-flowered, 2-valved. (2) Glumes 1-flowered, 2-valved. Style 2-cleft. Seed 1, naked.

* 1046. Carex. (1) Ament. 1-florum. Cor. nulla. (2) Ament. 1-florum. Cor. 1. Styl. 1. Sem. 1, tunicatum.

* C. (1) Catkin 1-flowered. No cor. (2) Catkin 1-flowered. Cor. 1. Style 1. Seed 1, coated.

* 1041. Sparganium. (1) Cal. 3-phyllus. Cor. o. (2) Cal. 3-phyllus. Cor. o. Stigm. 2. Sem. 1-sperma.

* S. (1) Cal. 3-leaved. No cor. (2) Cal. 3-leaved. No cor. Stigm. 2. Seed 1.

* 1040. Typha. (1). Cal. 3-phyllus. Cor. nulla. (2) Cal. capillaris. Cor. o. Styl. 1. Sem. 1, pappigerum.

* T. (1) Cal. 3-leaved. No cor. (2) Cal. hair-like. No cor. Seed 1, downy.

1047. Axyris. (1) Cal. 3-partitus. Cor. o. (2) Cal. 2-phyllus. Cor. o. Styl. 2. Sem. 1, subrotundum.

A. (1) Cal. 3-parted. No cor. (2) Cal. 2-leaved. No cor. Styles 2. Seed 1, roundish.

1050. Phyllanthus. (1) Cal. 6-partitus. Cor. o. (2) Cal. 6-partitus. Cor. o. Styl. 3. Caps. 3-cocca.

P. (1) Cal. 6-parted. No cor. (2) Cal. 6-parted. No cor. Styles 3. Caps. 3-celled.

1048. Tragia. (1) Cal. 3-partitus. Cor. o. (2) Cal. 5-partitus. Cor. o. Styl. 3-fid. Caps. 3-cocca.

T. (1) Cal. 3-parted. No cor. (2) Cal. 5-parted. No cor. Style 3-cleft. Caps. 3-celled.

1049. Hernandia. (1) Cal. 3-partitus. Cor. 3-petala. (2) Cal. truncatus. Cor. 6-petala. Drupa excavata.

H. (1) Cal. 3-parted. Cor. 3-petaled. (2) Cal. lopped. Cor. 6-petaled. Drupe hollow.

1039. Omphalea. (1) Cal. 4-phyllus. Cor. o. Anth. immersæ receptaculo. (2) Cal. 4-partitus. Cor. o. Stigm. 3-fid. Caps. 3-locul. 1-sperma.

O. (1) Cal. 4-leaved. No cor. Anth. sunk in the receptacle. (2) Cal. 4-parted. No cor. Stigm. 3-cleft. Caps. 3-celled, 1-seeded.

Elate. Amaranthi varii.

Ordo IV. TETRANDRIA.

Order IV. TETRANDRIA.

* 1054. Urtica. (1) Cal. 4-phyllus. Cor. o. Nect. cyathiforme. (2) Cal. 2-valvis. Cor. o. Stigm. villos. Sem. 1, ovatum.

* U. (1) Cal. 4-leaved. No cor. Nect. glass-shaped. (2) Cal. 2-valved. No cor. Stigm. woolly. One oval seed.

* 1053. Buxus. (1) Cal. 3-phyllus. Cor. 2-petala. (2) Cal. 4-phyllus. Cor. 3-pet. Stigm. 3. Caps. 3-locularis.

* B. (1) Cal. 3-leaved. Cor. 2-petaled. (2) Cal. 4-leaved. Cor. 3-pet. Stigm. 3. Caps. 3-celled.

* 1052.

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* 1052. BETULA. (1) Ament. 5-florum. Cor. 4-partita. (2) Ament. 2-florum. Cor. 0. Styl. 2. Sem. 1, ovatum.

1051. CENTELLA. (1) Involucr. 4-phyllum, multiflorum. Petal. 4. (2) Involucr. 2-phyllum. Styl. 2. Pericarp. inferum, 2-loculare.

1274. SERPICULA. (1) Cal. 4-dentatus. Cor. 4-petala. (2) Cal. 4-phyllus. Cor. Nux torulosa.

AUCUBA. (1) Cal. 4-dentatus. Cor. 4-petala. (2) Nect. 0. Nux 1-locularis.

* 1328. LITTORELLA. (1) Cal. 4-phyllus. Cor. 4-fida. Stam. longissima. (2) Cal. 0. Cor. 4-fida. Stylus longissimus. Sem. nux.

1275. CICCA. (1) Cal. 4-phyllus. Cor. nulla. (2) Cal. 4-phyllus. Cor. 0. Styl. 4-fid. Caps. 4-cocca.

Plantago uniflora.

* B. (1) Catkin 5-flowered. Cor. 4-parted. (2) Catkin 2-flowered. No cor. Styl. 2. Seed 1, oval.

C. (1) Involucrum 4-leaved, many-flowered. Pet. 4. (2) Involucrum 2-leaved. Styl. 2. Pericarp. inferior, 2-celled.

S. (1) Cal. 4-toothed. Cor. 4-petaled. (2) Cal. 4-leaved. Cor. Nut swelling out.

A. (1) Cal. 4-toothed. Cor. 4-petaled. (2) No nect. Nut 1-celled.

* L. (1) Cal. 4-leaved. Cor. 4-cleft. Stam. very long. (2) No cal. Cor. 4-cleft. Styl. long. Seed a nut.

C. (1) Cal. 4-leaved. No cor. (2) Cal. 4-leaved. No cor. Styl. 4-cleft. Caps. 4-celled.

ORDO V. PENTANDRIA.

ORDER V. PENTANDRIA.

1277. NEPHELIUM. (1) Cal. 5-dentatus. Cor. 0. Anth. bifidæ. (2) Cal. 4-dentatus. Cor. 0. Styl. 2, inter germina.

* 1056. XANTHIUM. (1) Cal. comm. polyph. Cor. 5-fida. Filam. connexa. (2) Cal. 0. Cor. 0. Styl. 2. Drupa 2-locularis.

1057. AMBROSIA. (1) Cal. comm. 1-phyll. Cor. 5-fida. (2) Cal. 1-flor. 2-phyll. Cor. 0. Styl. 1. Nux 5-dentata.

1058. PARTHENIUM. (1) Cal. comm. 5-phyll. Cor. disci super. (2) Cal. idem mari. Cor. radii ligulat. Styl. 1. Sem. 1.

1326. CLIBADIUM. (1) Cal. comm. imbricatus. Cor. disci 5-fidæ. (2) Cal. idem mari. Cor. radii 5-fidæ. Drupæ umbilicatæ.

1059. IVA. (1) Cal. comm. 5-phyll. Cor. disci super. (2) Cal. idem mari. Cor. radii 0. Styl. 2. Sem. 1.

* 1060. AMARANTHUS. (1) Cal. propr. 5-phyll. Cor. 0. Stam. 3 s. 5. (2) Cal. propr. 5-phyll. Cor. 0. Styl. 3. Caps. circumscissa.

1276. LEEA. (1) Cal. 5-fidus. Cor. 5-fida. (2) Cal. 5-fidus. Cor. 5-fida. Styl. 1. Peric. 6-loculare. Sem. solitaria.

N. (1) Cal. 5-toothed. No cor. Anth. 2-cleft. (2) Cal. 4-toothed. No cor. Styl. 2, betwixt the germs.

* X. (1) Cal. common, many-leaved. Cor. 5-cleft. Filam. connected. (2) No cal. No cor. Styl. 2. Drupe 2-celled.

A. (1) Cal. common, 1-leafed. Cor. 5-cleft. (2) Cal. 1-flowered, 2-leaved. No cor. Styl. 1. Nut 5-toothed.

P. (1) Cal. common, 5-leaved. Cor. of the disc superior. (2) Cal. as in the male. Cor. of the ray strap-shaped. Styl. 1. Seed 1.

C. (1) Cal. common, tiled. Cor. of the disc 5-cleft. (2) Cal. as in the male. Cor. of the ray 5-cleft. Drupes dimpled.

L. (1) Cal. common, 5-leaved. Cor. of the disc superior. (2) Cal. as in the male. No cor. of the ray. Styl. 2. Seed 1.

* A. (1) Cal. proper, 5-leaved. No cor. Stamens 3 or 5. (2) Proper cal. 5-leaved. No cor. 3 styles. Caps. cut round.

L. (1) Cal. 5-cleft. Cor. 5-cleft. (2) Cal. 5-cleft. Cor. 5-cleft. Styl. 1. Peric. 6-celled. Seeds solitary.

Dioema.

ORDO VI. HEXANDRIA.

ORDER VI. HEXANDRIA.

1062. ZIZANIA. (1) Cal. glum. 0. Cor. gl. 2-valvis. (2) Cal. glum. 0. Cor. gl. 2-valvis. Styl. 2. Sem. 1. Corolla circumscissa.

1063. PHARUS. (1) Cal. glum. 1-flora. Cor. gl. 2-valvis. (2) Cal. glum. 1-flora. Cor. gl. 2-valvis. Styl. 1. Sem. 1.

Z. (1) Cal. husk none. Cor. a 2-valved husk. (2) Cal. husk none. Cor. a 2-valved husk. Styles 2. Seed 1. Cor. cut round.

P. (1) Cal. a husk 1-flowered. Cor. a husk 2-valved. (2) Cal. a 1-flowered husk. Cor. a 2-valved husk. Styl. 1. Seed 1.

Rumex spinosus.

ORDO VII. HEPTANDRIA.

ORDER VII. HEPTANDRIA.

1064. GUETTARDA. (1) Cal. cylindric. Cor. 7-fida. (2) Cal. cylindric. Cor. 7-fida. Styl. 1. Drupa sicca.

G. (1) Cal. cylindrical. Cor. 7-cleft. (2) Cal. cylindrical. Cor. 7-cleft. 1 Style. Drupe dry.

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ORDO

Ordo VIII. POLYANDRIA.

1156. Begonia. (1) Cal. 0. Cor. 4-petala. (2) Cal. 0. Cor. 4-petala. Styl. 3, bifidi. Caps. infera, 3-locularis, polysperma.

* 1067. Sagittaria. (1) Cal. 3-phyllus. Cor. 3-petala. Stam. 24 circiter. (2) Cal. 3-phyll. Cor. 3-pet. Pist. 100. Sem. numerosa.

* 1066. Myriophyllum. (1) Cal. 4-phyllus. Cor. 0. Stam. 8. (2) Cal. 4-phyllus. Cor. 0. Pist. 4. Sem. 4.

* 1065. Ceratophyllum. (1) Cal. sub 7-partitus. Cor. 0. Stam. 18 circiter. (2) Cal. sub 7-partitus. Cor. 0. Pist. 1. Sem. 1.

1068. Theligonum. (1) Cal. 2-fidus. Cor. 0. Stam. 12 circiter. (2) Cal. 2-fidus. Cor. 0. Pist. 1. Sem. 1, corticatum.

* 1069. Poterium. (1) Cal. 4-phyllus. Cor. 4-partita. Stam. 32 circiter. (2) Cal. 4-phyllus. Cor. 4-pet. Pist. 2. Sem. 2, obducta.

* 1072. Fagus. (1) Cal. 5-fidus. Cor. 0. Stam. 12 circiter. (2) Cal. 4-fidus. Cor. 0. Styl. 3. Caps. 2-sperma.

* 1070. Quercus. (1) Cal. 5-fidus. Cor. 0. Stam. 10 circiter. (2) Cal. integer. Cor. 0. Styl. 5. Nux coriacea.

1071. Juglans. (1) Ament. imbricat. Cor. 6-partita. Stam. 18 circiter. (2) Cal. 4-fidus. Cor. 4-pet. Styl. 2. Drupa coriacea.

* 1074. Corylus. (1) Ament. imbricat. Cor. 0. Stam. 8. (2) Cal. 2-phyllus. Cor. 0. Styl. 2. Nux nuda.

* 1073. Carpinus. (1) Ament. imbricat. Cor. 0. Stam. 10. (2) Cal. 6-fidus. Cor. 0. Pist. 2. Nux nuda.

1075. Platanus. (1) Ament. globos. Cor. obsoleta. Anther. circumnatæ. (2) Ament. globos. Cor. 5-pet. Styl. 1. Sem. 1, papposum.

1076. Liquidambar. (1) Cal. 4-phyllus. Cor. 0. Stam. plurima. (2) Cal. 4-phyllus. Cor. 0. Styl. 2. Caps. polysperma.

Areca, Caryota.

Ordo IX. MONADELPHIA.

1087. Hura. (1) Cal. 2-phyllus. Cor. 0. Anther. 20, sessiles. (2) Cal. cylindricus. Cor. 0. Pist. 1. Caps. 10-cocca.

* 1077. Pinus. (1) Cal. 4-phyllus. Cor. 0. Stam. plurima. (2) Ament. strobilac. Cor. 0. Pist. 2. Nuces 2, alatæ.

1070. Cupressus. (1) Amentum. Cor. 0. Anther. 4, sessiles. (2) Ament. strobilac. Cor. 0. Stigm. 2. Nux angulata.

1078. Thuja. (1) Amentum. Cor. 0. Anther. 4. (2) Amentum strobilac. Cor. 0. Pist. 2. Nux cincta ala.

1082. Acalypha. (1) Cal. 4-phyllus. Cor. 0. Stam. 12 circiter. (2) Cal. 3-phyllus. Cor. 0. Styl. 3. Caps. 3-cocca.

1081. Dalechampia. (1) Cal. 6-phyllus. Cor. 0. Nectar. lamellatum. Stam. multa. (2) Cal. 10-phyllus. Cor. 0. Stylus 1. Caps. 3-cocca.

Order VIII. POLYANDRIA.

B. (1) No cal. Cor. 4-petaled. (2) No cal. Cor. 4-petaled. Styles 3, 2-cleft. Caps. inferior, 3-celled, many-seeded.

* S. (1) Cal. 3-leaved. Cor. 3-petaled. Stam. about 24. (2) Cal. 3-leaved. Cor. 3-pet. Pist. 100. Seeds numerous.

* M. (1) Cal. 4-leaved. No cor. Stamens 8. (2) Cal. 4-leaved. No cor. Pist. 4. Seeds 4.

* C. (1) Cal. nearly 7-parted. No cor. Stamens about 18. (2) Cal. nearly 7-parted. No cor. Pist. 1. Seed 1.

T. (1) Cal. 2-cleft. No cor. Stamens about 12. (2) Cal. 2-cleft. No cor. Pist. 1. Seed 1, bark-like.

* P. (1) Cal. 4-leaved. Cor. 4-parted. Stam. about 32. (2) Cal. 4-leaved. Cor. 4-pet. Pist. 2. Seeds 2, covered.

* F. (1) Cal. 5-cleft. No cor. Stam. about 12. (2) Cal. 4-cleft. No cor. Styles 3. Caps. 2-seeded.

* Q. (1) Cal. 5-cleft. No cor. Stam. about 10. (2) Cal. entire. No cor. Styles 5. Nut leather-like.

J. (1) Catkin tiled. Cor. 6-cleft. Stam. about 18. (2) Cal. 4-cleft. Cor. 4-pet. Styles 2. Drupe leather-like.

* C. (1) Catkin tiled. No cor. Stam. 8. (2) Cal. 2-leaved. No cor. Styles 2. Nut naked.

* C. (1) Catkin tiled. No cor. Stam. 10. (2) Cal. 6-cleft. No cor. Pist. 2. Nut naked.

P. (1) Catkin globular. Cor. obscure. Anth. rising around. (2) Catkin globular. Cor. 5-petaled. Styl. 1. Seed 1, downy.

L. (1) Cal. 4-leaved. No cor. Many stamens. (2) Cal. 4-leaved. No cor. Styl. 2. Caps. many-seeded.

Order IX. MONADELPHIA.

H. (1) Cal. 2-leaved. No cor. Anth. 20, sitting. (2) Cal. cylindrical. No cor. Pet. 1. Caps. 10-celled.

* P. (1) Cal. 4-leaved. No cor. Stamens many. (2) Catkin conical. No cor. Pist. 2. Nuts 2, winged.

C. (1) Catkin. No cor. Anth. 4, sitting. (2) Catkin conical. No cor. Stigm. 2. Nut angular.

T. (1) Catkin. No cor. Anth. 4. (2) Catkin conical. No cor. Pist. 2. Nut girt with a wing.

A. (1) Cal. 4-leaved. No cor. Stam. about 12. (2) Cal. 3-leaved. No cor. Styl. 3. Caps. 3-celled.

D. (1) Cal. 6-leaved. No cor. Nectar. gilled. Stam. many. (2) Cal. 10-leaved. No cor. Style 1. Caps. 3-celled.

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1080. PLUKENETIA. (1) Cal. 0. Cor. 4-petala. Stam. 8. (2) Cal. 0. Cor. 4-pet. Styl. 1. Caps. 4-cocca.

279. CUPANIA. (1) Cal. 3-phyllus. Cor. 5-petala. Stam. 5. (2) Cal. 3-phyllus. Cor. 3-petala. Styl. 3-fidus. Caps. seminibus 6 arillatis.

1083. CROTON. (1) Cal. 5-phyllus. Cor. 5-petala. Stam. 15. (2) Cal. 5-phyllus. Cor. 0. Styl. 3. Caps. 3-cocca.

1085. RICINUS. (1) Cal. 5-partitus. Cor. 0. Stam. multa. (2) Cal. 3-partitus. Cor. 0. Styl. 3. Caps. 3-cocca.

1084. JATROPHA. (1) Cal. 0. Cor. 5-fida. Stam. 10. (2) Cal. 0. Cor. 5-pet. Styl. 3. Caps. 3-cocca.

1086. STERCULIA. (1) Cal. 5-partitus. Cor. 0. Stam. 15 circiter. (2) Cal. 5-partitus. Cor. 0. Pist. 1. Caps. 5.

1088. HIPPÓMANE. (1) Cal. 2-fidus. Cor. 0. Antheræ bifidæ. (2) Cal. 3-fidus. Cor. 0. Stigm. 3-plex. Drupa 1-sperma, aut caps. 3-cocca.

1279. STILLINGIA. (1) Cal. multiflorus. Cor. 1-petala. Stam. 2. (2) Cal. uniflorus. Cor. stylus 3-fidus. Germen 3-coccum, inter calycem et corollam.

1278. GNETUM. (1) Amentum ex calyculis peltatis. Cor. 0. Anther. 2. (2) Amenti ejusdem. Stylus 3-fidus. Drupa 1-sperma.

P. (1) No cal. Cor. 4-petaled. Stam. 8. (2) No cal. Cor. 4-petaled. 1 Style. Caps. 4-celled.

C. (1) Cal. 3-leaved. Cor. 5-petaled. Stam. 5. (2) Cal. 3-leaved. Cor. 3-petaled. Styl. 3-cleft. Caps. with 6 coated seeds.

C. (1) Cal. 5-leaved. Cor. 5-petaled. Stam. 15. (2) Cal. 5-leaved. No cor. Styl. 3. Caps. 3 celled.

R. (1) Cal. 5-parted. No cor. Stam. many. (2) Cal. 3-parted. No cor. Styl. 3. Caps. 3-celled.

J. (1) Cal. 0. Cor. 5-cleft. Stamens 10. (2) Cal. 0. Cor. 5-pet. Styl. 3. Caps. 3-celled.

S. (1) Cal. 5-parted. No cor. Stam. about 15. (2) Cal. 5-parted. No cor. Pist. 1. Caps. 5.

H. (1) Cal. 2-cleft. No cor. Anthers 2-cleft. (2) Cal. 3-cleft. No cor. Stigma 3-fold. Drupe 1-seeded, or a caps. 3-celled.

S. (1) Cal. many-flowered. Cor. 1-petaled. Stam. 2. (2) Cal. 1-flowered. Cor. a 3-cleft style. Germ. 3-celled, betwixt the calyx and corolla.

G. (1) Catkin of target-shaped calycles. No cor. Anth. 2. (2) Catkin of the same. Style 3-cleft. Drupe 1-seeded.

ORDO X. SYNGENESIA.

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1089. TRICHOSANTHES. (1) Cal. 5-dentatus. Cor. 5-fida, ciliata. Filam. 3. (2) Cal. 5-dentatus. Cor. 5-fid. Styl. 3-fid. Pom. oblongum.

1090. MOMORDICA. (1) Cal. 5-fidus. Cor. 5-fida. Filam. 3. (2) Cal. 5-fidus. Cor. 5-fid. Styl. 3-fid. Pom. elasticum.

1092. CUCUMIS. (1) Cal. 5-dentatus. Cor. 5-fida. Filam. 3. (2) Cal. 5-dentatus. Cor. 5-fid. Styl. 3-fid. Pomum. Sem. argutis.

1091. CUCURBITA. (1) Cal. 5-dentatus. Cor. 5-fida. Filam. 3. (2) Cal. 5-dentatus. Cor. 5-fid. Styl. 3-fid. Pomum, sem. marginatis.

1094. SICYOS. (1) Cal. 5-dentatus. Cor. 5-fida. Filam. 3. (2) Cal. 5-dentatus. Cor. 5-fid. Styl. 3-fid. Drupa monosperma.

* 1093. BRYONIA. (1) Cal. 5-dentatus. Cor. 5-partita. Filam. 3. (2) Cal. 5-dentatus. Cor. 5-part. Styl. 3-fid. Bacca.

T. (1) Cal. 5-toothed. Cor. 5-cleft, fringed. Filam. 3. (2) Cal. 5-toothed. Cor. 5-cleft. Style 3-cleft. Oblong apple.

M. (1) Cal. 5-cleft. Cor. 5-cleft. Filam. 3. (2) Cal. 5-cleft. Cor. 5-cleft. Style 3-cleft. Elastic apple.

C. (1) Cal. 5-toothed. Cor. 5-cleft. Filam. 3. (2) Cal. 5-toothed. Cor. 5-cleft. Style 3-cleft. Apple, with sharp seeds.

C. (1) Cal. 5-toothed. Cor. 5-cleft. Filam. 3. (2) Cal. 5-toothed. Cor. 5-cleft. Style 3-cleft. Apple with bordered seeds.

S. (1) Cal. 5-toothed. Cor. 5-cleft. Filam. 3. (2) Cal. 5-toothed. Cor. 5-cleft. Style 3-cleft. Drupe 1-seeded.

* B. (1) Cal. 5-toothed. Cor. 5-parted. Filam. 3. (2) Cal. 5-toothed. Cor. 5-parted. Style 3-cleft. Berry.

ORDO XI. GYNANDRIA.

ORDER XI. GYNANDRIA.

1095. ANDRACHNE. (1) Cal. 5-phyllus. Cor. 5-petala. Stam. 5. (2) Cal. 5-phyllus. Cor. 0. Styl. 3. Caps. 3-locul. 2-sperma.

1330. AGYNEIA. (1) Cal. 6-phyllus. Cor. 0. Anth. 3. (2) Cal. 6-phyllus. Cor. 0. Germen perforatum. Stylus stigmaque nulla.

A. (1) Cal. 5-leaved. Cor. 5-petaled. Stam. 5. (2) Cal. 5-leaved. No cor. Styl. 5. Caps. 3-celled. 2-seeded.

A. (1) Cal. 6-leaved. No cor. Anth. 3. (2) Cal. 6-leaved. No cor. Germ. perforated. No style nor stigma.

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Order I. MONANDRIA.

1034. Zannichellia, or *Three-headed Pond-weed.*
One species; viz. palustris.

1035. Ceratocarpus.
One species; viz. arenarius. Tartary.

1426. Artocarpus, or *Bread-fruit.*
Two species; viz. incisa, integrifolia.—It has a cylindric amentum or catkin, which thickens gradually, and is covered with flowers; the male and female in a different amentum. In the *male*, the calyx is two-valved, and the corolla is wanting. In the *female*, there is no calyx nor corolla; the stylus is one, and the drupa is many-celled.

Though this tree had been mentioned by many voyagers, particularly by Dampier, by Rumphius, and by Lord Anson, yet very little notice seems to have been taken of it till the return of Captain Wallis from the South seas, and since that time by others who have touched at Otaheite and some countries in the East Indies. Captain Dampier relates, that in Guam, one of the Ladrone islands, "there is a certain fruit called the *bread-fruit*, growing on a tree as big as our large apple-trees, with dark leaves. The fruit is round, and grows on the boughs like apples, of the bigness of a good penny-loaf; when ripe, it turns yellow, soft, and sweet; but the natives take it green, and bake it in an oven till the rind is black; this they scrape off, and eat the inside, which is soft and white, like the inside of new baked bread, having neither seed nor stone; but if it is kept above 24 hours it is harsh. As this fruit is in season eight months in the year, the natives feed upon no other sort of bread during that time. They told us that all the Ladrone islands had plenty of it. I never heard of it in any other place."

Rumphius, after describing the tree, observes, that "the fruit is shaped like a heart, and increases to the size of a child's head. Its surface or rind is thick, green, and covered everywhere with warts of a quadragonal or hexagonal figure, like cut diamonds, but without points. The more flat and smooth these warts are, the fewer seeds are contained in the fruit, and the greater is the quantity of pith, and that of a more glutinous nature. The internal part of the rind, or peel, consists of a fleshy substance, full of twisted fibres, which have the appearance of fine wool; these adhere to, and in some measure form it. The fleshy part of this fruit becomes softer towards the middle, where there is a small cavity formed without any nuts or seeds, except in one species, which has but a small number, and this sort is not good, unless it is baked or prepared some other way; but if the outward rind be taken off, and the fibrous flesh dried and afterwards boiled with meat as we do cabbage, it has then the taste of artichoke bottoms. The inhabitants of Amboyna dress it in the liquor of cocoa nuts; but they prefer it roasted on coals till the outward part or peel is burnt. They afterwards cut it into pieces, and eat it with the milk of the cocoa-nut. Some people make fritters of it, or fry it in oil; and others, as the Sumatrans, dry the internal soft part, and keep it to use instead of bread with other food. It affords a great deal of nourishment, and is very satisfying, therefore proper for hard-working people: and being of a gentle astringent quality, is good for persons of a laxative habit of body.

It is more nourishing boiled in our manner with fat meat than roasted on coals. The milky juice which distils from the trunk, boiled with the cocoa-nut oil, makes a very strong bird-lime. This tree is to be found on the eastern parts of Sumatra, and in the Malay language is called *soccus* and *soccum capas*. It grows likewise about the town of Bantam in Java, and in Ballega and Madura, and is known there by the name of *soccum*."

In Anson's voyage we are informed, "that the rima, or bread-fruit tree, is common in all the Ladrone islands and some of the Philippines. It is somewhat larger than our apple tree, and bears a broad dark-coloured leaf with five indentures on each side. The fruit hangs on the boughs like apples; and is of the size of a penny loaf, with a thick tough rind, which when full ripe turns yellow. The natives gather it before it is quite ripe, and bake it till the crust is pretty black; when they rasp it, and there remains a pretty loaf, with a tender yellow crust, and the crumb of it is soft and sweet as a new baked roll: it is without any seeds or stones. This fruit the inhabitants enjoy for about seven months; during which they never eat any other kind of bread: but they are obliged to bake it every day; for when it grows a little stale, it becomes harsh and husky, somewhat like the potato bread made in the west of England. There is, however, a remedy for this; which is cutting the loaf into slices when it is new, and drying it in the sun, by which it is changed into the pleasantest rusk that can be eaten."

Captain Cook, in his voyage, observes, that this fruit not only serves as a substitute for bread among the inhabitants of Otaheite and the neighbouring islands, but also, variously dressed, composes the principal part of their food. It grows on a tree that is about the size of a middling oak; its leaves are frequently a foot and a half long, of an oblong shape, deeply sinuated like those of the fig-tree, which they resemble in colour and consistence, and in the exuding of a milky juice upon being broken. The fruit is about the size and shape of a new-born child's head; and the surface is reticulated, not much unlike a truffle; it is covered with a thin skin, and has a core about as big as the handle of a small knife. The eatable part lies between the skin and the core; it is as white as snow, and somewhat of the consistence of new bread; it must be roasted before it is eaten, being first divided into three or four parts; its taste is insipid, with a slight sweetness, somewhat resembling that of the crumb of wheaten bread mixed with a Jerusalem artichoke. This fruit is also cooked in a kind of oven, which renders it soft, and something like a boiled potato; not quite so farinaceous as a good one, but more so than those of the middling sort. Of the bread-fruit they also make three dishes, by putting either water or the milk of the cocoa nut to it, then beating it to a paste with a stone pestle, and afterwards mixing it with ripe plantains, bananas, or the sour paste which they call *mahie*.

The mahie, which is likewise made to serve as a succedaneum for ripe bread-fruit before the season comes on, is thus made: The fruit of the bread-tree is gathered

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thered just before it is perfectly ripe; and being laid in heaps, is closely covered with leaves: in this state it undergoes a fermentation, and becomes disagreeably sweet; the core is then taken out entire, which is done by gently pulling out the stalk, and the rest of the fruit is thrown into a hole which is dug for that purpose, generally in the houses, and neatly lined in the bottom and sides with grass: the whole is then covered with leaves and heavy stones laid upon them; in this state it undergoes a second fermentation, and becomes sour, after which it will suffer no change for many months. It is taken out of the hole as it is wanted for use; and being made into balls, it is wrapped up in leaves and baked: after it is dressed, it will keep five or six weeks. It is eaten both cold and hot; and the natives seldom make a meal without it, though to Europeans the taste is as disagreeable as that of a pickled olive generally is the first time it is eaten. The fruit itself is in season eight months in the year, and the mahie supplies the inhabitants during the other four.

To procure this principal article of their food (the bread fruit), costs these happy people no trouble or labour except climbing up a tree: the tree which produces it does not indeed grow spontaneously; but if a man plants ten of them in his life time, which he may do in about an hour, he will as completely fulfil his duty to his own and future generations, as the native of our less temperate climate can do by ploughing in the cold of winter, and reaping in the summer's heat, as often as these seasons return; even if, after he has procured bread for his present household, he should convert a surplus into money, and lay it up for his children.

We have said that there are two species of artocarpus, viz. the incisa, with gashed leaves; and the integrifolia, with entire leaves. There is also said to be another distinction, into that which bears fruit with stones or seeds, and that in which the fruit has none. The parts of fructification of that tree which bears the fruit without stones are defective. The amentum, or catkin, which contains the male parts, never expands. The styli, or female parts of the fruit, are likewise deficient. From which it follows, that there can be no stones or seeds, and therefore that this tree can be propagated only by suckers or layers; although it is abundantly evident, that it must have originally proceeded from the seed-bearing bread-fruit tree. Instances of this kind we sometimes find in European fruits; such as the barberry, and the Corinthian grape from Zant, commonly called currants, which can therefore be increased only by layers and cuttings. Dr Solander was assured by the oldest inhabitants of Otaheite and the adjoining islands, that they well remembered there was formerly plenty of the seed-bearing bread-fruit; but they had been neglected upon account of the preference given to the bread-fruit without seeds, which they propagate by suckers.

The British government sent Lieutenant Bligh in the Bounty in 1787 to Otaheite to procure and transport to our West India colonies this valuable plant. The project was at that time unsuccessful, in consequence of a mutiny of the ship's crew, who seized the vessel, and carried her back to Otaheite. The object, however, was accomplished at a future period, and the bread-fruit is now reared in Jamaica and the other West India islands. Plants of this genus have also been brought to his majesty's gardens at Kew. The taste of the fruit is said to be a sort of medium between the tate of common wheaten bread, and the taste of a boiled potato. Those who prefer potatoes to ordinary bread also prefer the bread-fruit to it.

1033. CYNOMORIUM.
One species; viz. coccineum. Jamaica.

NIPA.
One species; viz. fruticans. Africa.

1203. CHARA.
Four species; viz. * flexilis, * hispida, * tomentosa, * vulgaris.

1036. ELATERIUM, or *Spring-gourd.*
Two species; viz. carthaginense, trifoliatum. Carthagena.

1427. PHYLLACHNE.
One species; viz. uliginosa. Terra del Fuego.

1428. CASUARINA.
Two species; viz. equisetifolia, nodiflora. E. Indies, New S. Wales.

1429. ÆGOPRICON.
One species; viz. betulinum. Surinam, Cayenne.

ORDER II. DIANDRIA.

1037. ANGURIA.
Three species; viz. trilobata, pedata, trifoliata. America.

1038. LEMNA, or *Duck-meat.*
Five species; viz. * gibba, * minor, * polyrhiza, * trisulca, arhiza. Europe.

ORDER III. TRIANDRIA.

1040. TYPHA, *Cat's-tail, Reed-mace.*
Two species; viz. * angustifolia, * latifolia.

1041. SPARGANIUM, or *Burr-reed.*
Four species; viz. * erectum, * natans, * ramosum, * simplex.

1042. ZEA, or *Indian* or *Turkey Wheat.*
One species; viz. mays. America.

1043. COIX, or *Job's-tears.*
One species; viz. lacryma. E. Indies.

1044. TRIPSACUM.
Two species; viz. dactyloides, hermaphroditum. Virginia, Canada, Jamaica.

1045. OLYRA.
One species; viz. latifolia. W. Indies.

1046. CAREX, or *Sedge, Cyperus-grass.*
67 species; viz. * acuta, * ampullacea, * arenaria, * atrata, * axillaris, * cæspitosa, * capillaris, * clandestina, * curta, * depauperata, * digitata, * dioica, * distans, * divisa, * divulsa, * extensa, * filiformis, * flava, * hirta, * incurva, * intermedia, * limosa, * muricata, * ovalis, * pallescens, * palludosa, * panicea, * paniculata, * pauciflora, * pendula, * pilulifera,

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fera, * præcox, * pseudocyperus, * pulicaris, * recurva, * remota, * rigida, * riparia, * stellulata, * stricta, * trigosa, * sylvatica, * teretiusculá, * vesicaria, * vulpina, capitata, squarrosa, uncinata, baldensis, uliginosa, leporina, brizoides, leliacea, elongata, canescens, indica, brunnea, pœdata, montana, tomentosa, globularis, saxatilis, tristachya, folliculata, japonica, pumila, lithosperma. Eur. Asia, Africa, America.

1047. AXYRIS.

Four species; viz. ceratoides, amaranthoides, hybrida, prostrata. Siber. Tartary.

1039. OMPHALEA.

Two species; viz. diandra, triandra. Jam.

1048. TRAGIA.

Six species; viz. volubilis, involucrata, mercurialis, urens, chamælia, cannabina. India, Virg. Carolina.

1049. HERNANDIA, or *Jack in-a-box.*

Two species; viz. sonora, ovigera. W. Indies, S. America.

1050. PHYLLANTHUS, or *Sea-side Laurel.*

Seven species; viz. grandifolia, niruri, urinaria, baccíformis, racemosa, emblica, maderaspatensis. Arab. E. and W. Ind. Carolina.

ORDER IV. TETRANDRIA.

1274. SERPICULATA.

Two species; viz. * verticillata, repens. India.

AUCUBA.

One species; viz. japonica. Japan.

1328. LITTORELLA.

One species; viz. * lacustris.

1275. CICCA.

One species; viz. disticha. India.

1052. BETULA, or *Birch-tree.*

Eight species; viz. * alba, * alnus, * nana, dalecarlica, nigra, lenta, pumila, incana. Europe, N. America.

1053. BUXUS, or *Box-tree.*

One species; viz. sempervirens.—The wood is very hard and smooth, and not apt to warp, and therefore well adapted for the use of the turner. Combs, mathematical instruments, knife handles, and button moulds are made of it. An empyreumatic oil, distilled from the shavings, is often used as a topical application for the piles, and seldom fails to procure ease. It will frequently relieve the toothach, and has been given internally in epilepsies. The leaves, powdered, destroy worms. In the south of Europe it is cultivated in gardens, and kept in flower-pots, with as much attention as we bestow upon myrtle.

1054. URTICA, or *Nettle.*

28 species; viz. * dioica, * pilulifer, * urens, balearica, dodartii, pumila, grandifolia, cannabina, alienata, cylindrica, parietaria, ciliaris, spicata, macrophylla, rhombea, æstuans, capitata, divaricata, canadensis, interrupta, nivea, baccifera, arborea, capensis, frutescens, stimulans, japonica, villosa. Europe, N. Amer. E. and W. Indies.

dioica. * U. leaves opposite, heart-shaped; bunches in pairs.—This species is the common nettle. Its stings are very curious microscopic objects: They consist of an exceedingly fine-pointed tapering hollow substance, with a perforation at the point, and a bag at the base; or they are sharp tubes seated upon a bag. When the sharp point of the tube, that is to say the sting, is pressed upon, it readily punctures the skin, and the same pressure forces up an acrimonious fluid from the bag, which is squirted into the wound, and produces an effect which most persons have experienced. The plant was formerly used as an astringent, but is now disregarded. A stalk of it, when the leaves are in their prime, put into milk, coagulates it, and may serve to prepare it for being made into cheese. A leaf, put upon the tongue, and then pressed against the roof of the mouth, is pretty efficacious in stopping a bleeding at the nose. Paralytic limbs have been recovered by stinging them with nettles. The young shoots are gathered early in the spring to boil in broth or gruel. Cows eat the leaves when they are a little withered. The leaves are cut to pieces to mix with the food of young turkeys and other poultry. Cows, horses, sheep, goats, and swine, refuse them. Asses are fond of it, and cows eat it in hay. The stalks may be dressed like flax or hemp for making cloth or paper. In Kamtschatka they make use of no other material in the manufacture of cordage or sailcloth, and linen; and consider these fabrics, when produced from nettles, as superior in every respect to those made from hemp and flax. As the nettle seems of all plants the most congenial to our soil and climate, growing in all situations both fertile and barren, in spite of every attempt to extirpate it; and as there exists no doubt, that as a material of manufacture, it is not inferior to either flax or hemp, it is a singular circumstance that it has never come into general use. This, perhaps, is chiefly to be accounted for from the difficulty of collecting its seeds and handling it: difficulties, however, which a little attention and industry would probably soon enable us to overcome.

1055. MORUS, or *Mulberry-tree.*

Seven species; viz. alba, nigra, papyrifera, rubra, indica, tartarica, tinctoria. Italy, China, Japan, America.—The mulberry is chiefly remarkable on account of the value of its leaves, as the food of that valuable insect the silk-worm. The *morus alba* or white mulberry, with leaves obliquely heart-shaped and level, grows in Britain in the open air, as far northward as the frith of Forth, and silk-worms may be fed with it. The fruit of the black mulberry has the common qualities of other sweet fruits, abating heat, quenching thirst, and promoting the grosser secretions; a syrup, made from the juice, is kept by the apothecaries. The bark of the roots has been in considerable esteem as a cure for worms; its taste is bitter and somewhat astringent.

ORDER V. PENTANDRIA.

1277. NEPHELIUM.

One species; viz. lappaceum. India.

1056. XANTHIUM, or *Lesser Burdock.*

Five species; viz. * strumarium, orientale, echinatum, spinosum, fruticosum. S. Eur. Ceylon, China, Peru.

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strumarium. * X. stem thornless; leaves heart-shaped, three-fibred.—The leaves are bitter and astringent. A decoction of the whole plant affords a showy yellow colour; but it is better if only the flowers are used. Horses and goats eat it. Cows, sheep, and swine refuse it.

1057. AMBROSIA.

Four species; viz. trifida, elatior, artemisifolia, maritima.

1058. PARTHENIUM, or *Bass Feverfew.*

Two species; viz. hysterophorus, integrifolium. Virginia, Jamaica.

1059. IVA, or *False Jesuits-bark Tree.*

Two species; viz. annua, frutescens. Virginia, Carolina, Jamaica.

1329. CLIBADIUM.

One species; viz. surinamense. Surinam.

1060. AMARANTHUS, or *Flower-gentle.*

24 species; viz. albus, græcizans, melancholicus, tricolor, polygamus, gangeticus, mangostanus, tristis, lividus, oleraceus, blitum, viridis, deflexus, polygonoides, scandens, hybridus, paniculatus, sanguineus, retroflexus, flavus, hypochondriacus, cruentus, caudatus, spinosus. Europe, E. and W. Indies, America.

1276. LEEA.

Two species; viz. æquata, crispa. Jamaica.

ORDER VI. HEXANDRIA.

1062. ZIZANIA, or *Water-oats, Tare-grass.*

Three species; viz. aquatica, palustris, terrestris. Malabar, N. America, Jamaica.

1063. PHARUS.

One species; viz. latifolius. Jamaica, S. Amer.

ORDER VII. HEPTANDRIA.

1064. GUETTARDA.

One species; viz. speciosa. Java, W. Indies.

ORDER VIII. POLYANDRIA.

1065. CERATOPHYLLUM, or *Hornwort.*

Two species; viz. * demersum, * submersum.

1066. MYRIOPHYLLUM, or *Water Milfoil.*

Two species; viz. * spicatum, * verticillatum.

1067. SAGITTARIA, or *Arrowhead.*

Five species; viz. * sagittifolia, obtusifolia, lancifolia, acutifolia, trifolia. Europe, Asia, America.

sagittifolia. * S. leaves arrow-shaped, acute.—It grows in ditches and on the banks of slow-running rivers. There is always a bulb at the lower part of the root, growing in the solid earth beneath the mud. This bulb constitutes a considerable part of the food of the Chinese, and upon that account they cultivate it. Horses, goats, and swine eat it. Cows are not fond of it.

1156. BEGONIA.

Three species; viz. ferruginea, capensis, urtica. Cape, E. and W. Indies.

1068. THELIGONUM, or *Dogs-cabbage.*

One species; viz. cynocrambe. S. of Europe.

1069. POTERIUM, or *Garden Burnet.*

Three species; viz. * sanguisorba, hybridum, spinosum.

sanguisorba. * P. without thorns; stems somewhat angular.—The leaves and seeds of this plant are mildly astringent, and have been used in dysenteries and hemorrhagies. The seeds, when bruised, smell like cucumbers. There are large tracts of the finest parts of what are called the *South Downs* in England, upon which this plant forms half the indigenous pasturage. It seems to grow naturally (without being sown) only on chalky soils; but it will flourish, when sown, on any soil; on sand, clay, peat, &c. It is chiefly valuable for sheep pastures that are to be kept fully stocked. It forms a fine herbage when close bitten; but when suffered to run to a height it is rather coarse.

1070. QUERCUS, or *Oak-tree.*

20 species; viz. * phellos, molucca, glabra, acuta, glauca, cuspidata, serrata, ilex, suber, coccifera, prinus, dentata, nigra, rubra, alba, esculus, * robur, egilops, cerris, * femina.

robur. * Q. leaves on leaf-stalks, oblong, broadest towards the end; indentations rather acute, angles blunt; fruit nearly sitting.

femina. * Q. leaves oblong, on short leaf-stalks, blunt, wing-cleft, with indentations; fruit mostly solitary, on long fruitstalks. *Withering*, vol. iii. p. 387. The oak is a native of the temperate climates. It loves hilly better than boggy ground, and thrives best, while young, in large plantations. Its roots descend deep into the earth, and therefore will not bear to be transplanted. Much lopping destroys it. Grass will hardly grow beneath it. The wood is hard, tough, tolerably flexible, not easily splintering; and therefore is preferred before all other timber for building ships of war. It is well adapted to almost every purpose of the carpenter; but an attempt to enumerate the uses of this well-known wood, would be equally superfluous and difficult. Oak saw-dust is the principal indigenous vegetable used in dyeing fustian. All the varieties of drabs and different shades of brown are made with oak saw-dust, differently managed and compounded. The balls or oak apples are likewise used in dyeing, as a substitute for galls. The black, got from them by the addition of copperas, is more beautiful than that from galls, but not so durable. The bark is universally used to tan leather; and it is said, that the saw-dust has been used for the same purpose with equal success. The bark is used to make writing ink. Its astringent properties might be rendered useful in medicine. An infusion of it, with a small quantity of copperas, is used by the common people to dye woollen of a purplish blue: the colour, though not very bright, is durable. The balls or galls upon the leaves, are occasioned by a small insect with four wings, called *cynips quercifolii*, which deposits an egg in the substance of the leaf by making a small perforation in the under surface. The ball presently begins to grow, and the egg in the centre of it changes to a worm; this worm again changes to a nymph, and the nymph to the flying insect, with four wings. Horses, cows, sheep, and goats, eat the leaves. Swine and deer fatten on the acorns. The oak grows in a good soil sometimes to a most immense size. At Little Shelsley in Worcestershire,

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shire, an oak measured close to the ground nearly 48 feet, and about two yards from the ground 22 feet four inches. Lightfoot mentions one growing near Ludlow in Shropshire in 1764, the trunk of which measured 68 feet in girth, and 23 in length; so that allowing 90 square feet for the larger branches, it contained 1455 feet of timber. An oak near Welbeck measured in girth, at 11 feet from the ground, 38 feet; and one growing at Cowthorpe near Wetherby, Yorkshire, measured 48 feet in circumference at three feet from the ground, and 78 feet close to the ground.

1071. JUGLANS, or *Walnut-tree.*

Five species; viz. regia, alba, nigra, cinerea, baccata. Persia, N. America.—This tree, when planted in Scotland, seldom ripens its fruit.

1072. FAGUS, or *Beech, Sweet Chesnut.*

Three species; viz * castanea, pumila, * sylvatica. Europe, N. America.

castanea. * F. leaves spear-shaped, with tapering serratures, naked underneath.—In the shade of this species, called the *chesnut*, nothing will thrive. The wood is applicable to the same uses that oak is. Pipes made of it to convey water under ground, are said to last longer than those made of oak. Poles for espaliers, &c. made of it without removing the bark, also last very long. Some of the oldest buildings in London are said to be constructed of the wood of the chesnut tree. At Tortworth in Gloucestershire, is said to be a tree 52 feet round, which is proved to have stood since the year 1150, and was then very old. It is supposed to be 1100 years old. In 1759, its girth, at six feet from the ground, was 46 feet six inches. The nuts are used to whiten linen cloth, and to make starch. They constitute a great proportion of the food of the common people in the south of Europe; and hogs, feeding on them as they run wild in the forests, are reckoned particularly excellent.

sylvatica. * F. leaves egg-shaped; indistinctly serrated. *Common beech.*—This tree is large and beautiful, but no verdure is found under its shade. It retains its old leaves during the winter, and may be trained to form very lofty hedges. The wood is brittle, soon decays in the air, but endures under water. It is formed into tool handles, planes, mallets, chairs, and bedsteads. Split into thin layers, it is used to make scabbards for swords. It is excellent fuel, and its ashes afford much potash. The leaves, gathered in autumn before they are much injured by frost, make much better mattresses than straw or chaff, and last seven or eight years. The nuts or mast, when eaten, occasion giddiness and headach; but when well dried and powdered, make wholesome bread. They are sometimes roasted and substituted for coffee. They fatten swine, and are devoured greedily by mice, squirrels, and birds. The poor people in Silesia use the expressed oil instead of butter. Sheep and goats eat the leaves.

1073. CARPINUS, *Hornbeam-tree.*

Two species; viz. * betulus, ostrya. Europe, N. America.

betulus. * C. scales of the cones flat.—This, which is the common hornbeam, loves a poor stiff soil on the sides of hills, is easily transplanted, and bears lopping. Cattle eat the leaves, but no pasture grows under its shade. The wood burns like a candle: it is very white, very tough, harder than hawthorn, and capable of supporting a great weight. It is useful in turning, and for many implements of husbandry. Cogge for millwheels made of it are superior to those of yew. The inner bark is used in Scandinavia to dye yellow.

1074. CORYLUS, *Hazel*, or *Nut-tree.*

Two species; viz. * avellana, colurna. Europe, N. America.

avellana. * C.—This wood is profitably planted in many places in hedges and coppices, for the purpose of cutting down portions in rotation, to be converted into charcoal for forges. The wood is used for fishing-rods, walking-sticks, hoops, &c. The roots are preferred where beautiful wood is wanted for inlaying or staining. It is a practice in Italy, to put chips of hazel into turbid wine to clear it, which it does in 24 hours. In countries where yeast is scarce, they twist together hazel twigs, so as to leave a multitude of chinks: these they steep in their ale while it is fermenting; then hang them up to dry, and when they brew again they put them into the wort instead of yeast. Charcoal of hazel, when used in drawing, leaves stains which are easily rubbed out. The nuts, which are agreeable to most people, afford, by pressure, an oil for the use of painters.

1075. PLATANUS, or *Plane-Tree.*

Two species; viz. orientalis, occidentalis. Levant, N. America.

1076. LIQUIDAMBAR, or *Sweet Gum.*

Two species; viz. styraciflua, peregrina. Levant, N. America.—The resinous juice of the former of these species, brought from America, was once used as a perfume, but is now neglected.

ORDER IX. MONADELPHIA.

1077. PINUS, or *Pine-tree.*

12 species; viz. * sylvestris, pinea, tæda, cembra, strobus, cedrus, larix, picea, balsamea, canadensis, abies, orientalis. Europe, north of Asia, America.

sylvestris. * P. leaves in long pairs, rigid; cones egg-conical, mostly in pairs, as long as the leaves; scales oblong, blunt. *Scotch fir.*—This species, which is a native of our island, flourishes best on a poor sandy soil. In a grove the trunk is tall and naked; in open places branched. It does not bear the least clipping, as the terminating buds send forth the branches. The roots spread near the surface of the earth, except the central root, which pushes perpendicularly downwards. If it is either broken off or interrupted in its passage, the stem ceases to shoot upwards, and the tree remains a dwarf. Hence is is apt to suffer by transplanting. The bark will tan leather. In the north of Europe bread is thus made from it by the inhabitants: They choose a straight tree, as these have least resin, and strip off the bark in the spring, when it separates most readily. This they first dry gently in the shade; then in a greater heat, and reduce it to powder. With this powder they mix a small quantity of corn meal, and with water they knead it into bread. This they eat, not only in times of scarcity, but at other times, from an apprehension, that long disuse might render it disagreeable

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agreeable to them. Their children are very fond of the fresh bark in the spring time, either shaved with a knife or grated with a rasp. The young shoots, distilled, afford a fragrant essential oil. Sheep and goats are not fond of it. Horses refuse it. Burnt with a close smothering fire, the wood of this species yields tar. The species called *larix* has risen into considerable reputation in this country, on account of its beauty, rapid growth, and the value of the timber. It is extremely hardy, growing in Siberia almost to the coasts of the Icy sea; but this very hardiness, or capacity of vegetating with a very small degree of heat, renders it in this country delicate when young. The first warmth of the spring is sufficient to bring forth its buds, which are thus, by the unsteadiness of our climate, exposed to frequent pernicious frosts. In this way nurserymen often suffer great losses by the larix, in consequence of an early spring and a premature vegetation, which is afterwards nipt by frosty weather. From the trees of the genus *pinus* the different turpentines are extracted by bleeding the trees, by wounds in the bark or branches.

1079. CUPRESSUS, or *Cypress-tree.*
Six species; viz. sempervirens, disticha, thyoides, juniperoides, pendula, japonica. Crete, Cape, Japan, N. America.

1080. PLUKENETIA.
One species; viz. volubilis. E. and W. Indies.

1081. DALECHAMPIA.
Two species; viz. colorata, scandens. W. Indies, New Granada.

1082. AGALYPHA.
Five species; viz. virginica, virgata, indica, villosa, australis. N. America, E. and W. Indies.

1083. CROTON, or *Base Ricinus, Tallow-tree.*
23 species; viz. variegatum, cascarilla, castaneifolium, palustre, glabellum, tinctorium, glandulosum, argenteum, sebiferum, japonicum, acutum, tiglium, lucidum, lacciferum, balsamiferum, aromaticum, humile, ricinocarpus, moluccanum, flavens, capense, lotum, spinosum. China, Japan, W. Indies, N. America.

279. CUPANIA.
One species; viz. americana. West Indies, Cozomandel.

1084. JATROPHA, or *Cassada, Manihot.*
Nine species; viz. gossypifolia, moloccana, curcas, multifida, manihot, janipha, urens, herbacea, elastica. Africa, S. America.

1085. RICINUS.
Four species; viz. inermis, communis, tanarius, mappa. Vera Cruz.—The species called *R. communis* produces nuts about the size of small beans, which like bitter almonds are deleterious. An oil is obtained from them by expression, called *castor oil*, which is used as a safe and mild laxative; half an ounce or an ounce for an adult, and a dram for an infant.

1086. STERCULIA.
Three species; viz. balanghas, fœtida, platanifolium. Arabia, E. and W. Indies, China.

1087. HURA, or *Sandbox-tree.*
One species; viz. crepitans. Mexico, W. Indies.

1088. HIPPOMANE.
Three species; viz. mancinella, biglandulosa, spinosa.

1278. GNETUM.
One species; viz. gnemon. India.

1279. STILLINGIA.
One species; viz. sylvatica. Carolina.

ORDER X. SYNGENESIA.

1089. TRICHOSANTHES, or *Serpent-cucumber.*
Four species; viz. anguina, nervifolia, cucumerina, amara. E. Indies, China.

1090. MOMORDICA, or *Male Balsam-apple.*
Eight species; viz. balsamina, charantia, operculata, luffa, cylindrica, trifolia, pedata, elaterium. S. Europe, India, America.

1091. CUCURBITA, or *Gourd.*
Seven species; viz. lagenaria, hispida, ovifera, pepo, verrucosa, melopepo, citrullus. E. and W. Indies, America.

1092. CUCUMIS, or *Cucumber.*
13 species; viz. colocynthis, prophetarum, anguria, africanus, acutangulus, melo, dudaim, chate, sativus, anguinus, flexuosus, conomon, maderaspatanus. Levant, India, Africa, Jamaica.—The species called *sativus*, is the ordinary garden cucumber. It is less apt to grow rancid by keeping than others of the class. The *C. colocynthis*, called *coloquintida* or bitter apple, is a native of Turkey. The fruit is about the size of an orange. Its medullary part, freed from the rind and seeds, is light, white, and spongy, composed of membranous leaves, of an extremely bitter, nauseous, acrimonious taste. Colocynth is one of the most powerful and violent cathartics; but is accounted dangerous by the best physicians. The best mode of abating its virulence, consists of triturating it with gummy farinaceous substances, or oily seeds. Without this precaution, a few grains of it will often disorder the body, and even occasion a discharge of blood. The *C. melo* is used in hot countries as a cooling and agreeable food.

1093. BRYONIA, or *Bryony.*
11 species; viz. alba, * dioica, palmata, grandis, cordifolia, laciniosa, africana, cretica, scabra, scabrella, laponica. Crete, Africa, E. Indies.
* *dioica*, B. leaves hand-shaped, rough on both sides, with callous points; male and female flowers on different plants.—The root is purgative and acrid. A dram of it in substance, or half an ounce of it infused in wine, is a full dose. A cold infusion of the root in water is used externally in sciatic pains. A cataplasm of it is a most powerful discutient. A decoction, made with one pound of the fresh root, is the best purge for horned cattle. The plant is rough, growing on dry banks under hedges, and climbing upon the bushes. The roots are large, sometimes as thick as a man's thigh. Their juice, when fresh, soon excoriates the skin, but in drying they lose much of their acrimony.

1094.

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1094. SICYOS, or *Single-seeded Cucumber.*
Three species; viz. angulata, laciniata, garcini. America.

ORDER XI. GYNANDRIA.

1695. ANDRACHNE, or *Base Orpine.*
Two species; viz. telephioides, fruticosa. Italy, Levant, Egypt.

1320. AGYNEIA.
Two species; viz. impubes, pubera. China.

In the class Monœcia are

78 Genera, including 392 Species, of which 83 are found in Britain.

CLASSIS XXII.

DIOECIA (M).

ORDO I. MONANDRIA.

1430. PANDANUS. (1) Cal. o. Cor. o. Anthera sessilis, ramificationibus thyrsi inserta. (2) Cal. o. Cor. o. Stigmata 2. Fruct. compositus.

1096. NAJAS. (1) Cal. 2-fidus. Cor. 4-fida. Filam. nullum. (2) Cal. nullus. Cor. o. Pist. 3. Caps. 1-locularis.

ORDO II. DIANDRIA.

1097. VALLISNERIA. (1) Spath. multiflora, 2-part. Cor. 3-partita. (2) Spath. 1-flora. Cal. 3-part. Cor. 3-pet. Pist. 1. Caps. 1-locularis.

1099. CECROPIA. (1) Spath. recept. comm. Cor. null. (2) Spath. recept. comm. Cor. o. Pist. 1. Bacca 1-sperma.

* 1098. SALIX. (1) Ament. squama. Cor. nulla. Stam. 2, raro 5. (2) Ament. squama. Cor. o. Stigm. 2. Caps. 2-valvis. Sem. papposa.

ORDO III. TRIANDRIA.

* 1100. EMPETRUM. (1) Cal. 3-partitus. Cor. 3-petala. (2) Cal. 3-partitus. Cor. 3-pet. Styl. 9. Bacca 9-sperma.

1101. OSYRIS. (1) Cal. 3-fidus. Cor. nulla. (2) Cal. 3-fidus. Cor. o. Styl. o. Drupa 1-locularis.

1280. CATURUS. (1) Cal. o. Cor. 3-fida. (2) Cal. 3-partitus. Cor. o. Styl. 3. Caps. 3-cocca.

1102. EXCOECARIA. (1) Ament. squama. Cor. nulla. (2) Ament. squama. Cor. o. Styl. 3. Caps. 3-cocca.

1331. RESTIS. (1) Ament. squama. Cor. 6-petala. (2) Ament. squama. Cor. 6-petala. Styl. 3. Caps. 3-locularis, plicata, polysperma.

1431. MABA. (1) Cal. 3-fidus. Cor. 3-fida. (2) Cal. ut in mare. Drupa supera, 2-locularis.

CLASS XXII.

DIOECIA.

ORDER I. MONANDRIA.

P. (1) No cal. No cor. Anthers sitting, inserted in the ramifications of a cluster. (2) No cal. No cor. Stigmas 2. Fruit compound.

N. (1) Cal. 2-cleft. Cor. 4-cleft. No filam. (2) No cal. No cor. Pist. 3. Caps. 1-celled.

ORDER II. DIANDRIA.

V. (1) Sheath many-flowered, 2-parted. Cor. 3-parted. (2) Sheath 1-flowered. Cal. 3-parted. Cor. 3-pet. Pist. 1. Caps. 1-celled.

C. (1) Sheath common receptacle. No Cor. (2) Sheath common receptacle. No cor. Pist. 1. Berry 1-seeded.

* S. (1) Catkin a scale. No cor. Stam. 2. rarely 5. (2) Catkin a scale. No cor. Stigm. 2. Caps. 2-celled. Seed downy.

ORDER III. TRIANDRIA.

* E. (1) Cal 3-parted. Cor. 3-petaled. (2) Cal. 3-parted. Cor. 3-pet. Styl. 9. Berry 9-seeded.

O. (1) Cal. 3-cleft. No cor. (2) Cal. 3-cleft. No cor. No styl. Drupe 1-celled.

C. (1) No cal. Cor. 3-cleft. (2) Cal. 3-parted. No cor. Styl. 3. Caps. 3-celled.

E. (1) Catkin a scale. No cor. (2) Catkin a scale. No cor. Styl. 3. Caps. 3-celled.

R. (1) Catkin a scale. Cor. 6-petaled. (2) Catkin a scale. Cor. 6-petaled. Styles 3. Caps. 3-celled, plaited, many-seeded.

M. (1) Cal. 3-cleft. Cor. 3-cleft. (2) Cal. as in the male. Drupe superior, 2-celled.

ORDO

(M) In this class the male and female flowers are found on different plants; and every plant belonging to this class is either male or female. None are hermaphrodite; i. e. no one plant bears flowers containing stamens, and also flowers containing pistils.

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Ordo IV. TETRANDRIA.

* 1106. Hippophae. (1) Cal. 2-partitus. Cor. nulla. (2) Cal. 2 fidus. Cor. 0. Pist. 1. Bacca 1-sperma, arillo truncato.

1103. Trophis. (1) Cal. nullus. Cor. 4-petala. (2) Cal. nullus. Cor. 0. Styl. bifid. Bacca 1-sperma.

* 1105. Viscum. (1) Cal. 4-partitus. Cor. nulla. (2) Cal. 4-phyllus. Cor. 0. Stigma obtus. Bacca 1-sperma, infera.

1432. Moninia. (1) Cal. 4-dentatus, superus. Petala 4. (2) Cal. et cor. ut in mare. Filamenta sterilia. Styl. 2-fidus. Caps. oblonga, 2-locularis.

1104. Batis. (1) Amentum. Cor. nulla. (2) Invol. 2-phyllum. Cor. 0. Stigm. 2-fid. Bacca 2-sperm.

* 1107. Myrica. (1) Ament. squama. Cor. nulla. (2) Ament. squama. Cor. 0. Styl. 2. Bacca 1-sperma.

Urticæ variæ. Morus nigra. Rhamnus.

Ordo V. PENTANDRIA.

1113. Iresine. (1) Cal. 2-phyllus. Cor. 5-petala. Nectar. 5-phyllum. (2) Cal. 2-phyllus. Cor. 5-pet. Styl. 2. Caps. polysperma.

1115. Cannabis. (1) Cal. 5-partitus. Cor. nulla. (2) Cal. 1-phyllus. Cor. 0. Styl. 2. Nux.

1116. Humulus. (1) Cal. 5-phyllus. Cor. nulla. (2) Cal. 1-phyllus. Cor. 0. Styl. 2. Sem. calyce alatum.

1108. Pistacia. (1) Cal. 5-fidus. Cor. nulla. (2) Cal. 3-fidus. Cor. 0. Styl. 3. Drupa sicca.

1117. Zanonia. (1) Cal. 3-phyllus. Cor. 5-partita. (2) Cal. 3-phyllus. Cor. 5-part. Styl. 3. Bacca infera, 3-locularis.

1112. Spinacia. (1) Cal. 5-partitus. Cor. nulla. (2) Cal. 4-fidus. Cor. 0. Styl. 4. Sem. 1, calycinum.

1114. Acnida. (1) Cal. 5-phyllus. Cor. nulla. (2) Cal. 2-phyllus. Cor. 0. Styl. 5. Sem. 1, calyce vesicario.

1110. Antidesma. (1) Cal. 5-phyllus. Cor. nulla. (2) Cal. 5-phyllus. Cor. 0. Stigm. 5. Bacca 1-sperma.

1111. Astronium. (1) Cal. 5-phyllus. Cor. 5-petala. Nectar. glandulis 5. (2) Cal. 5-phyllus. Cor. 5-petala. Styl. 5. Sem. 1.

1281. Canarium. (1) Cal. 2-phyllus. Cor. 3-petala. (2) Cal. 2-phyllus. Cor. 3-petala. Stigma sessile. Drupa.

1109. Zanthoxylon. (1) Cal. 5-partitus. Cor. nulla. (2) Cal. 5-partitus. Cor. 0. Pist. 5. Caps. 1-sperma.

1118. Fewillea. (1) Cal. 5-partitus. Cor. 5-fida. Nectarium filamentis 5. (2) Cal. 5-fidus. Cor. 5 fid. Styl. 5. Bacca infera.

Phylica dioica. Rhamnus alaternus. Salix pentandra.

Ordo VI. HEXANDRIA.

1120. Smilax. (1) Cal. 6-phyllus. Cor. nulla. (2) Cal. 6-phyllus. Cor. 0. Styl. 3. Bacca supera, 3-locularis.

Order IV. TETRANDRIA.

* H. (1) Cal. 2-parted. No cor. (2) Cal. 2-cleft. No cor. Pist. 1. Berry 1-seeded, with a lopped seed-coat.

T. (1) No cal. Cor. 4-petaled. (2) No cal. No cor. Styl. 2-cleft. Berry 1-seeded.

* V. (1) Cal. 4-parted. Cor. none. (2) Cal. 4-leaved. No cor. Stigma obtuse. Berry 1-seeded, inferior.

M. (1) Cal. 4-toothed, superior. Petals 4. (2) Cal. and cor. as in the male. Filam. barren. Styl. 2-cleft. Caps. oblong, 2-celled.

B. (1) Catkin. No cor. (2) Invol. 2-leaved. No cor. Styl. 2-cleft. Berry 2-seeded.

* M. (1) Catkin a scale. No cor. (2) Catkin a scale. No cor. Styl. 2. Berry 1-seeded.

Order V. PENTANDRIA.

I. (1) Cal. 2-leaved. Cor. 5-petaled. Nectary 5-leaved. (2) Cal. 2-leaved. Cor. 5-pet. Styl. 2. Caps. many-seeded.

C. (1) Cal. 5-parted. No cor. (2) Cal. 1-leaved. No cor. Styles 2. Nut.

* H. (1) Cal. 5-leaved. No cor. (2) Cal. 1-leaved. No cor. Styles 2. Seed winged in a calyx.

P. (1) Cal. 5-cleft. No cor. (2) Cal. 3-cleft No cor. Styl. 3. Drupe dry.

Z. (1) Cal. 3-leaved. Cor. 5-parted. (2) Cal. 3-leaved. Cor. 5-parted. Styl. 3. Berry inferior, 3-celled.

S. (1) Cal. 5-parted. Cor. none. (2) Cal. 4-cleft. No cor. Styl. 4. One seed, cup-like.

A. (1) Cal. 5-leaved. No cor. (2) Cal. 2-leaved. No cor. Styl 5. Seed 1, with a bladder-like cup.

A. (1) Cal. 5-leaved. No cor. (2) Cal. 5-leaved. No cor. Stigm. 5. Berry 1-seeded.

A. (1) Cal. 5-leaved. Cor. 5-petaled. Nectary with 5 glands. (2) Cal. 5-leaved. Cor. 5-petaled. Styl. 5. Seed 1.

C. (1) Cal. 2-leaved. Cor. 3-petaled. (2) Cal. 2-leaved. Cor. 3-petaled. Stigma sitting. Drupe.

Z. (1) Cal. 5-parted. No cor. (2) Cal. 5-parted. No cor. Pist. 5. Caps. 1-seeded.

F. (1) Cal. 5-parted. Cor. 5 cleft. Nectary with 5 filaments. (2) Cal. 5-cleft. Cor. 5-cleft. Styl. 5. Berry inferior.

Order VI. HEXANDRIA.

S. (1) Cal. 6-leaved. No cor. (2) Cal. 6-leaved. No cor. Styl. 3. Berry superior, 3-celled.

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* 1119. TAMUS. (1) Cal. 6-phyllus. Cor. nulla. (2) Cal. 6-phyllus. Cor. 0. Styl. 3-fid. Bacca infera, 3-locularis.

1122. DIOSCOREA. (1) Cal. 6-phyllus. Cor. nulla. (2) Cal. 6-phyllus. Cor. 0. Styl. 3. Caps. supera, 3-locularis.

1121. RAJANIA. (1) Cal. 6-phyllus. Cor. nulla. (2) Cal. 6-phyllus. Cor. 0. Styl. 3. Sem. inferum, ala aurita.

Rumex acetosa. Acetosella aculeatus.

ORDO VII. OCTANDRIA.

* 1123. POPULUS. (1) Ament. lacerum. Cor. 0. Nect. ovat. Stam. 8-16. (2) Ament. lacerum. Cor. 0. Stigm. 4-fid. Cap. 2-valvis. Sem. papposa.

* 1124. RHODIOLA. (1) Cal. 4-partitus. Cor. 4-petala. (2) Cal. 4-partitus. Cor. 0. Pist. 4. Caps. 4, polyspermæ.

1133. MARGARITARIA. (1) Cal. 4-dentatus. Cor. 4-petala. (2) Cal. et cor. ut in mare. Styl. 4 s. 5. Bacca cartilaginea 4-5-cocca.

Laurus nobilis. Acer rubrum. Loranthus Europæus.

ORDO VIII. ENNEANDRIA.

* 1125. MERCURIALIS. (1) Cal. 3-phyllus. Cor. nulla. Stam. 9-12. (2) Cal. 3-phyllus. Cor. 0. Styl. 2. Caps. 2-cocca.

* 1126. HYDROCHARIS. (1) Cal. 3-phyllus. Cor. 3-petala. (3) Cal. 3-phyllus. Cor. 3-pet. Styl. 6. Caps. infera, 6-locul.

Laurus, an omnis?

ORDO IX. DECANDRIA.

1127. CARICA. (1) Cal. sub-nullus. Cor. 5-fida. (2) Cal. 5-dentatus. Cor. 5-pet. Stigm. 8. Bacca polysperma.

1128. KIGGELARIA. (1) Cal. 5-partitus. Cor. 5-petala. Nect. glandulæ 5. (2) Cal. 5-partitus. Cor. 5-pet. Styl. 5. Caps. 5-valvis.

1129. CORIARIA. (1) Cal. 5-phyllus. Cor. 5-petala. (2) Cal. 5-phyllus. Cor. 5-petala. Styl. 5. Bacca 5-sperma, petalina.

1130. SCHINUS. (1) Cal. 4-fidus. Cor. 5-petala. (2) Cal. 5-fidus. Cor. 4-petala. Bacca 3-cocca.

Lychnis dioica. Cucubalus otites. Guilandina dioica. Phytolacca dioica.

ORDO X. DODECANDRIA.

EUCLEA. (1) Cal. 5-dentatus. Cor. 5-petala. Stam. 15. (2) Cal. 5-dentatus. Cor. 5-pet. Styl. 2.

1131. MENISPERMUM. (1) Cal. 2-phyllus. Cor. 12-petala. (2) Cal. 6-phyllus. Cor. 6-petala. Bacca 3-cocca.

1132. DATISCA. (1) Cal. 5-phyllus. Cor. nulla. Antheræ sessiles 15. (2) Cal. dentatus, superus. Cor. 0. Caps. 1-locularis, polysperma.

ORDO XI. POLYANDRIA.

1133. CLIFFORTIA. (1) Cal. 3-phyllus. Cor. nulla. (2) Cal. 3-phyllus. Cor. 0. Styl. 2. Caps. 2-cocc. infera.

* T. (1) Cal. 6-leaved. No cor. (2) Cal. 6-leaved. Cor. 0. Styl. 3-cleft. Berry inferior, 3-celled.

D. (1) Cal. 6-leaved. Cor. 0. (2) Cal. 6-leaved. Cor. 0. Styles 3. Caps. superior, 3-celled.

R. (1) Cal. 6-leaved. Cor. 0. (2) Cal. 6-leaved. Cor. 0. Styles 3. Seed inferior.

ORDER VII. OCTANDRIA.

* P. (1) Catkin ragged. Cor. 0. Nect. oval. Stam. 8-16. (2) Catkin ragged. Cor. 0. Stigma 4-cleft. Caps. 2-valved. Seeds downy.

* R. (1) Cal. 4-parted. Cor. 4-petaled. (2) Cal. 4-parted. Cor. 0. Pist. 4. Caps. 4, many-seeded.

M. (1) Cal. 4-toothed. Cor. 4-petaled. (2) Cal. and cor. as in the male. Styles 4 or 5. Cartilaginous berry, 4 or 5-celled.

ORDER VIII. ENNEANDRIA.

* M. (1) Cal. 3-leaved. Cor. 0. Stam. 9 to 12. (2) Cal. 3-leaved. Cor. 0. Styles 2. Caps. 2-celled.

* H. (1) Cal. 3-leaved. Cor. 3-petaled. (2) Cal. 3-leaved. Cor. 3-petaled. Styles 6. Caps. inferior, 6-celled.

ORDER IX. DECANDRIA.

C. (1) Cal. nearly one. Cor. 5-cleft. (2) Cal. 5-toothed. Cor. 5-petaled. Stigm. 8. Berry many-seeded.

K. (1) Cal. 3-parted. Cor. 5-petaled. Nectary glands 5. (2) Cal. 5-parted. Cor. 5-pet. Styles 5. Caps. 5-valved.

C. (1) Cal. 5-leaved. Cor. 5-petaled. (2) Cal. 5-leaved. Cor. 5-pet. Styles 5. Berry 5-seeded, petal-like.

S. (1) Cal. 4-cleft. Cor. 5-petaled. (2) Cal. 5-cleft. Cor. 5-petaled. Berry 3-celled.

ORDER X. DODECANDRIA.

E. (1) Cal. 5-toothed. Cor. 5-petaled. Stam. 15. (2) Cal. 5-toothed. Cor. 5-petaled. Styles 2.

M. (1) Cal. 2-leaved. Cor. 12-petaled. (2) Cal. 6-leaved. Cor. 6-petaled. Berry 3-celled.

D. (1) Cal. 5-leaved. Cor. 0. Anthers sitting 15. (2) Cal. 2-toothed, superior. Cor. 0. Caps. 1-celled, many-seeded.

ORDER XI. POLYANDRIA.

C. (1) Cal. 3-leaved. No cor. (2) Cal. 3-leaved. No cor. Styles 2. Caps. 2-celled, inferior.

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1434. HEDYCARIA. (1) Cal. 8 s. 10-fidus. Cor. 0. Filamenta 0. Antheræ in fundo calycis, 4-sulcæ, apice barbatæ. (2) Cal. et cor. maris. Germina pedicellata. Nuces pedicellatæ, monospermæ.

Clematis dioica. Thalictrum dioicum. Stratiotes aloides.

H. (1) Cal. 8 or 10-cleft. Cor. 0. Filam. 0. Anth. in the bottom of the calyx, 4-furrowed, barbed at the point. (2) Cal. and cor. like the male. Germens pedicled. Nuts pedicled, 1-seeded.

ORDO XII. MONADELPHIA.

ORDER XII. MONADELPHIA.

* 1134. JUNIPERUS. (1) Ament. Cor. nulla. Stam. 3. (2) Cal. 3-partitus. Cor. 3-pet. Styl. 3. Bacca infera, 3-sperma, calycina.

* J. (1) Catkin. No cor. Stam. 3. (2) Cal. 3-parted. Cor. 3-petaled. Styles 3. Berry inferior, 3-seeded, cup-like.

* 1135. TAXUS. (1) Cal. 4-phyllus. Cor. nulla. Antheræ 8-fidæ. (2) Cal. 4-phyllus. Cor. 0. Stigm. 1. Bacc. 1-sperma, recutita.

* T. (1) Cal. 4-leaved. Cor. 0. Anthers 8-cleft. (2) Cal. 4-leaved. Cor. 0. Stigm. 1. Berry 1-seeded, bent back.

1136. EPHEDRA. (1) Ament. 2-fidum. Cor. nulla. Stam. 7. (2) Cal. imbricatus. Cor. 0. Pist. 2. Bacca 2-sperma, calycina.

E. (1) Catkin 2-cleft. Cor. 0. Stam. 7. (2) Cal. tiled. Cor. 0. Pist. 2. Berry 2-seeded, cup-like.

1138. CISSAMPELOS. (1) Cal. nullus. Cor. 4-petala. Stam. 4. (2) Cal. nullus. Cor. 0. Stam. 3. Bacca 1-sperma.

C. (1) Cal. 0. Cor. 4-petaled. Stam. 4. (2) Cal. 0. Cor. 0. Stam. 3. Berry 1-seeded.

838. NAPÆA. (1) Cal. 5-fidus. Cor. 5-petala. Stam. plurima. Styl. plures. (2) Cal. 5-fidus. Cor. 5-petala. Stam. plur. effœta. Styli plures. Arilli 10 in orbem.

N. (1) Cal. 5-cleft. Cor. 5-petaled. Stam. many. Styles many. (2) Cal. 5-cleft. Cor. 5-petaled. Stam. many, feeble. Styles many. Seed-coats 10 in a circle.

1137. ADELIA. (1) Cal. 3-partitus. Cor. nulla. Stam. 20. (2) Cal. 5-partitus. Cor. 0. Styl. 3. Caps. 3-cocca.

A. (1) Cal. 3-parted. Cor. 0. Stamens 20. (2) Cal. 5-parted. Cor. 0. Styles 3. Caps. 3-celled.

Napæa dioica.

ORDO XIII. SYNGENESIA.

ORDER XIII. SYNGENESIA.

1139. RUSCUS. (1) Cal. 6-phyllus. Cor. nulla. Stam. 5. (2) Cal. 6-phyllus. Cor. 0. Pist. 1. Bacca 3-locularis, 2-sperma.

R. (1) Cal. 6-leaved. Cor. 0. Stamens 5. (2) Cal. 6-leaved. Cor. 0. Pist. 1. Berry 3-celled, 2-seeded.

Gnaphalium dioicum. Bryonia dioica.

ORDO XIV. GYNANDRIA.

ORDER XIV. GYNANDRIA.

1140. CLUTIA. (1) Cal. 5-phyllus. Cor. 5-petala. Stam. 5. (2) Cal. 5-phyllus. Cor. 5-pet. Styl. 3. Caps. 3-cocca.

C. (1) Cal. 5-leaved. Cor. 5-petaled. Stamens 5. (2) Cal. 5-leaved. Cor. 5-petaled. Styles 4. Caps. 3-celled.

ORDER I. MONANDRIA.

1430. PANDANUS, or *Screw-pine.*
One species; viz. odoratissima. East Indies, South sea isles.

1096. NAJAS.
One species; viz. marina. Europe.

ORDER II. DIANDRIA.

1097. VALLISNERIA.
One species; viz. spiralis. Italy.

1099. CECROPIA, or *Trumpet-tree.*
One species; viz. peltata. Jamaica.

1098. SALIX, or *Willow.*
34 species; viz. * acuminata, * alba, * amygdalina, * aurita, * caprea, * cinerea, * fragilis, * fusca, * herbacea, * lanata, * lapponum, * monandra, * myrsinites, * pentandra, * repens, * reticulata, * retusa, * rosmarinifolia, * rubra, * triandra, * viminalis, * vitellina, phylicifolia, japonica, hastata, ægyptiaca, babylonica, helix, arbuscula, myrtilloides, integra, glauca, arenaria, incubacea. Europe, America.

* S. leaves strap-shaped, upper leaves oblique; catkins downy; one stamen.—*Rose willow*, or *purple willow.* Withering. Called by Linnæus *S. purpurea.* Baskets, cradles, and all sorts of twig-work are made of its long, slender, and flexible shoots. *monandra*

* S. leaves oblong, spear-shaped; flowers with three stamens, sometimes two. *Smooth willow.*—The bark, in doses of one or two drams, cures agues. *triandra*

* S. leaves egg-shaped, acute; flowers with five stamens. *Sweet willow*, or *bay-leaved willow.* Called by Linnæus *S. hermaphroditica.* The wood crackles greatly in the fire. The dried leaves afford a yellow dye. Used in Yorkshire to make the large sort of baskets. *pentandra*

* S. leaves egg-spear-shaped, acute, smooth above, ser- *vitellina;*

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rature like gristle. *Yellow willow.*—The wood is white and very tough. The shoots are used by basket-makers.

fragilis. * S. leaves egg-spear-shaped; leaf-stalks toothed with glands. *Crack willow.*—A quick grower, and bears cropping. Thrives in any soil if moist. The bark in doses of one or two drams cures agues.

rubra. * S. leaves strap-spear-shaped, acute. *Red willow.*—The twigs much sought after by basket-makers.

viminalis. * S. leaves spear-strap-shaped, very long, acute, silky underneath; branches rod-like. *Ozier.*—Much used for making hoops, and the larger baskets. Is planted to prevent the banks of rivers from being washed away by torrents.

alba. * S. leaves spear-shaped, tapering to a point, serrated, downy on both sides; the lowermost serratures glandular. *White willow.* Grows quick, and bears lopping. The bark collected in summer when full of sap, and dried by a gentle heat, is extremely valuable, as a substitute for Peruvian bark, in the cure of intermittent fevers. It will tan leather. Horses, cows, sheep, and goats, eat the leaves and young shoots. If a shady walk with willows is wanted, male sets only ought to be planted, otherwise they will speedily multiply so as to form a thicket instead of a grove.

Order III. TRIANDRIA.

1100. Empetrum, or *Berry-bearing Heath.*

Two species; viz. * nigrum, album.

nigrum. * E. with stems trailing.—The berries boiled with alum afford a dark purple dye. Eaten in quantities they occasion headach.

1101. Osyris, or *Poets-cassia.*

Two species; viz. alba, japonica. South Europe, Japan.

1431. Maba.

One species; viz. elliptica. Tongataboo, Namoka.

1331. Restis.

Nine species; viz. paniculatus, verticillaris, dichotomus, vimineus, triflorus, simplex, elegia, cernuus, tectorum. C. of G. Hope.

1102. Excoecaria, or *Aloes wood.*

One species; viz. agallocha. Amboyna, Malacca, China.

1280. Caturus.

Two species; viz. spiciflorus, ramiflorus. East and West Indies.

Order IV. TETRANDRIA.

1103. Trophis.

One species; viz. americana. Jamaica.

1104. Batis.

One species; viz. maritima. Jamaica.

1105. Viscum, or *Misletoe.*

Nine species; viz. * album, rubrum, purpureum, spuntioides, capense, verticillatum, pauciflorum, terrestre, rotundiflorum. Europe, Cape, West Indies, North America.

album. * V. leaves spear-shaped, blunt; stem forked; spikes axillary. *White misletoe.*—A singular parasitical evergreen plant. The barren plant opposite to the fertile one. The root insinuates itself into the substance of the tree on which it grows. Blossom greenish white. Berries whitish. Birdlime may be made from the berries or the bark. Birds having swallowed the berries, void them unchanged upon trees, where they take root. No art has hitherto been able to make them take root in the earth. Sheep eat it greedily; and in the southern English counties, where chiefly it grows, it is often torn from the trees to feed them. It is said to preserve them from the rot. If the berries, when fully ripe, be rubbed on the smooth bark of almost any tree, they will adhere closely, and produce plants the following winter.

1432. Montinia.

One species; viz. acris. C. of G. Hope.

1106. Hippophae, or *Sea-buckthorn.*

Two species; viz. * rhamnoides, canadensis.

* H. leaves spear-shaped.—Cows refuse it. Horses, goats, and sheep eat it. The berries are very acid, with an austere vinous flavour. The fishermen of the gulf of Bothnia prepare a rob from them, which imparts a grateful flavour to fresh fish. In sunny and sandy situations it is planted for hedges. *rhamnoides.*

1107. Myrica, or *Candle-berry Myrtle, Gale.*

Seven species; viz. * gale, cerifera, æthiopica, quercifolia, cordifolia, trifoliata. Europe, Madeira, Cape, North America.

* M. leaves spear-shaped, somewhat serrated; stem shrub-like. *Sweet willow, Dutch myrtle, gale, goule.*—Dyed in autumn, it dyes wool yellow. It is used to tan calfskins. The Welch lay bunches of it under their beds to keep off fleas and moths, and give it as a vermifuge in powder and infusion, applying it also externally to the abdomen. Its essential oil rises in distillation. The catkins boiled in water throw up a waxy scum fit to make candles. From the *M. cerifera* the myrtle candles are prepared. *gale.*

Order V. PENTANDRIA.

1108. Pistacia, or *Pistacia-nut.*

Five species; viz. trifolia, narbonensis, vera, terebinthus, lentiscus. South Europe, Barbary, Persia, India.

The P. *vera*, with leaves unequal winged, leafets nearly egg-shaped, bent back, produces a moderately large nut, containing a pale greenish kernel, with a reddish skin. The tree grows spontaneously in Persia, Arabia, and the Archipelago; and has been found able to produce fruit in England. Pistachio nuts have a pleasant, sweet, unctuous taste, resembling almonds, and are esteemed by some in certain weaknesses, and in emaciated habits.

The *P. lentiscus* with leaves abruptly winged, and spear-shaped leaflets, in like manner bears our winters. The wood is brought to us in thick knotty pieces, with an ash-coloured bark and white within, of a rough somewhat pungent taste, and a grateful but faint smell. A decoction of it, under the pompous appellation of *aurum potabile*, potable gold, is recommended by the Germans in catarrhs, nausea, and weakness of stomach. In the island of Chio, this tree affords mastich, which is a resinous substance brought from thence in small yellowish transparent grains or tears, of a pleasant smell, especially when heated. It is recommended in old coughs, dysenteries and all cases of laxity.

1109.

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1109. ZANTHOXYLUM.
Two species; viz. clava-herculis, trifoliatum.

1111. ASTRONIUM.
One species; viz. graveolens. South America.

1281. CANARIUM.
One species; viz. commune. India.

1110. ANTIDESMA, or *Chinese Laurel.*
One species; alexiteria. E. Indies, China, Japan.

1113. IRESINE.
One species; viz. celosia. Virginia, Jamaica.

1112. SPINACIA, or *Spinage.*
Two species; viz. oleracea, fera. Siberia.

1114. ACNIDA, or *Virginian Hemp.*
One species, viz. cannabina. Virginia.

1115. CANNABIS, or *Hemp.*
One species; viz. sativa. India. See AGRICULTURE *Index.*

1116. HUMULUS, or *Hops.*
One species; viz. * lupulus. Europe.—Cultivated in England to preserve malt liquors. The young shoots are eaten in the spring instead of asparagus. Strong cloth is in Sweden made from the stalks, which are soaked in water all winter, and in the spring dressed like flax. A decoction of the roots, or from 20 to 30 grains of the extract, is said to be sudorific.

1117. ZANONIA.
One species; viz. indica. Coast of Malabar.

1118. FEVILLEA.
Two species; viz. trilobata, cordifolia. W. Indies.

ORDER VI. HEXANDRIA.

1119. TAMUS, or *Black Bryony.*
Two species; viz. * communis, cretica. South Europe, Cape.

1120. SMILAX, or *Rough Bindweed.*
14 species; viz. aspera, excelsa, zeilanica, sarsaparilla, china, rotundifolia, laurifolia, tamnoides, caduca, bona nox, herbacea, tetragona, lanceolata, pseudochina. South Europe, East Indies, North America.

1121. RAJANIA.
Five species; viz. hastata, cordata, quinquefolia, quinata, hexaphylla. Japan, North America, West Indies.

1122. DIOSCOREA, or *Indian Yam.*
12 species; viz. pentaphylla, triphylla, trifida, aculeata, alata, bulbifera, sativa, villosa, oppositifolia, septemloba, quinquelobata, japonica. East and West Indies, North America.

ORDER VII. OCTANDRIA.

1123. POPULUS, or *Poplar-tree.*
Five species; viz. * alba, * nigra, * tremula, balsamifera, heterophylla. South Asia, Italy, Archipelago, North America.

ba. * P. leaves nearly triangular, toothed, and regular; cottony underneath. *White poplar.*—It loves low situations, and flourishes best in clay. It grows quick and bears cropping, but is unfavourable to pasturage. The wood is soft, white, and stringy, and makes good wainscoting, being little subject to swell or shrink. Floors, laths, packing boxes, and turners ware, are made of it. Horses, sheep, and goats eat it. Cows are not fond of it.

tremula. * P. leaves circular, toothed, and angular; smooth on both sides. *Asp, aspen tree, trembling poplar.*—This tree grows in all soils, but worst in clay. It impoverishes the land, destroys the grass; and the numerous shoots of the roots spread so near the surface of the earth, that they permit nothing else to grow; but rise in all quarters, whether they are wanted or not. It is easily transplanted. The wood is extremely light, white, smooth, woolly, soft, durable in the air. The bark is the principal food of beavers. The bark of the young trees is made into torches.

nigra. * P. leaves trowel-shaped, tapering to a point, serrated, smooth on both sides. *Black poplar.*—It loves a moist black soil, grows rapidly, and bears cropping. The bark being light like cork, supports the nets of fishermen. Cattle eat it.

1124. RHODIOLA, or *Rose-root.*
One species; viz. * rosea.—The root, particularly when dried, has the fragrance of a rose; but cultivated in a garden it loses most of its sweetness.

1433. MARGARITARIA.
One species; viz. nobilis. Surinam.

ORDER VIII. ENNEANDRIA.

1125. MERCURIALIS, or *Mercury.*
Three species; viz. * annua, * perennis, tomentosa. Europe.

perennis. * M. stem undivided, leaves rough. *Dogs mercury.*—It is noxious to sheep, and deleterious to man. In drying, it turns blue. Steeped in water it affords a fine deep blue colour; which, however, is destructible both by alkalies and acids.

1126. HYDROCHARIS, or *Frogs-bit.*
One species; viz. * morsus ranæ.

ORDER IX. DECANDRIA.

1127. CARICA, or *Papaw tree.*
Two species; viz. papaya, posoposa. E. and W. Indies.

1128. KIGGELARIA.
One species; viz. africana. C. of G. Hope.

1130. SCHINUS, or *Indian Mastich tree.*
Two species; viz. molla, areira. Peru, Brazil, Chili.

1129. CORIARIA, or *Myrtle-leaved Sumach.*
Two species; viz. myrtifolia, ruscifolia. Spain, S. France, Peru.

ORDER X. DODECANDRIA.

EUCLEA.
One species; viz. racemosa. C. of G. Hope.

1132. DATISCA, or *Base Hemp.*
Two species; viz. cannabina, hirta. Crete, N. America.

1131. MENISPERMUM, or *Moon-seed.*
11 species; viz. canadense, virginicum, japonicum, carolinum,

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carolinum, cocalus, crispum, acutum, orbiculatum, hirsutum, myostoides, trilobum. N. America, Japan.

Order XI. POLYANDRIA.

1133. Cliffortia.

18 species; viz. odorata, ilicifolia, ruscifolia, ferruginea, graminea, polygonifolia, filifolia, crenata, pulchella, trifoliata, sarmentosa, strobilifera, obcordata, ternata, juniperina, falcata, teretifolia, ericæfolia. C. of G. Hope.

1432. Hedycaria.

One species; viz. dentata. N. Zealand.

Order XII. MONADELPHIA.

1134. Juniperus, or *Juniper-tree.*

11 species; viz. * communis, thurifera, barbadensis, bermudiana, chinensis, sabina, virginiana, oxycedrus, phœnicea, lycina. Europe, Bermudas, America.

communis. * J. leaves three together, expanding, sharp pointed, longer than the berry.—It grows in all soils and situations, and to a corresponding variety of sizes. It is easily transplanted, and bears cropping. Grass will not grow beneath it, but the *avena pratensis* destroys it. The wood is hard and durable. The bark may be made into ropes. The berries are two years in ripening.—When bruised they afford a pleasant diuretic liquor, but it is not easy to prevent its growing sour. It is esteemed a good antiscorbutic. Ardent spirits, impregnated with the essential oil of those berries, is termed gin, though it is said that some distillers know how to produce the same effect, by means of the spirit of turpentine. Gum sandarach, more commonly called pounce, is the product of this tree. Horses, sheep, and goats eat it. From the *J. lycina*, a gum resin called *olibanum* is produced. From the *J. sabina*, is extracted an essential oil, which is accounted a most powerful emmenagogue. It is a warm, irritating, aperient medicine.

1135. Taxus, or *Yew-tree.*

Four species; viz. * baccata, nucifera, macrophylla, verticillata. Eur. Cape, Jap. N. America.

* T. leaves solitary, strap-shaped, prickle-pointed, near *baccata.* together; receptacle of the male flowers somewhat globular.—It grows best on a moist loamy soil, and languishes in bogs and dry mountains. It bears transplanting, even when old; and, as an evergreen hedge, is a valuable screen to delicate plants. The wood is used for bows, axletrees, spoons, cups, cogs for mill-wheels, and flood gates for fish ponds, which hardly ever decay. The berries are sweet, viscid, and harmless. The fresh leaves are fatal to the human species.

1136. Ephedra, or *Shrubby Horse-tail.*

Two species; viz. distachya, monostachya. Siberia, France, Spain.

1138. Cissampelos.

Five species; viz. pareira, caapeba, smilacina, fruticosa, capensis. Cape, America.

836. Napæa.

Two species; viz. lævis, scabra. Virginia.

1137. Adelia.

Three species; viz. bernardia, ricinella, acidoton. Jamaica.

Order XIII. SYNGENESIA.

1139. Ruscus, or *Knee-holly*, or *Butchers-broom.*

Five species; viz. * aculeatus, hypophyllum, hypoglossum, androgynus, racemosus. Hungary, Fr. Italy, Canaries.

Order XIV. GYNANDRIA.

1140. Clutia.

Nine species; viz. alaternoides, polygonoides, pulchella, hirta, tomentosa, retusa, eluteria, stipularis, acuminata.

In the class Dioecia are

55 Genera, including 219 Species, of which 38 are found in Britain.

CLASSIS XXIII.

POLYGAMIA (o).

Ordo I. MONOECIA.

1141. Musa. (3) Cal. nullus. Cor. 2-petala. Stam. 6, 1 fertil. Pist. 1. Bacca infera. (3) Cal. nullus. Cor. 2-petala. Stam. 6, 5 perfect. Pist. 1. Bacca nulla.

CLASS XXIII.

POLYGAMIA.

Order I. MONOECIA.

M. (3) No cal. Cor. 2-petaled. Stam. 6, 1 fertile. Pist. 1. Berry inferior. (3) No cal. Cor. 2-petaled. Stam. 6, 5 perfect. Pist. 1. No berry.

1146.

(o) The character of this class consists of the following circumstances: that every plant belonging to it produces, 1st, Hermaphrodite flowers, that is, flowers having both stamens and pistils in the same flower; and, 2dly, In addition to the hermaphrodite flowers, the same plant produces also other flowers, not hermaphrodite, but either male or female, that is, which have stamens, one or more, without pistils, or the reverse. The hermaphrodite

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* 1146. HOLCUS. (3) Glum. 1-flora, 2-valv. Stam. 3. Styl. 2. Sem. 1. (1) Glum. 1-flor. 2-valv. Stam. 3.

1149. CENCHRUS. (3) Glum. 2-flor. 2-valv. Stam. 3. Styl. 2-fid. Sem. 1. (1) Involucr. idem. Glum. 2-valv. Stam. 3.

1148. ISCHÆMUM. (3) Glum. 2-flor. 2-valv. Stam. 3. Styl. 2. Sem. 1. (1) Glum. eadem, 2-valv. Stam. 3.

1334. MANISURIS. (3) Glum. 1-flor. Cor. 2-valvis. Stam. 3. Stylus bifidus. (1) Glum. 1-flora. Cor. 2-valvis. Stam. 3. Valvulæ calycis omnes emarginatæ apice lateribusque.

1150. ÆGILOPS. (3) Glum. 3-flor. 3-arist. Stam. 3. Styl. 2. Sem. 1. (1) Glum. 3-flor. 3-arist. Stam. 3.

1333. SPINIFEX. (3) Glum. 2-flor. 2-valvis. Stam. 3. Styl. 2. (1) Gluma communis, 2-valvis. Stam. 3. Valvulæ omnes calyci parallelæ.

1145. ANDROPOGON. (3) Glum. 1-flor. basi arist. Stam. 3. Styl. 2. Sem. 1. (1) Glum. 1-flor. basi arist. Stam. 3.

1147. APLUDA. (3) Cal. gluma communis flosculo femineo sessili, masculis pedunculatis. (2) Cal. 0. Gluma 2-valv. Styl. 1. Sem. 1. (1) Cal. 0. Glum. 2-valv. Stam. 3.

1151. VALANTIA. (3) Cal. nullus. Cor. 4-partita. Stam. 4. Styl. 2-fid. Sem. 1. (1) Cal. null. Cor. 3 s. 4-part. Stam. 3 s. 4.

1142. OPHIOXYLON. (3) Cal. 5-fidus. Cor. 5-fida. Stam. 3. Pist. 1. (2) Cal. 2-fidus. Cor. 5-fida. Stam. 2.

1143. CELTIS. (3) Cal. 5-partitus. Cor. nulla. Stam. 5. Styl. 2. Drupa. (2) Cal. 6-partitus. Cor. nulla. Stam. 6.

1144. VERATRUM. (3) Cal. nullus. Cor. 6-petala. Stam. 6. Pist. 3. Caps. 3. (1) Cal. nullus. Cor. 6-petala. Stam. 6.

* 1155. ACER. (3) Cal. 5-fidus. Cor. 5-petala. Stam. 8. Styl. 2. Caps. 2-cocca, alata. (1) Cal. 5-fidus. Cor. 5-petala. Stam. 8.

1157. GOUANIA. (3) Cal. 5-fidus, superus. Cor. 0. Stam. 5. Styl. 3-fidus. Fructus 3-queter, 3-partibilis. (1) Cal. 5-fidus. Cor. 0. Stam. 5.

1158. MIMOSA. (3) Cal. 5-dent. Cor. 5-fid. Stam. 4-100. Pist. 1. Legum. (1) Cal. 5-dent. Cor. 5-fida. Stamina 4-100.

160. BRABEIUM. (3) Ament. Cor. 4-partita. Stam. 4. Stylus 2-fidus. Drupa nucleo carnoso globoso. (3) Ament. Cor. 4-partita. Stam. 4. Stylus 2-fidus, abortiens.

1283. TERMINALIA. (3) Cal. 5-partitus. Cor. 0. Stam. 10. Drupa infera. (1) Cal. 5-partitus. Cor. 0. Stam. 10.

1154. CLUSIA. (3) Cal. 8-phyllus. Cor. 4 s. 6-petala. Antheræ aggreg. Stim. 4-6. Caps. 6-loc. polysperma. (1) Cal. 4 s. 6-phyllus. Cor. 6-petala. Stam. pl.

* H. (3) Husk 1-flowered, 2-valved. Stam. 3. Styles 2. Seed 1. (1) Husk 1-flowered, 2-valved. Stam. 3.

C. (3) Husk, 2-flowered, 2-valved. Stam. 3. Styl. 2-cleft. Seed 1. (1) Involucr. the same. Husk 2-valved. Stam. 3.

I. (3) Husk 2-flowered, 2-valved. Stam. 3. Styles 2. Seed 1. (1) Husk the same, 2-valved. Stam. 3.

M. (3) Husk 1-flowered. Cor. 2-valved. Stam. 3. Style 2-cleft. (1) Husk 1-flowered. Cor. 2-valved. Stam. 3. All the valves of the calyx notched at the point and the sides.

Æ. (3) Husk 3-flowered, 3-awned. Stam 3. Styl. 2. Seed 1. (1) Husk 3-flowered, 3-awned. Stam. 3.

S. (3) Husk 2-flowered, 2-valved. Stam. 3. Styles 2. (1) Husk common, 2-valved. Stam. 3. All the valves of the cal. parallel.

A. (3) Husk 1-flowered, awned at the base. Stam. 2. Styles 2. Seed 1. (1) Husk 1-flowered, awned at the base. Stamens 3.

A. (3) Cal. a common husk, with the female floret sitting, the male on fruitstalks. (2) No cal. Husk 2-valved. Style 1. Seed 1. (1) No cal. Husk 2-valved. Stamens 3.

V. (3) Cal. none. Cor. 4-parted. Stamens 4. Styl. 2-cleft. Seed 1. (1) No cal. Cor. 3 or 4-parted. Stamens 3 or 4.

O. (3) Cal. 5-cleft. Cor. 5-cleft. Stam. 3. Pist. 1. (2) Cal. 2-cleft. Cor. 5-cleft. Stam. 2.

C. (3) Cal. 5-parted. No cor. Stamens 5. Styles 2. Drupe. (2) Cal. 6-parted. No cor. Stam. 6.

V. (3) No cal. Cor. 6-petaled. Stam. 6. Pist. 3. Caps. 3. (1) No cal. Cor. 6-petaled. Stamens 6.

* A. (3) Cal. 5-cleft. Cor. 5-petaled. Stamens 8. Styles 2. Caps. 2-celled, winged. (1) Cal. 5-cleft. Cor. 5-petaled. Stamens 8.

G. (3) Cal. 5-cleft, superior. Cor. 0. Stam. 5. Style 3-cleft. Fruit 3-angular, 3-parted. (1) Cal. 5-cleft. Cor. 0. Stamens 5.

M. (3) Cal. 5-toothed. Cor. 5-cleft. Stamens 4 to 100. Pist. 1. Legume. (1) Cal. 5-toothed. Cor. 5-cleft. Stamens 4 to 100.

B. (3) Catkin. Cor. 4-parted. Stamens 4. Style 2-cleft. Drupe, with a fleshy globular kernel. (3) Catkin. Cor. 4-parted. Stam. 4. Style 2-cleft, barren.

T. (3) Cal. 5-parted. No cor. Stam. 10. Drupe inferior. (1) Cal. 5-parted. No cor. Stamens 10.

C. (3) Cal. 8-leaved. Cor. 4 or 6-petaled. Anthers incorporated. Stigm. 4 to 6. Caps. 6-celled, many-seeded. (1) Cal. 4 or 6-leaved. Cor. 6-petaled. Stamens many.

maphrodite flowers of this class are usually imperfect in one of their parts (either stamens or pistils), which renders an additional male or female flower necessary. Sometimes there are two hermaphrodite flowers on the same plant of different powers: and this circumstance constitutes the polygamy, or is understood to bring the plant under the present class. As in the two former classes, the male and female flowers are here distinguished by prefixing to them the figures (1) and (2). The hermaphrodite flowers are here marked (3).

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1332. HERMAS. (3) Umbella. Floris cor. 5-petala. Stam. 5, sterilia. (1) Umbella. Florum cor. 5-petala. Stam. 5, fertilia. Styli 2. Sem. 2, infera, suborbiculata.

* 1152. PARIETARIA. (3) Cal. 4-fidus. Cor. nulla. Stam. 4. Styl. 1. Sem. 1. (2) Cal. 4-fidus. Cor. nulla. Styl. 1. Sem. 1.

* 1153. ATRIPLEX. (3) Cal. 5-phyll. Cor. nulla. Stam 5. Styl. 2-fid. Sem. 1. (2) Cal. 2-phyllus. Cor. nulla. Styl. 1-fid. Sem. 1.

Æsculus. Mammea. Jacq. Euphorbia. Melothria. Ilex.

H. (3) Umbel. Cor. in the flowers 5-petaled. Stamens 5, barren. (1) Umbel. Cor. of flowers 5-petaled. Stamens 5, fertile. Styles 2. Seeds 2, inferior, nearly orbicular.

* P. (3) Cal. 4-cleft. No cor. Stam. 4. Style 1. Seed 1. (2) Cal. 4-cleft. No cor. Style 1. Seed 1.

* A. (3) Cal. 5-leaved. No cor. Style 1. Seed 1. (3) Cal. 2-leaved. No cor. Style 1-cleft. Seed 1.

ORDO II. DIOECIA.

1266. PANAX. (3) Umbel. Cal. 5-dent. Cor. 5-petala. Stam. 5. Styl. 2. Bacc. 2-sperm. (1) Umbel. Cal. integ. Cor. 5-petala. Stam. 5.

1161. DIOSPYROS. (3) Cal. 4-fidus. Cor. 4-fida. Stam. 8. Styl. 4-fid. Bacca 8-sperma. (1) Cal. 4-fidus. Cor. 4-fida. Stam. 8.

1335. CHRYSITRIX. (3) Gluma 2-valvis. Cor. paleæ numerosæ. Stam. multa mixta paleis. Pist. 1. (1) Glum. 2-valvis. Cor. paleæ numerosæ. Stam. multa mixta paleis.

1336. STILBE. (3) Cal. exter. 3-phyllus, inter. 5-dentatus, cartilagineus. Cor. 5-fida. Stam. 4. Styl. 1. Sem. 1. (1) Cal. exter. 3-phyllus, inter. nullus. Cor. 5-fida. Stam. 4.

1163. NYSSA. (3) Cal. 5-partitus. Cor. nulla. Stam. 5. Pist. 1. Drupa infera. (1) Cal. 5-partitus. Cor. nulla. Stam. 10.

* 1160. FRAXINUS. (3) Cal. o. s. 4-part. Cor. o. s. 4-pet. Stam. 2. Pist. 1. Sem. 1. (3) Cal. o. s. 4-part. Cor. o. s. 4-pet. Stam. 2. Pist. 1. Sem. 1.

1164. ANTHOSPERMUM. (1) Cal. 4-fidus. Cor. nulla. Stam. 4. (2) Cal. 4-fid. Cor. nulla. Styl. 2. Peric. inferum.

1165. ARCTOPUS. (1) Umbella. Cor. 5-petala. Stam. 5. (3) Invol. maxim. Cor. 5-petala. Stam. 5. (1) Umb. Cor. 5-petala. Styl. 2. Sem. 1, biloculare.

1159. GLEDITSIA. (3) Cal. 4-fidus. Cor. 4-petala. Stam. 6. Pist. 1. Legum. (1) Cal. 3-phyll. Cor. 3-petala. Stam. 6. (2) Cal. 5-phyll. Cor. 5-petala. Pist. 1. Legumen.

1163. PISONIA. (3) Cal. nullus. Cor. 5-fida. Stam. 6. Pist. 1. Caps. 5-valvis. (1) Cal. nullus. Cor. 5-fida. Stam. 6. (2) Cal. nullus. Cor. 5-fida. Pist. 1. Caps. 5-valvis.

Ilex aquifolium. Rhamnus alaternus, Guilandina.

ORDER II. DIOECIA.

P. (3) Umbel. Cal. 5-toothed. Cor. 5-petaled. Styles 2. Berry 2-seeded. (1) Umbel. Cal. entire. Cor. 5-petaled. Stam. 5.

D. (3) Cal. 4-cleft. Cor. 4-cleft. Stam. 8. Styl. 4-cleft. Berry 8-seeded, (1) Cal. 4-cleft. Cor. 4-cleft. Stamens 8.

C. (3) Husk 2-valved. Cor. straws, numerous. Stamens many, mixed with straws. Pist. 1. (1) Husk 2-valved. Cor. straws, numerous. Stamens many, mixed with straws.

S. (3) Cal. outer 3-leaved; inner 5-toothed, cartilaginous. Cor. 5-cleft. Stam. 4. Style 1. Seed 1. (1) Outer cal. 3-leaved, inner none. Cor. 5-cleft. Stamens 4.

N. (3) Cal. 5-parted. No cor. Stam. 5. Pist. 1. Drupe inferior. (1) Cal. 5-parted. No cor. Stamens 10.

* F. (3) Cal. none, or 4-parted. Cor. none, or 4-petaled. Stam. 2. Pist. 1. Seed 1. (3) Cal. none, or 4-parted. Cor. none, or 4-petaled. Stamens 2. Pist. 1. Seed 1.

A. (1) Cal. 4-cleft. No cor. Stam. 4. (2) Cal. 4-cleft. No cor. Styles 2. Seed-vessel inferior.

A. (1) Umbel. Cor. 5-petaled. Stam. 5. (3) Involucrum very large. Cor. 5-petaled. Stamens 5. (1) Umbel. Cor. 5-petaled. Styles 2. Seed 1, 2-celled.

G. (3) Cal. 4-cleft. Cor. 4-petaled. Stamens 6. Pist. 1. Legume. (1) Cal. 3-leaved. Cor. 3-petaled. Stam. 6. (2) Cal. 5-leaved. Cor. 5-petaled. Pist. 1. Leguminous.

P. (3) No cal. Cor. 5-cleft. Stam. 6. Pist. 1. Caps. 5-valved. (1) No cal. Cor. 5-cleft. Stam. 6. (2) No cal. Cor. 5-cleft. Pist. 1. Caps. 5-valved.

ORDO III. TRIOECIA.

1167. CERATONIA. (3) Cal. 5-partitus. Cor. o. Stam. 5. Styl. 1. Legum. coriaceum, polysperm (1) Cal. 5-partitus. Cor. o. Stam. 5. (2) Cal. sub-5-dent. Cor. o. Stylus 1. Legum. coriaceum, polysperm.

1168. FICUS Recept. commune turbinatum, conniventi clausum, carnosum. (3) Cal. 5-partitus. Cor. o. Pist. 1. Sem. 1. (1) Cal. 3-partitus. Cor. o. Stam. 3. (1) and (2) intra idem receptaculum commune distinctis fructificationibus partialibus.

ORDER III. TRIOECIA.

C. (3) Cal. 5-parted. No cor. Stam. 5. Styl. 1. Legume leather-like, many-seeded. (1) Cal. 5-parted. No cor. Stamens 5. (2) Cal. nearly 5-toothed. No cor. Style 1. Legume leather-like, many-seeded.

F. Common receptacle turban-shaped, converging, closed, fleshy. (3) Cal. 5-parted. No cor. Pist. 1. Seed 1. (1) Cal. 3-parted. No cor. Stamens 3, (1) and (2) both within the same common receptacle, with distinct partial fructifications.

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Order I. MONOECIA.

1141. Musa, or *Plantain-tree.*
Three species; viz. paradisiaca, sapientum, troglodytarum. E. and W. Indies.

1144. Veratrum, or *White Hellebore.*
Three species; viz. album, nigrum, luteum. Russia, Austria, Italy, N. America.—The *V. album* grows spontaneously on the mountains of Switzerland and Germany. The root is nauseous and acrid. If wounded, when fresh, it emits an acrid juice, which is said to prove dangerous when mixed with the blood by an wound. The powder of the dry root applied to an issue, occasions violent purging. Snuffed up the nose, it is a strong, but not always a safe sternutatory. It is also a violent emetic. The ancients used it in desperate cases; but modern practice rejects it, though it is said to have been given with success to the amount of a scruple in cases of manja.

1333. Spinifex.
One species; viz. squarrosus. E. Indies.

1145. Andropogon, or *Beard-grass.*
25 species; viz. caricosum, contortum, crinitum, divaricatum, gryllus, nutans, ciliatum, serratum, cotuliferum, cymbarium, squarrosum, prostratum, alopecuroides, distachyum, schœnanthus, virginicum, bicorne, hirtum, insulare, barbatum, nardus, muticum, ischæmum, fasciculatum, polydactylon. S. Europe, E. and W. Indies, America.
The *A. nardus*, Indian nard or spikenard, as it comes from the East Indies, is a matted congeries of fibres issuing from one head, and probably forming the root of the plant. Spikenard has a warm, pungent, bitterish taste, and a strong not very agreeable smell. It is stomachic and carminative; and said to be alexipharmac, diuretic, and emmenagogue; but it is at present little employed.

1146. Holcus, or *Indian Millet.*
14 species; viz. * avenaceus, * lanatus, * mollis, spicatus, bicolor, sorghum, halepensis, saccharatus, laxus, striatus, serratus, odoratus, latifolius, pertusus. N. Europe, India, N. America.
anatus. * H. husks two-flowered, woolly; hermaphrodite floret awnless; male floret with a bent awn, inclosed in the calyx.—This grass flourishes well on any moist soil, and grows very generally, except on the most dry and barren ones. It should be sown chiefly with a view to pasturage by sheep. It makes a soft spongy hay unfit for horses.

1147. Apluda.
Four species; viz. mutica, aristata, zeugites, digitata. E. and W. Indies, N. America.

1148. Ischæmum.
Two species; viz. muticum, aristatum. India, China, Carolina.

1149. Cenchrus, or *Hedgehog-grass.*
Nine species; viz. racemosus, lappaceus, muricatus, capitatus, echinatus, tribuloides, ciliaris, granularis, frutescens. S. Europe, Virginia, W. Indies.

1150. Ægilops, or *Hard-grass.*
Four species; viz. ovata, caudata, triuncialis, squarrosa. S. Europe, Carolina.

1334. Maniburis.
One species; viz. myurus. E. and W. Indies, N. America.

1151. Valantia, or *Cross-wort.*
Eight species; viz. * aparine, * crociata, muralis, hispida, cucullaria, articulata, glabra, hypocarpa. Austria, S. Europe, Canaries, Jamaica.

1152. Parietaria, or *Pellitory.*
Eight species; viz. * officinalis, indica, judaica, lusitanica, urticæfolia, cretica, zeylanica, microphylla. S. Europe, Canaries, isle of Bourbon.

1153. Atriplex, or *Orache, Sea Purslane-tree.*
12 species; viz. * hastata, * laciniata, * littoralis, * patula, * pedunculata, * portulacoides, halymus, glauca, rosea, sibirica, tatarica, hortensis. Europe, Tartary, America.

1283. Terminalia, or *Benzoin.*
Two species; viz. catappa, benzoin. E. Indies.—From the last of these species a resin of the same name is supposed to be extracted, though others represent it as the product of another plant called *styrax benzoe.* Benzoin is used in perfumes, and as a cosmetic.

160. Brabeium, or *African Almond.*
One species; viz. stellulifolium.

1154. Clusia, or *Balsam-tree.*
Four species; viz. rosea, alba, flava, venosa. America, Jamaica.

1142. Ophioxylum.
One species; viz. serpentinum. E. Indies.

1155. Acer, *Maple-tree.*
17 species; viz. * campestre, * pseudoplatanus, sempervirens, tataricum, rubrum, saccharinum, dissectum, japonicum, palmatum, septemlobum, pictum, platanoides, pensylvanicum, monspessulanum, creticum, trifidum, negundo. Europe, N. America, Japan.
* A. leaves 5-lobed, blunt, unequally serrated; flowers in compound pendent bunches. *Sycamore tree, sycamore maple.*—It flourishes best in open places and sandy ground, but will thrive in a richer soil. It grows quick, is easily transplanted, bears cropping, and the grass flourishes under its shade. It is said to grow well near the sea, and that a plantation of these trees, at 50 feet asunder, with three sea sallow thorns between every two of them, will make a fence sufficient to defend the herbage of the country against the sea spray. *Gent. Mag.* 1757, p. 252. The wood is soft and very white, and is used by the turners. By boring a hole into the body of the tree, when the sap rises in spring, a sweetish watery liquor is obtained, which is used in making wine, and, if inspissated, affords a fine sugar. From the *A. saccharinum* large quantities of sugar are annually thus made in North America. See United States, and Sugar. *pseudo-platanus.*

1143. Celtis, or *Lote, Nettle-tree.*
Three species; viz. australis, occidentalis, orientalis. S. Europe, Virginia, W. Indies.

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1157. GOWANIA, or *Chaw-stick.*
One species; viz. domingensis. West Indies.

1332. HERMAS.
Five species; viz. depauperata, gigantea, capitata, quinquedentata, ciliata. C. of G. Hope.

1158. MIMOSA, or *Sensitive Plant.*
53 species; viz. simplicifolia, inga, sagifolia, nodosa, natans, bigemina, unguis-cati, tergemina, latifolia, purpurea, reticulata, viva, circinalis, ciuerea, casta, sensitiva, pudica, entada, scandens, plena, virgata, punctata, pernambucana, arborea, lebbeck, odoratissima, speciosa, vaga, latisiliqua, polystachya, muricata, peregrina, glauca, cinerea, cornigera, catechu, horrida, eburnea, latronum, tortuosa, sarnesiana, nilotica, pigra, asperata, senegal, cæsia, pinnata, intsia, semispinosa, quadrivalvis, tenuifolia, ceratonia, tamarindifolia. Egypt, E. and W. Indies, New Holland. —The plants of this genus possess the singular property of shrinking or drawing in their leaves, when touched, which has obtained for them the English appellation of *sensitive plants.* From the species *M. catechu* a vegetable extract is obtained, which has long improperly received the appellation of *terra japonica* or Japan earth. This extract is outwardly of a reddish colour, internally of a dark brown, with a slight cast of red. It is capable of being reduced to the state of a powder; and is a mild but powerful astringent. It is particularly useful in alvine fluxes; and where these require astringents, no one is so beneficial. It is likewise employed in uterine profluvia, and in laxity and debility of the viscera in general. It is often suffered to dissolve leisurely in the mouth, as a topical astringent, for laxities and exulcerations of the gums, for aphthous ulcers in the mouth, and similar affections: and it is in some other cases applied externally under the form of solution, and as an ointment. Catechu dissolves in water, with the exception of its impurities, which amount to an eighth part of the mass. Rectified spirit dissolves seven-eighths of the pure matter into a red liquor, leaving, undissolved, an insipid mucilaginous substance. The best form of administering it is that of simple infusion in warm water, with the addition of some cinnamon or cassia. From the *M. nilotica* gum arabic exudes, the uses of which are well known to be extremely numerous. The inspissated juice of the unripe fruit of this tree is termed *acacia*, and is used as a mild astringent medicine.

ORDER II. DIOECIA.

1159. GLEDITSIA, or *Three-horned Acacia.*
Two species; viz. triacanthos, inermis. Java, N. America.

1160. FRAXINUS, or *Ash-tree.*
Three species; viz. * excelsior, ornus, americana. S. Europe, N. America.

excelsior. * F. leafets serrated; flowers without petals.—It flourishes best in groves, but grows in a rich soil, though in the open field. It bears transplanting and lopping. Horses, cows, sheep, and goats, eat it; but it is said to spoil the milk of cows. It will give a good, though not a beautiful green, to cloths that have been dyed blue. The wood is nearly as good when young as when old. It is hard and tough, and much used to make the tools employed in husbandry. The bark is used to tan calf-skin. An infusion of the leaves, from half an ounce to an ounce, is a very good purge; and a decoction of two drams of the bark, or of six drams of the leaves, has been used to cure agues.

1161. DIOSPYROS, or *Indian Date-plum.*
Five species; viz. lotus, virginiana, kaki, hirsuta, ebenum. Italy, Barbary, Ceylon, N. America, Japan.

1163. NYSSA, or *Tupelo-tree.*
One species; viz. aquatica. N. America.

1164. ANTHOSPERMUM, or *Amber-tree.*
Three species; viz. æthiopicum, ciliare, herbaceum. C. of G. Hope.

1336. STILBE.
Three species; viz. pinastra, ericoides, cernua. C. of G. Hope.

1165. ARCTOPUS.
One species; viz. echinatus. C. of G. Hope.

1162. PISONIA, or *Fingrido.*
Two species; viz. aculeata, inermis. W. Indies.

1166. PANAX, or *Ginseng.*
Five species; viz. quinquefolium, trifolium, spinosa, arborea, fruticosum. China, North America, West Indies.—The root of the *P. quinquefolium* is the ginseng of the Chinese, of which they have an extraordinary opinion, regarding it as an universal restorative in all decays from age, intemperance, or disease. It is also found in North America, and frequently exported from thence to China. It has a very sweet taste, accompanied with a slight bitterness and warmth.

1335. CHRYSITRIX.
One species; viz. capensis. C. of G. Hope.

ORDER III. TRIOECIA.

1168. CERATONIA, or *Crab-tree, St John's Bread.*
One species; viz. siliqua. Spain, Sicily, Levant, Chili.

1168. FICUS, or *Fig-tree.*
15 species; viz. carica, sycamorus, religiosa, benjamina, benghalensis, indica, racemosa, pertusa, pumila, toxicaria, maculata, trigona, hispida, heterophylla, microcarpa. S. Europe, India, China, America.—The dried fruit of the *F. carica*, or ordinary fig-tree, is sometimes used in medicine as a soft emollient sweet substance. It is much esteemed by some as a suppurative; in which case it is applied as warm as it can well be endured.

In the class Polygamia are

34 Genera, including 222 Species, of which 15 are found in Britain.

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CLASSIS XXIV.

CRYPTOGAMIA (o).

ORDO I. FILICES.

Sect. I. *Fructificationes spicatæ.*

* 1169. EQUISETUM. Spica sparsa. Fructif. peltatæ, basi valvulatæ.

1222. CYCAS. (1) Ament, imbricatum. Pollen squamam tegens. (2) Spadix ensiformis. Drupa nucleo lignoso.

1227. ZAMIA. (1) Strobilus squamis subtus polline tectis. (2) Strobilus squamis in utroque margine. Drupa solitaria.

1170. ONOCLEA. Spica disticha. Fructif. 5-valves.

* 1171. OPHIOGLOSSUM. Spica articulata. Fructif. circumscissæ.

* 1172. OSMUNDA. Spica racemosa. Fructif. 2-valves.

Sect. II. *Fructificationes frondosæ, in pagina inferiore.*

* 1173. ACROSTICHUM. Macula discum totum occupans.

* 1179. POLYPODIUM. Puncta disci distincta.

CLASS XXIV.

CRYPTOGAMIA.

ORDER I. FERNS.

Sect. I. *Fructifications spiked.*

* E Spike scattered. Fructifications target-shaped, valved at the base.

C. (1) Catkin tiled. Pollen or dust covering the scale. (2) Sheath sword-shaped. Drupe with a woody kernel.

Z. (1) A cone with scales covered beneath with pollen. (2) A cone with scales in each border. Drupe solitary.

O. A 2-rowed spike. Fructifications 5-valved.

* O. A jointed spike. Fructifications cut round.

* O. Spike branchy. Fructifications 2-valved.

Sect. II. *Fructifications frondose, in the under surface.*

* A. A spot occupying the whole disc.

* P. Distinct spots on the disc.

1176.

(o) This class contains a number of vegetables whose stamens and pistils are too minute to admit of that mode of investigation which prevails through the preceding classes. The structure too of these vegetables differs considerably from that of other plants.

The *Filices* or *Ferns* constitute the first order. Their flowers are generally disposed in spots or lines on the under surface of the leaves, but sometimes in spikes. In the male flowers the anthers are found sitting or supported on a very short filament, egg-shaped or globular, scattered on the under surface of the leaves. The male flowers unite so as to form a spike or bunch, or form lines or dots underneath the leaves, either on the surface at the edge, or at the point. In some cases they entirely cover the under surface. None of the flowers have any corolla, or even a calyx, excepting perhaps a scale formed from the leaf, opening, containing globules. The seeds are very minute and globular.

The second order, called *Musci* or *Mosses*, have the female parts of fructification inclosed in a veil, which adheres to the top of the ripe capsules, and covers it. Capsule opening transversely. Stem leafy. Leaves membranaceous, reticulated; after being dead, reviving when soaked in water. In general the stamens and pistils are on separate flowers on the same or distinct plants.

The third order, or *Algæ*, includes a division of plants which scarcely admit of a distinction of root, stem, and leaf; much less can the parts of their flowers be described. Their substance is flesh-like or leather-like, membranaceous or fibrous, jelly-like or horn-like, or resembling calcareous earth. The female fructifications are either found in saucers or tubercles, as in *lichens;* in hollow bladders, as in *fucus;* or dispersed through the substance of the plant, as in *ulva*. The aquatic genera, which grow on the sea-coast, are called, in ordinary language, *sea-weeds*, or *sea-ware*, and, by incineration, produce soda or mineral alkali. The lichens are of much importance in the economy of nature. They grow on the barest rocks, and their remains form a soil on which better vegetables afterwards flourish. Some of them afford valuable colours.

The order of *Fungi*, or *Mushrooms*, consists of plants mostly of a cork-like texture, and short duration, bearing their seeds either in gills or tubes, or attached to fibres or to a spongy substance. As little is known of their fructification, the generic characters are taken from their external form.

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1176. HEMIONITIS. Lineæ disci decussantes.
* 1178. ASPLENIUM. Lineæ disci subparallelæ, variæ.
* 1175. BLECHNUM. Lineæ disci costæ utrinque adjacentes.
1177. LONCHITIS. Lineæ marginis ad sinus.
* 1174. PTERIS. Lineæ marginis ad peripheriam.
* 1180. ADIANTHUM. Maculæ apicum margini reflexo obtectum.
* 1181. TRICHOMANES. Fr. solitariæ, margini ipsi insertæ.

H. Lines of the disc cross pairs.
* A. Lines of the disc nearly parallel, various.

* B. Lines of the disc adjacent to the rib on each side.

L. Lines at the inside of the margin.
* P. Lines at the extremity of the margin.
* A. Spots covered with the reflected margin of the points.
* T. Fructifications solitary, placed on the very margin.

Sect. III. *Fructificationes radicales.*

1182. MARSILEA. Fruct. 4-capsularis.
* 1183. PILULAREA. Fruct. 4-locularis.
* 1184. ISOETES. Fruct. 2-locularis.

Sect. III. *Fructification at (or very near) the root.*

M. Fructification 4-capsuled.
* P. Fructif. 4-celled.
* I. Fructif. 2-celled.

ORDO II. MUSCI.

Sect. I. *Acalyptrati.*

* 1185. LYCOPODIUM. Anthera 2-valvis, sessilis.
1186. PORELLA. Anthera pertusa poris.
* 1187. SPHAGNUM. Anthera ore lævi.

ORDER II. MOSSES.

Sect. I. *Not calyptred*, i. e. *not veiled.*

* L. Anther 2-valved, sitting.
P. Anther pierced with holes.
* S. Anther with a level mouth.

Sect. II. *Calyptrati dichini.*

* 1191. SPLACHNUM. Anth. cum apophysi maxima.
* 1192. POLYTRICHUM. Anth. cum apophysi minima, marginata.
* 1193. MNIUM. Anth. sine apophysi.

Sect. II. *Veiled dioicous.*

* S. Anth. with a very large excrescence.
* P. Anth. with a very small excrescence, bordered.

* M. Anth. without an excrescence.

Sect. III. *Calyptrati monoclini.*

* 1189. PHASCUM. Anth. operculata, ore ciliato.
* 1194. BRYUM. Anth. pedunculo terminali è tuberculo.
* 1195. HYPNUM. Anth. pedunculo laterali è perichætio.
* 1190. FONTINALIS. Anth. sessilis, perichætio imbricato obvoluta.
* 1188. BUXBAUMIA. Anth. pedunculata, altero latere membranacea.

Sect. III. *Veiled monoicous.*

* P. Anth. lidded, mouth fringed.
* B. Anth. on a terminal fruit-stalk arising out of a little solid pimple.
* H. Anth. on a lateral fruit-stalk out of an involucrum or cover.
* Anth. sitting, enveloped in a tiled cover.

* B. Anth. on a fruit-stalk, one side membranous.

N. B. The term *anthera* in this order ought rather to be translated by the word *capsule*, as there are seeds contained in it.

ORDO III. ALGÆ.

Sect. I. *Terrestres.*

* 1198. MARCHANTIA. Fl. calyci communi peltato, subtus florido.
* 1196. JUNGERMANNIA. Fl. calyci simplici, 4-valvi.
* 1197. TARGIONIA. Fl. calyci 2-valvi.
* 1201. ANTHOCEROS. Fl. calyce tubuloso. Anther. subulata, bivalvis.
* 1199. BLASIA. Fr. cylindrica, tubulosa.
* 1200. RICCIA. Fr. granulis frondi innatis.
* 1202. LICHEN. Fr. receptaculo lævi nitido.
1208. BYSSUS. Substantia lanuginosa, vel pulverulenta.

ORDER III. ALGÆ.

Sect. I. *Terrestrial.*

* M. Flower with a common calyx, target-shaped, flowering underneath.
* J. Flow. calyx simple, 4-valved.
* T. Flow. calyx 2-valved.
* A. Flow. calyx tubular. Anther awl-shaped, 2-valved.
* B. Fructif. cylindrical, tubular.
* R. Fructif. granules imbedded in the frond.
* L. Fructif. receptacle even, shining.
R. Substance downy, or powdery.

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Sect. II. *Aquaticæ.*

* 1204. TREMELLA. A. gelatinosa.
* 1206. ULVA. A. membranacea.
* 1205. FUCUS. A. coriacea.
* 1207. CONFERVA. A. capillaris.

ORDO IV. FUNGI.

Sect. I. *Pileati.*

* 1209. AGARICUS. Pileus subtus lamellosus.
* 1210. BOLETUS. Pileus subtus porosus.
* 1211. HYDNUM. Pileus subtus echinatus.
* 1212. PHALLUS. Pileus subtus lævis.

Sect. II. *Pileo destituti.*

* 1213. CLATHRUS. F. cancellatus.
* 1214. HELVELLA. F. turbinatus.
* 1215. PEZIZA. F. campanulatus.
* 1216. CLAVARIA. F. oblongus.
* 1217. LYCOPERDON. F. globosus.
* 1218. MUCOR. F. vesicularis stipitatus.

Sect. II. *Aquatic.*

* T. A. gelatinous.
* U. A. membranous.
* F. A. leather-like.
* C. A. capillary.

ORDER IV. FUNGI.

Sect. I. *With a cap.*

* A. Cap gilled underneath.
* B. Cap porous underneath.
* H. Cap prickly underneath.
* P. Cap smooth beneath.

Sect. II. *Without a cap.*

* G. F. latticed.
* H. F. turban-shaped.
* P. F. bell-shaped.
* C. F. oblong.
* L. F. globular.
* M. F. little bladders on a pillar.

WITHOUT reciting the names of the species of this class, we shall state their numbers, and such circumstances relative to particular kinds of plants belonging to it as seem most worthy of attention.

ORDER I. FERNS.

1169. EQUISETUM.
Seven species; of which six are British.

hyemale. * E. stem naked, rough, somewhat branched at the base. *Rough horsetail, shave-grass, pewter-wort, Dutch rushes.*—The turners or cabinet-makers use it to polish their work. It is said to be wholesome to horses, but hurtful to cows. Sheep dislike it.

1222. CYCAS, or *Todda Pana.*
Two species. E. Indies, China, Japan.

1227. ZAMIA.
Two species. Cape, E. Florida, W. Indies.

1170. ONOCLEA, or *Sensible Fern.*
Two species. N. America.

1171. OPHIOGLOSSUM, or *Adder's Tongue.*
Nine species; one British. Europe, East and West Indies, America.

1172. OSMUNDA, or *Flowering Fern.*
21 species; 4 British. Europe, America.

1173. ACROSTICHUM, or *Forked Fern.*
35 species; 2 British. Europe, Africa, America.

1179. POLYPODIUM, or *Polypody.*
78 species; 18 British. Europe, Madeira, India, America.

filix-mas. * P. leaves almost doubly winged; leafets strap-spear-shaped; stem and midribs chaffy. *Male fern, male polypody.*—The Siberians boil it in their ale, and are fond of the flavour it imparts. The powder of the root is a remedy for expelling the tape-worm. A liquid lubricating supper is given to the patient; and, if costive, a common glyster. Early next morning two or three drams of the root in powder are mixed with water, and swallowed. If thrown up, the dose must be repeated. The patient must fast two hours, and then take a strong purge.

1176. HEMIONITIS, or *Mules-fern.*
Four species. Jamaica, South America.

1178. ASPLENIUM, or *Spleenwort.*
28 species; 9 British. Europe, Java, America.

1175. BLECHNUM.
Six species; one British. America, Cape, E. Indies.

1117. LONCHITIS, or *Rough Spleenwort.*
Four species. Jamaica, South America.

1174. PTERIS, *Brakes*, or *Female-fern.*
23 species; two British. Europe, E. and W. Indies, N. America, China.

aquilina. * P. leaves more than doubly compound; leafets winged; wings spear-shaped; the lowermost wing-cleft, the upper ones smaller.—The common people in many parts of England mix the ashes with water, and form them into balls; these balls are afterwards made hot in the fire, and then used to make an alkaline ley for scouring linen. It makes very durable thatch, and is excellent litter for horses and cows. It affords a violent heat, and, where coal is scarce, is used to burn limestone and heat ovens.

1180. ADIANTHUM, or *Maiden-hair.*
27 species; one British. Europe, Africa, America.

1181.

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1181. TRICHOMANES, or *Tunbridge Maiden-hair.*
13 species; two British. S. Europe, Cape, China, America.

1182. MARSILEA.
Three species. Siber. France, Italy, S. Amer.

1183. PILULARIA, or *Pepper-grass.*
One species; British.

1184. ISOETES, or *Quillwort.*
Two species; one British. Coromandel.

ORDER II. MUSCI.

1185. LYCOPODIUM, or *Club-moss.*
29 species; three British. E. and W. Indies, Madeira, America.

clavatum. * L. leaves scattered, terminating in threads; spikes cylindrical, on fruitstalks, in pairs. *Common club-moss, wolf's claw.*—In Sweden they form it into mats or basses, which lie at their doors to clean shoes upon. It restores ropy wine in a few days. The seeds flash when cast into a flame, and are said to be sometimes used in theatres to imitate lightning. They are with difficulty made wet, and if scattered on a bason of water, the hand may be dipped to the bottom without wetting it.

1186. PORELLA.
One species. Pennsylvania.

1287. SPHAGNUM, or *Bog-moss.*
Three species; all found in Britain.

1191. SPLACHNUM, or *Bottle-moss.*
13 species; 12 British. Europe.

1192. POLYTRICHUM, or *Golden Maiden-hair.*
18 species; 16 British. Jamaica, Magellan.

1193. MNIUM.
20 species; all British.

1189. PHASCUM.
13 species; 11 British. Eur. N. Amer.

1194. BRYUM.
93 species; British.

1195. HYPNUM.
70 species; all British. W. Indies, &c.

1190. FONTINALIS, or *Water-moss.*
Six species; British.

antipyretica. * F. capsules lateral; leaves acute, keeled, doubled together, disposed in three rows. *Greater water-moss.*—Contrary to the nature of all other mosses, this species is scarcely combustible. Accordingly, the Scandinavians line the inside of their chimneys with it to defend them against fire.

1188. BUXBAUMIA.
Two species; one British. Europe.

ORDER III. ALGÆ.

1198. MARCHANTIA, or *Liver-green.*
Seven species; five British. N. Amer. W. Ind.

1196. JUNGERMANNIA, or *Star-tip.*
48 species; British.

1197. TARGIONIA.
Two species; British. S. Europe.

1201. ANTHOCEROS.
Three species; two British. N. Amer. Jam.

1199. BLASIA.
One species; British.

1200. RICCIA, *Marsh Liverwort.*
Five species; British. Jamaica.

1202. LICHEN, or *Liverwort.*
218 species; all British. Also Cape, India, America.

Lord Dundonald obtained a patent, dated July 31. 1802, for the discovery of a substitute for the foreign gums, to be obtained from the plants of this genus. The specification of his lordship's patent is in these terms: "My invention consists in procuring a substitute or substitutes for gum senegal, or other gums, from the class of plants called in botany *lichens;* from the plants of hemp and flax, previous to being steeped in water, or after being steeped; likewise from the bark or rind of the willow or lime tree. The process for obtaining the gum may be varied according to circumstances, and is done by washing the materials in water, digestion, and boilings, and with or without the aid of fixed or volatile alkaline salts or their solutions.

"It does not appear, from such trials as I have hitherto made, that there is any very great difference of the produce of gum from the lichen collected from different trees or shrubs: all of them answer equally well for yielding a gum fit for calico-printing. The lichen is most abundant on the trees which grow in a poor stiff clay soil, and particularly if situated at some considerable height above sea level. It should be pulled in dry weather, otherwise it is apt to break in the pulling; besides, in this case, requiring to be dried before it can with safety be laid up in the storehouse, where, if put in dry, it may be kept for years. Should a sufficient quantity of it not be found in this country, it may be had in almost unlimited abundance in Sweden, Norway, and in the northern parts of America, where it grows to the length of from a foot to 18 inches, depressing the branches of the trees by its weight. There is, however, every reason to believe that a sufficient quantity is to be had in this country. According to information received from botanists, it takes three or four years in coming to maturity or its full size; so that a crop from the same tree may be had every fourth year. The lichen does not consist entirely of a gummy matter; there is the outer skin or cuticle, below that a green resinous matter. The remainder of the plant consists of partly gum, partly somewhat analogous to animal substances, and a small proportion of fibrous matter, which cannot be dissolved by boiling, or the action of alkaline salts.

"The first process in preparing gum from the lichen, is to free it of the outer skin of the plant and the resinous matter. This is done by scalding the lichen two or three times with boiling water, allowing it to remain so long in the water as by absorbing it to swell; in doing this the skin cracks, and comes off along with the greatest part of the resinous matter; or it may be freed from them by gently boiling the lichen for about 15 or 20 minutes, then washing it in cold water,

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water, laying it afterwards on a stone or brick floor, where it should lie for 10 or 12 hours, perhaps more. The reason for this is, that the exposure for that time to air, greatly facilitates the subsequent extraction of the gum.

"The scalded lichen is then to be put into a copper boiler, with a due proportion of water, say three Scots pints, or two wine gallons, to every pound of lichen, and boiled during 10 or 12 hours, adding about a quarter of an ounce of soda or pearl ashes for every pound of lichen; or instead of these salts, about two ounces of volatile alkali. The boiling should be continued until the liquor acquires a considerable degree of gummy consistence. It is then to be taken out of the boiler, allowed to drain or drip through a wire or haircloth scarce. The residuum to be put into a haircloth bag or bags, and to be squeezed in a press similar to that which is used by the melters or rinders of tallow.

"The first boiling does not extract the whole of the gum. The lichen should be boiled a second, or even a third time, repeating the process as above described, diminishing at each process the quantity of water and the quantity of alkali, which a little experience will soon point out: when three boilings are employed, the gummy extract of the last boiling should be kept for the first boiling of a fresh batch of lichen; the extract proceeding from the first and second boilings should be mixed together, and evaporated to the consistence necessary for block or press printing. The evaporating vessels should be of tin or thin lead, placed over a range of stoves, and moderately heated by fire, or the steam of water. It has been neglected to state, that before evaporating the gummy extract to the consistence necessary, it should be kept 10 or 12 hours, so as to allow the sediment or dregs to subside. The clean liquor may either be drawn off by a syphon, or the dregs may be drawn off by a cock at the bottom of the wooden vessel; the bottom of which should be made sloping, higher at the back than the fore part, in order that the dregs may run more completely off. The proportion of gummy matter remaining in the dregs may be got off by mixing them with a due proportion of boiling water, allowing the liquor to clear, and proceeding as above directed, employing this weak solution for boiling the next batch of lichen. When volatile alkali is used, the boiler should be of iron, as volatile alkali acts on copper. Hemp, flax, and the bark of the willow and lime trees, or sea weed, are to be heated in a similar manner, to extract the gum or mucilage contained in them. Likewise it is intended that this patent shall include every tree, plant, or vegetable of whatever kind, from whence a mucilage or gum is to be obtained by the action of volatile or fixed alkaline salts, or their solutions, when used in the processes of maceration, digestion, or boiling these vegetable matters; being a method of obtaining a mucilage or gum never before practised and adopted by any other person."

The above invention was for some time practised to a great extent by the calico-printers in the west of Scotland, where it was found to answer for almost all colours. We have heard, however, that the use of it has been discontinued; whether from the price of gum senegal, for which it was employed as a substitute, having fallen, or that it has otherwise failed of its effect, we have not been informed.

* L. tubercles black, crust clear white.—Grows only on limestone rocks. When dried, powdered, and steeped in urine, it is used to dye scarlet by the Welsh and the inhabitants of the Orkneys. The colour is said to be very fine. *calcarcus.*

* L. saucers white, mealy, with yellowish white, thick, blunt borders; crust yellow white.—Grows on rocks, walls, trunks of trees, &c. Litmus is prepared from this species. For this purpose it is collected from the rocks in the north of England, and sent to London in casks. *parellus.*

* L. saucers yellow, with a white border; crust whitish.—Grows on rocks and stones. In Derbyshire it is gathered for the dyers. It gives a purple colour. *tartareus.*

* L. saucers dull purple; leaves hoary, smooth, blunt, many-cleft, sprinkled with rising dots. *Cork, corker, lodes.* or *arcell.*—It dyes wool a reddish brown, or a dull but durable crimson or purple, paler but more lasting than that of orchal. In Ireland it is prepared by steeping in stale urine, adding a little salt to it, and making it up into balls with lime. Wool dyed with it, and then dipped in the blue vat, becomes of a beautiful purple. With rotten oak it makes a dark brown. It has been used as a styptic. *omphalodes.*

* L. tubercles brown; plant hoary, hollow, much branched; terminating branches turned downwards.—The Laplanders could not exist without this plant, which feeds, and even fattens, their rein-deer. *rangiferinus.*

* L. plant lemon-coloured, upright, much branched; branches nearly of a length, angular; angles unequal.—In Norway they mix this plant with powdered glass, and strew it upon dead carcases to poison wolves. *vulpinus.*

* L. saucers brown, white on the outside, on pedicles; foliage nearly white, quite white and cottony underneath; pitted rather than upright.—It imbibes and retains odours in a remarkable degree, and is therefore the basis of many perfumed powders. *prunastra.*

* L. saucers red brown, mostly on the edges of the foliage; leaves green, jagged, blunt, smooth; pitted, downy underneath. *Lungwort, hazel-rag,* or *hazel-crottles.*—It is recommended for consumptive cases. Woollen cloth, boiled in it, is said to become of a durable orange. In Herefordshire it is used to dye stockings of a durable brown. *pulmonarius.*

* L. saucers red brown; foliage pale green, wrinkled, waved at the edge, creeping.—In Ireland and the Isle of Man, it is used to dye wool of an orange colour. Serge, dyed with it, becomes of a lemon colour; but, if previously infused and boiled in urine, of a russet brown. *caperatus.*

* L. saucers black, flattish; foliage gray brown, consisting of a single leaf, circular, slightly lobed, sprinkled with a black bran-like powder; pitted underneath.—A beautiful red colour may be prepared from it (Linnæus). It may be converted into an exceedingly black paint. *pustulatus.*

1203. BYSSUS.

12 species; British.

1204. TREMELLA, or *Star-jelly.*

19 species; British.

1206. ULVA, or *Laver.*

14 species; British.

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1205. FUCUS, or *Wrack, Sea-weed.*
85 species; British.

1207. CONFERVA, or *Crow-silk.*
53 species; British.

ORDER IV. FUNGI.

1209. AGARICUS, or *Agaric.*
278 species; British.

1218. BOLETUS.
50 species; British. China, America.

1211. HYDNUM.
11 species; British. N. Amer. W. Indies.

1212. PHALLUS, or *Stink-horns.*
Four species; three British.

1213. CLATHRUS.
Four species. S. Europe.

1214. HELVELLA, or *Turban-top.*
13 species; British.

1215. PEZIZA, or *Cup-mushroom.*
39 species; British.

1216. CLAVARIA, or *Club-mushroom.*
24 species; British.

1217. LYCOPERDON, or *Truffle, Puff-ball.*
25 species; British.

1218. MUCOR, or *Mould.*
17 species; British.

In the class Cryptogamia are

51 Genera, including 1467 Species, of which 1210 are found in Britain.

APPENDIX.

PALMÆ, tripetalæ (P).

PALMS, 3-petaled.

Sect. I. *Flabellifoliæ.*

Sect. I. *Fan-shaped leaves.*

1219. CHAMÆROPS. Dicœca. Drupæ tres. C. Dicecious. Drupes 3.
1220. BORASSUS. Dicœca. Drupa 3-sperma. B. Dicecious. Drupe 3-seeded.
1221. CORYPHA. Dicœca. Drupa 1-sperma. C. Dicecious. Drupe 1-seeded.

Sect. II. *Pennatifoliæ.*

Sect. II. *Wing-shaped leaves.*

1224. PHOENIX. Dicœca. Drupa 1-sperma. P. Dicecious. Drupe 1-seeded.
1284. ELÆIS. Dicœca. Drupa 1-sperma, coriacea. Cal. et cor. 6-partita. E. Dicecious. Drupe 1-seeded, leather-like. Cal. and cor. 6-parted.
1225. ARECA. Monœca. Drupa 1-sperma, calyce imbricata. A. Monœcious. Drupe 1-seeded. Cal. tiled.
1226. ELATE. Monœca. Drupa 1-sperma. E. Monœcious. Drupe 1-seeded.
1223. COCOS. Monœca. Drupa 1-sperma, coriacea. C. Monœcious. Drupe 1-seeded, leather-like.

Sect. III. *Bipennatifoliæ.*

Sect. III. *Double wing-shaped leaves.*

1228. CARYOTA. Monœca. Drupa 2-sperma. C. Monœcious. Drupe 2-seeded.

1436. MAURITIA. Masc. amentum. M. Male flower catkin.

1219.

(P) These, though capable of being arranged in the several classes of the system, yet on account of their singular structure, have been placed in an appendix, containing such genera as have a spadix and spatha, *i.* e. whose flowers and fruit are produced on that particular receptacle or seat called a *spadix*, protruded from a common calyx in form of a sheath called *spatha*. This order consists of trees and shrubs only. These have always a simple stem, not branched, bearing leaves at the top resembling those of fern, being a composition of a leaf and a branch, called *frondes;* and the corolla hath always three petals, or three deep divisions. The known genera are 10 in number.

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1219. CHAMÆROPS, or *Dwarf Palm, Palmetto.*
Two species; viz. humilis, excelsa. S. Europe.

1220. BORASSUS, or *Fan Palm.*
One species; viz. flabelliformis. Malabar.

1221. CORYPHA, or *Mountain Palm.*
Two species; viz. umbraculifera, minor. E. Indies, Carolina.

1223. COCOS, or *Cocoa-nut Tree.*
Three species; viz. nucifera, butyracea, guineensis. Guinea, E. and W. Indies.—This tree is well known on account of the rich milky juice that its nut contains. The species, styled *butyracea*, yields what is called *palm oil.* This oil, as brought to us from the West Indies and Africa, is about the consistence of an ointment, and of an orange colour. It has a strong, not disagreeable smell, but very little taste. By long keeping it loses its high colour, and becomes white, when it ought to be rejected as no longer fit for use. The inhabitants of the Guinea coast are said to make the oil part of their food, and to employ it for the same purposes as we do butter. With us it is rarely given inwardly, and used only in some external applications for pains and weaknesses of the nerves, cramps, sprains, and the like. The common people apply it for the cure of chilblains; and when early made use of, not without success.

1224. PHOENIX, or *Common Palm, Date-tree.*
One species; viz. dactylifera. Levant, India.—Dates, the fruit of this tree, are imported into Britain in the state of a half-dried fruit, about the size of an acorn, but generally larger, consisting of a sweet pulpy part, and a hard stone: the best are brought from Tunis. They were formerly used in pectoral decoctions; and supposed, besides their emollient and incrassating virtue, to have a slight astringency. They form the principal part of the food of the inhabitants of some of the oases, or inhabited spots, of the great African desert.

1284. ELÆIS.
One species; viz. guineensis. Guinea.

1225. ARECA, or *Cabbage-tree.*
Two species; viz. catechu, oleracea. E. and W. Ind.

1228. CARYOTA.
One species; viz. urens. India.

1229. ELATE, or *Wild Malabar Palm.*
One species; viz. sylvestris. E. Indies.

1436. MAURITIA, or *Ginkgo, Maiden-hair-tree.*
One species; viz. flexuosa.

In the order of Palmæ are

10 Genera, including 15 species, all foreign.

The following TABLE contains a statement of the number of Plants which we have mentioned or described in this Treatise.

		Genera.	Spec.	B. Spec.
I.	MONANDRIA contains	30	84	8
II.	DIANDRIA	39	299	29
III.	TRIANDRIA	90	920	147
IV.	TETRANDRIA	117	638	56
V.	PENTANDRIA	325	2537	168
VI.	HEXANDRIA	111	784	63
VII.	HEPTANDRIA	15	31	1
VIII.	OCTANDRIA	70	493	30
IX.	ENNEANDRIA	7	49	1
X.	DECANDRIA	119	987	84
XI.	DODECANDRIA	41	273	18
XII.	ICOSANDRIA	39	346	42
XIII.	POLYANDRIA	85	563	50
XIV.	DIDYNAMIA	123	1006	72
XV.	TETRADYNAMIA	34	436	58
XVI.	MONADELPHIA	60	682	16
XVII.	DIADELPHIA	56	710	59
XVIII.	POLYADELPHIA	12	65	8
XIX.	SYNGENESIA	115	1252	113
XX.	GYNANDRIA	32	270	28
XXI.	MONOECIA	79	392	83
XXII.	DIOECIA	55	219	38
XXIII.	POLYGAMIA	34	223	15
XXIV.	CRYPTOGAMIA	51	1447	1204
Append.	PALMÆ	10	15	00
		1749	14721	2391

HISTORY OF BOTANY.

HAVING thus stated the botanical arrangement contrived by Linnæus, which proceeds upon the supposition of the existence of a sexual system in the vegetable world; we proceed to take notice of some other important circumstances connected with this branch of science, more particularly its history, and the natural orders, as opposed to the above artificial classification of plants.

Sect. I. *Ancient Writers upon Botany.*

THE origin of this science, like that of most others, cannot be found out from the most ancient histories; but it is very probable, that some degree of botanical knowledge has existed in every age of the world. The first botanical writings of which we have any account are those of Solomon, who we are informed by Scripture wrote a treatise upon this subject; which, however, is absolutely lost, not being quoted by any ancient author, nor the least fragment of it remaining. Among the Greeks, Anaxagoras, Pythagoras, and other ancient philosophers, wrote treatises on plants; but their works are also lost; and from the quotations that yet remain in the works of Theophrastus, Dioscorides, and Pliny, we learn, that those first botanical writings could convey but very little information.

The historical æra of botany, therefore, commences with Theophrastus the disciple of Aristotle. He was born at Eresium, in the island of Lesbos; and flourished in the third century before the Christian æra, being about 100 years posterior to Hippocrates. His work is entitled *The History of Plants*, and treats of their origin,

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origin, propagation, anatomy, and construction; of vegetable life, and of vegetation. It consisted originally of ten books; but of which only nine are now extant. In these, vegetables are distributed into seven classes or primary divisions; which have for their object, the generation of plant; their place of growth; their size, as trees and shrubs; their use, as pot herbs, and esculent grains; and their lactescence, or the liquor, of whatever colour, that flows from plants when cut. In his work, above 500 different plants are described.

The next botanist of any note was Dioscorides, a Grecian by birth, but under the Roman empire, being near 300 years posterior to Theophrastus. He describes about 600 plants; and these he has arranged, from their uses in medicine and domestic economy, into four classes, which are thus designed: aromatics; alimentary vegetables, or such as serve for food; medicinal, and vinous plants.

Almost cotemporary with Dioscorides flourished Antonius Musa, Cato, Varro, Virgil, and Columella; the first, author of a treatise still extant on the plant *betony*; the four others celebrated for their useful tracts on agriculture and rural economy.

Pliny the Elder, in his voluminous work entitled *The History of the World*, hath a botanical part which is contained in 15 books. In these, besides the plants of Theophrastus and Dioscorides, he has given descriptions of several new species, extracted probably from works which would otherwise have been totally lost. Pliny uses scarce any mode of arrangement, except the ancient, but very incorrect, distinction into trees, shrubs, and herbs. His plan, however, extends not only to botanical distinctions, but to gardening, agriculture, and whatever is connected either more nearly or remotely with the science of plants. He gives descriptions of above 1000 different species; but from the want of a proper systematic arrangement, it is often difficult, and perhaps impossible, to determine what plants he or other ancient botanists do really describe.

This want of precision in properly arranging their plants was the reason why the botany of the ancients was always very limited, and after the time of Pliny declined so rapidly. On the destruction of the Western empire by the Goths and other barbarous nations, it is not to be thought that botany could survive any more than the other sciences. It was not till near the close of the eighth century, that the ancient botany began again to appear in Arabia. Serapion, well known in medicine, stands first in the Arabian catalogue of botanists; to him succeeded Razis, Avicenna, Averrhoes Actuarius, &c. An author known by the name of *Plato Apuleius*, or *Apoliensis*, of whose *Herbarium* very old manuscript copies are preserved in some curious libraries, is supposed to have lived near this period. The works of most of these botanists, however, were only translations and compilations from the Greek writers: so that, for want of a proper systematic arrangement, the science sunk a second time into total oblivion. For near 400 years after Abenguefit, an Arabian physician who flourished in the end of the 12th century, scarce any attempts were made in the botanical way. Some obscure writers indeed appeared in several parts of Europe; as Arnoldus de Ville Nova; Platearius; Mattheus Sylvaticus; and Bartholomew Glanvil, commonly called *Bartholomæus Anglus*, a Franciscan monk, descended of the family of the earls of Suffolk, who lived in the reign of King Edward III. and wrote a book of natural history, entitled *De proprietatibus rerum*, which was translated into English by John de Trevisa in 1398: but though all these wrote of plants, they were so totally destitute of method, that their works remain one great chaos, from whence it is impossible to extract any thing intelligible.

On the revival of letters in the beginning of the 16th century, the botany of the ancients was restored a second time. The Greek writings were translated into Latin the common language of Europe. Gaza, a Greek refugee at Rome, made elegant translations of Aristotle and Theophrastus, who afterwards were commented upon by Scaliger and Stapel. Dioscorides was also translated and commented on. His best commentators are Hermolaus Barbarus, Fuchsius, Ruellus Cordus, Gesner, and Matthiolus. The most distinguished commentators on Pliny are Dalechamp in 1604, Salmasius in 1689, Harduin and Guilandinus. Meursius and Ursinus have written commentaries upon Cato; Campegius and Monardes upon Mesue the Arabian, and Lonicer upon Avicenna. This last hath been translated by several writers, particularly Alpagus, Costæus, and Plempius, into Latin; and by one writer, Amalthæus, into Hebrew.

Hieronymus Bock, or Bouc, a German, generally known by the name of *Tragus*, is the first modern who has given a methodical distribution of vegetables. In 1532, he published a History of Plants, in which he describes 800 species; and these he divides into three classes, founded on the qualities of vegetables, their figure, habit, and size. The same method of arrangement was followed by Lonicer, Dodonæus. L'Obel, Clusius, Brunsfelsius, Monardes, Cordus and some other botanists of this period. How far such a method was deficient, shall be considered in the following section; however, it was not till 1560 that Conrad Gesner first proposed to the world an arrangement of vegetables from the parts of the flower and fruit. He did not establish any plan founded upon this principle; but having suggested the idea, left the application to be made by others: and in 1582 Dr Andrew Cæsalpinus, physician at Pisa, and afterwards professor of botany at Padua, first availing himself of the ingenuity of his predecessor, proposed a method of arrangement which has the fruit for its basis; and thus gave origin to systematic botany, the second grand æra in the history of that science.

Even this improved method of Cæsalpinus was not without very great inconveniences, which shall be taken notice of hereafter. As it was, however, so greatly superior to every thing that had happened before, it might have been expected that the learned would have immediately adopted it, and that all the former equivocal and insufficient characters would have been rejected. But the fact was otherwise. Cæsalpinus's method of arrangement died with him; and it was not till near a century after, that Dr Robert Morrison of Aberdeen, attaching himself to the principles of Gesner and Cæsalpinus, re-established scientific arrangement upon a solid foundation; so that, from being only the restorer of system, he has been generally celebrated as its founder. In the long interval between Cæsalpinus and

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and Morrison flourished some eminent botanists. The most noted are, Dalechamp, author of A general History of Plants; Theodore, surnamed *Tabernæmontanus*, and Thalius, two German writers; Porta, an Italian, famous for an arrangement of plants from their relations to the stars, to men, and other animals; Prosper Alpinus, author of a Catalogue of the Plants of Egypt; Fabius Columna, inventor of many of the botanical terms now used; the two Bauhins; Gerard and Parkinson; Zaluzianski, a Pole, author of an arrangement from the qualities and habits of plants; Margrave and Piso, celebrated for their natural history of Brazil; Hernandez, equally celebrated for his history of Mexico; Passæus, or Du Pas, author of an arrangement of plants from the time of flowering, of all characters the most uncertain and insufficient; Johnston; Bontius, a Dutchman, author of a Natural History of the East Indies; Aldrovandus, the celebrated naturalist; and Rheede, governor of Malabar, and author of the well-known *Hortus Malabaricus*.

The method proposed by Morrison has the fruit for its basis, as well as that of Cæsalpinus; to which, however, it is greatly inferior both in the plan and execution. It is indeed of all others the most difficult in practice, and was therefore not adopted by any succeeding writer, except Bobart, who in 1699 completed Morrison's Universal History of Plants, and an anonymous author whose work appeared in 1720. Imperfect, however, as his method is, it furnished many useful hints, which succeeding botanists have not failed to improve. Ray and Tournefort have owed him much, and are not ashamed to own the obligation. The same has been done even by Linnæus; who hath established the science of botany on the most solid foundation, by introducing a method of arrangement, if not absolutely perfect, at least as nearly approaching to perfection as can be expected; and which therefore hath been deservedly followed, in preference to every other, by all botanists, since its first publication. But to give a particular account of all the different botanical systems, with the particular advantages and disadvantages attending each, shall be the business of the subsequent sections.

Sect. II. *Of the Ancient Method of arranging Vegetables.*

Defects of the arrangement of Dioscorides.

In giving an account of the works of Theophrastus and Dioscorides, we have already taken notice that the former chose seven distinguishing characters, viz. the generation of plants; their place of growth; their size, as trees and shrubs; their use, as pot herbs and esculent grains; and their lactescence, or liquor that flows from them when cut. Dioscorides divided them into aromatics, alimentary, medicinal, and vinous plants. The good properties of this method are, that the botanist as it were comes to the point at once; and when he knows the plant, knows also its virtues and uses, or at least part of them: but this convenience is greatly overbalanced by innumerable disadvantages; for the qualities and virtues of plants are neither fixed and invariable, nor are they impressed in legible characters on the plants themselves. The different parts of a plant often possess different and even opposite virtues; so that supposing the virtues to be known, and applied to the purpose of vegetable arrangement, the roots must frequently fall under one division, the leaves under a second, and the flower and fruit under a third. Besides, if we reflect that the sole end of such arrangement is to facilitate the knowledge of plants to others, the insufficiency and even absurdity of methods founded upon their virtues will immediately appear. A stalk of vervain, for instance, is presented to me, which I am to investigate from a presupposed knowledge of the virtues of plants. Before I can settle the class to which it belongs, I must discover whether or not it has the virtues belonging to any of the plants I know; and this discovery being the result of repeated experiments on various parts of the human body, may require many years for its accomplishment.

Defects of Theophrastus's arrangement.

The same causes which render methods founded on the virtues of plants unfavourable for the purpose of investigation, must evidently disqualify all their other variable quantities and accidents from having a place in a genuine systematic arrangement. The *natale solum* of plants, which is one of Theophrastus's divisions, affords no better distinctive characters than their powers and virtues. Many countries as well as many soils produce the same individual plants. The same species which crown the mountains, frequently cover the fens; and plants which have long been reckoned the peculiar inhabitants of some parts of Asia and America, are now found to grow naturally in equal perfection in the very different climates of Lapland and Siberia. The size of plants, which suggested the ancient division into trees and shrubs, is no less an equivocal mark of distinction than the circumstances already mentioned. The vine, which modern botanists denominate a shrub, was ranged by Theophrastus in his third class containing trees. In fact, every thing respecting size is so much affected by differences of soil, climate, and culture, that the same plant, in different circumstances, shall differ exceedingly in height; and in a method founded upon the size, would sometimes be ranged as a tree, and sometimes as a shrub, or even an under-shrub, according as it happens to exceed, equal, or fall short of, a given standard. No less insufficient are characteristical marks drawn from the colour, taste, and smell of plants. Of all the attributes of vegetable nature, colour is perhaps the most inconstant. Heat, climate, culture, soil, &c. contribute to the production of endless diversities of colour, and render the transition from one to another natural and easy. Red and blue pass easily into white, white into purple, yellow into white, red into blue, blue into yellow, &c. In the same leaf or flower, different colours are frequently observed. Variations too in point of colour are frequently observed to take place not only in different individuals of the same species, but even in similar parts of the same plant. Marvel of Peru and sweetwilliam produce flowers of different colour upon the same stalk. Objections equally valid lie against characteristical marks drawn from the taste and smell. The former varies in different individuals from differences of age, and even in the same individual at different times, according to the morbid or sound state of the organ. The latter is different in different subjects, and varies in each; nor are the effluvia sent forth from the same body always of equal intensity. In plants, taste is subject to continual variations, from difference of climate, soil, and culture.

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Garlic in some climates, particularly in Greece, is said to lose its rankness: apples and pears that grow naturally in the woods, are intolerably acid; celery and lettuce, which culture renders sweet and palatable, are in their wild uncultivated state bitter, disagreeable, and in some cases noxious.

These considerations are abundantly sufficient to show the imperfections of the ancient system of botany; and, indeed, considering the vague and uncertain marks by which the ancients distinguished one plant from another, we may rather wonder how such a science as botany came to have an existence among them, than that they arrived at no greater perfection in it, or suffered it so soon to fall into oblivion.

Sect. III. *Of the different Botanical Systems from the time of Gesner to that of Linnæus.*

THE insufficiency of the ancient botanical system being so fully shown in the last section, we think it needless to take much notice of the methods used by Tragus and his cotemporaries and followers. The virtues of plants being found an insufficient characteristic, succeeding botanists had taken in the root, stem, and leaves; but these being also found insufficient and variable, Gesner turned his eye to the flower and fruit, as being the most permanent and unchangeable parts of the plant. In proposing the parts of fructification, however, as the most proper for arranging plants, he communicated no hints respecting the choice of some of those parts in preference to others. Each particular organ of the flower and fruit furnishes sufficient variety to serve as the foundation of a method; but all of them are not equally proper for this purpose. Cæsalpinus, the first follower of Gesner, made a mistake in his choice, and took his distinguishing characteristics only from the fruit. The parts of the flower, therefore, being employed by the first systematic writers only as subaltern directions in finding out orders and genera, it is evident that the plant could not be fully investigated for several months. Suppose a plant ripens its fruit in October, and does not produce flowers till the following May: the class, upon inspection of the fruit in the month of October, is immediately ascertained; but the plant still remains unknown, and will continue so upwards of six months after, if the characters of the order and genus have been made to depend on any part of the flower. Methods founded on the fruit have another inconvenience; plants constantly ripen their fruit in these countries where they grow naturally, but not always in the countries to which they may be accidentally transported. So far from this, that many plants that are natives of a warm climate, neither ripen nor form fruit in a cold one. Few of the African, Asiatic, and West Indian plants produce fruit in Britain. A method, therefore, founded upon the fruit, could only facilitate the knowledge of such plants to the inhabitants of those countries where they grow: to the English botanist they could be of little or no service. The same objection cannot reasonably be urged against methods founded on the flower, since the influence of climates much colder than that of Britain has not been able to destroy the faculty of producing flowers in many, perhaps in most of the plants just mentioned.

Gesner's arrangement.

Cæsalpinus.

Cæsalpinus sets out with an ancient distinction of vegetables, from their duration, into trees and herbs. With the former he combines shrubs; with the latter, under-shrubs; and distributes his plants into the 15 following classes. 1. Trees with the germ (radicle or principle of life in the seed) on the point of the seed. 2. Trees with the germ on the base of the seed. 3. Herbs having one seed only. 4. Herbs having two seeds. 5. Herbs having four seeds. 6. Herbs having many seeds. 7. Herbs having one grain or kernel. 8. Herbs having one capsule. 9. Herbs having two capsules. 10. Herbs having fibrous roots. 11. Herbs having bulbous roots. 12. Herbs having succory or endive-like flowers. 13. Herbs having common flowers. 14. Herbs having several follicles or seed-bags. 15. Herbs having neither flower nor seed.

The inconveniences of this method have been already pointed out pretty fully, and will evidently appear upon an attempt to refer any common plant to one of the 15 above-mentioned classes. His sections, orders, or secondary divisions, are 47 in number, and depend upon a variety of parts and circumstances. The principal of these are, the disposition, situation, and figure of the flowers; the nature of the seed-vessel, or cover of the seeds; the situation of the radicle in the seed; the number of seed-lobes, or seminal leaves; the disposition of the leaves, and colour of the flowers. The lactescence too, or milkiness, which is observed in the compound flowers with flat florets, is made a characteristic distinction, and discriminates the first order of the 12th class. Thus, in the first systematic arrangements, the characters of the classes only were borrowed from the parts of fructification; while those of the subaltern divisions were very numerous, and respected every part of the plant; but that such divisions might be perfect, they should be constituted, like the classes, from the modifications of a single part of the fructification.

Morrison's method.

The great object had in view by Morrison, who comes next in order to Cæsalpinus, was to investigate the order of nature, not to fabricate an easy method of arranging plants. Hence his system is devoid of uniformity, and clogged with a multiplicity of characters; his classes are frequently not sufficiently distinguished from one another, and the key of arrangement seems totally lost. He sets out with a division of plants, from their consistence, into ligneous or woody, and herbaceous. He founds his system on the fruit, the corollæ or blossoms, and the habit of the plants. His classes are as follow: 1. Trees. 2. Shrubs. 3. Under-shrubs. 4. Herbs climbing. 5. Herbs leguminous or papilionaceous. 6. Herbs podded. 7. Herbs tricapsular or with three capsules. 8. Herbs with four or five capsules. 9. Herbs corymbiferous. 10. Herbs having a milky juice, or downy tops. 11. Herbs culmiferous, as grasses. 12. Herbs umbelliferous. 13. Herbs having three kernels. 14. Herbs having helmet-shaped flowers. 15. Herbs having many capsules. 16. Herbs berry-bearing. 17. Herbs called *capillary plants*, as the fern kind. 18. Anomalous or irregular herbs.

Of these classes, the fourth and eighth possess no genuine distinctive character; nor are the ninth and tenth classes sufficiently distinguished; the fifteenth class is not sufficiently distinguished from the eighth, nor the 16th from the fourth. His sections or secondary divisions, which are 108 in number, arise from the figure and substance of the fruit; the number of seeds, leaves,

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leaves, and petals; the figure of the root; the direction of the stem; the colour of the flowers; the place of growth; and, in one class, from the medicinal virtues of some of the plants that compose it.

r's method. In 1682, Ray proposed his method to the world, two years after the publication of Morrison's, which served in some measure as its basis. It consisted originally of the following 25 classes: 1. Trees. 2. Shrubs. 3. Herbs imperfect. 4. Herbs having no flowers. 5. Capillary plants. 6. Staminous herbs having only the stamina. 7. Those having one naked seed. 8. Umbelliferous herbs. 9. Verticillated, annular, or ring-shaped ones. 10. Rough-leafed plants. 11. Stellated or star-shaped ones. 12. Apple-bearing herbs. 13. Berry-bearing herbs. 14. Herbs having many pods. 15. Monopetalous uniform, or regular herbs. 16. Monopetalous irregular, or having different forms. 17. Tetrapetalous, having large pods. 18. Tetrapetalous, having small pods. 19. Papilionaceous. 20. Pentapetalous herbs. 21. Corns. 22. Grasses. 23. Grass-leafed plants. 24. Bulbous-rooted plants. 25. Plants near akin to the bulbous.

This method Ray carefully corrected and amended at different times; so that the plan of arrangement which now bears the name of that author, and was first published in 1700, is entirely different from what had appeared in 1682. It now consists of 33 classes. Their distinguishing marks are taken from the port or habit of the plants; their greater or less degree of perfection; their place of growth; the number of seed-lobes, or seminal leaves, petals, capsules, and seeds; the situation and disposition of the flowers, flower-cup, and leaves; the absence or presence of the buds, flower-cup, and petals; the substance of the leaves and fruit; and the difficulty of classing certain plants. They are as follow: 1. Submarine, or sea plants. 2. Fungi. 3. Mosses. 4. Capillary plants. 5. Those without petals. 6. *Planipetalæ*, those with compound flowers; semiflosculous, or half-florets. 7. Those with compound flowers radiated. 8. Those with compound flowers, flosculous, or with whole florets. 9. Plants with one seed. 10. Plants umbellated. 11. Those stellated or star-shaped. 12. Rough-leafed plants. 13. Plants verticillate or whorled. 14. Those with many seeds. 15. Apple-bearing herbs. 16. Berry-bearing herbs. 17. Those with many pods. 18. Monopetalous herbs. 19. Those with two and three petals. 20. Those with great and small, or long and short pods. 21. Leguminous plants. 22. Pentapetalous ones. 23. Bulbs, and bulbous-like plants. 24. Stamineous ones, or those having only the stamina. 25. Anomalous plants, or those of an uncertain family. 26. The palms. 27. Trees without petals. 28. Trees with an umbilicated fruit. 29. Trees with fruit not umbilicated. 30. Trees with a dry fruit. 31. Trees with podded fruit. 32. Anomalous or irregular trees.

The distinction into herbs and trees with which Ray's method sets out, acknowledges a different, though not more certain principle than that of Cæsalpinus and Morrison. The former, in making this distinction, had an eye to the duration of the stem; the latter to its consistence. Ray called in the buds as an auxiliary; and denominates trees, "all such plants as bear buds;" herbs, "such as bear none." But against this auxiliary there lies an unanswerable objection; namely, that though all herbaceous plants rise without buds, all trees are not furnished with them: many of the largest trees in warm countries, and some shrubby plants in every country, being totally destitute of that scaly appearance which constitutes the essence of a bud. In other respects, it is evident that neither Mr Ray's plan nor execution is in any degree calculated to facilitate the knowledge of plants. In fact, it seems to have been Ray's great object, no less than Morrison's, to collect as many natural classes as possible; and these being separately investigated, a multiplicity of characters and steps was necessarily required to connect them: and hence the intricacy complained of in both these methods, which must always take place where the classes give rise to the connecting characters, not the characters to the classes. The characters of the orders, or secondary divisions, in Ray's method, are no less multifarious than those of the classes. They respect the place of growth of plants; their qualities; the figure of the stem; the number, situation, substance, and division, of the leaves; the situation and disposition of the flowers and calyx; the number and regularity of the petals; with the number and figure of the fruit. In his improved method, Ray has adopted Tournefort's characters of the genera, wherever his plan would permit. His general History of Plants contains 18,655 species, and varieties. The third volume, which was not published till 1704, and was designed as a supplement to the two former, contains the plants discovered by Tournefort in the Levant, and by Camelli at Luzon one of the Philippine islands. Ray's method was followed by Sir Hans Sloane, in his Natural History of Jamaica; by Petiver, in his British Herbal; by Dillenius, in his Synopsis of British plants; and by Martin, in his Catalogue of plants that grow in the neighbourhood of Cambridge.

To Ray's original method succeeded that of Christopher Knaut, a German; which acknowledges the same principle, and is manifestly founded upon it. In his enumeration of the plants that grow round Hal in Saxony, published in 1687, he divides vegetables into 17 classes, which have for their basis the size and duration of plants, the presence or absence of the petals, the disposition of the flowers, the substance of the fruit, the number of capsules or seeds, the number and figure of the petals, and the presence, absence, or figure of the calyx. His classes are, 1. Herbs berry-bearing. 2. Monopetalous, or with one flower-leaf. 3. Tetrapetalous and regular, with four petals. 4. Tetrapetalous and irregular. 5. Pentapetalous, or with five petals. 6. Hexapetalous, or six petals. 7. Polypetalous, or many petals. 8. Multicapsular, or many capsules. 9. Naked seeds. 10. Solid, or not downy. 11. Downy seeds. 12. Without petals. 13. Stamineous, without petals or calyx. 14. Imperceptible. 15. Imperfect. 16. Trees. 17. Shrubs. Christopher Knaut's arrangement.

The sections or subdivisions of the classes in Knaut's method are 62 in number; and arise from the figure of the stem and petals, the number of capsules and cells, their figure, the number of seeds and leaves, and situation of the flowers.

In 1696, a new method, proposed by Dr Herman professor of botany at Leyden, was published by Zumbac, who arranged according to it the plants contained in the public garden of Leyden. Rudbeckius the Younger, in a dissertation published the same year, on the Herman's method.

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the fundamental knowledge of plants, adopted Herman's method, with a few inconsiderable variations. The classes of Dr Herman are 25 in number. They are founded on the size and duration of the plants; the presence or absence of the petals and calyx; the number of capsules, cells, and naked seeds; the substance of the leaves and fruit; the form and consistence of the roots; the situation and disposition of the flowers; leaves, and calyx; and figure of the fruit. 1. Herbs having one naked seed and a simple flower. 2. Having one naked seed and a compound flower. 3. With two naked seeds, and stellated or star-shaped. 4. Two naked seeds, and umbelliferous. 5. Four naked seeds, and rough leaves. 6. Four naked seeds, and verticillated or whorl-shaped. 7. With many naked seeds. 8. Having seed-vessels, bulbous and tricapsular. 9. Having one seed-vessel. 10. With two seed-vessels. 11. With three seed-vessels. 12. With four seed-vessels. 13. With five seed-vessels. 14. Podded, which are always tetrapetalous. 15. Leguminous and papilionaceous. 16. With many capsules. 17. Having fleshy fruit, berry-bearing. 18. With fleshy fruit, apple-bearing. 19. Without petals, but having a calyx. 20. Without petals, chaffy, or staminous. 21. Without petals, calyx, chaff, or stamina, *i. e.* naked antheræ, as the mosses. 22. Trees. Imperfect fructification, bearing catkins. 23. Trees with a fleshy fruit, umbilicated. 24. Trees with a fleshy fruit, not umbilicated. 25. Trees with a dry fruit.

The classes in Herman's method are subdivided into 82 sections or orders; which have for their basis the number of petals, seeds, capsules, and cells, the figure of the seeds and petals, and disposition of the flowers.

Boerhaave's method.

To the method of Dr Herman succeeded that of Dr Boerhaave, who succeeded to the botanical chair of Leyden in 1709. His method is that of Herman, blended with part of the systems of Tournefort and Ray; and contains the following classes. 1. Herbs submarine, or sea plants. 2. Imperfect land plants. 3. Capillary plants, of the fern kind. 4. Many naked seeds. 5. Four naked seeds, and verticillated. 6. Four naked seeds, and rough leaves. 7. Four naked seeds, and four petals. 8. Plants having one seed-vessel. 9. Two seed-vessels. 10. Three seed-vessels. 11. Four seed-vessels. 12. Five seed-vessels. 13. Many seed-vessels. 14. Two naked seeds, and umbelliferous. 15. Two naked seeds, and star-shaped. 16. One naked seed, and a simple flower. 17. One naked seed and compound flowers semiflosculous. 18. One naked seed, and compound flowers radiated. 19. One naked seed, and compound flowers corymbiferous. 20. One naked seed, and compound flowers flosculous. 21. Berry-bearing herbs. 22. Apple-bearing herbs. 23. Without petals. 24. One cotyledon, and having petals. 25. One cotyledon, and without petals. 26. Trees having one cotyledon. 27. Many podded. 28. Podded. 29. Tetrapetalous and cruciform. 30. Leguminous. 31. Having no petals. 32. Bearing catkins. 33. Monopetalous flowers. 34. Rosaceous flowers.

These 34 classes of Dr Boerhaave are subdivided into 104 sections, which have for their characters, the figure of the leaves, stem, calyx, petals, and seeds; the number of petals, seeds, and capsules; the substance of the leaves; the situation of the flowers, and their difference in point of sex. By this method, Dr Boerhaave arranged near 6000 plants, the produce of the botanical garden at Leyden, which he carefully superintended for the space of 20 years, and left to his successor Dr Adrien Royen, in a much more flourishing state than he himself had received it. His Index or Catalogue of the Leyden plants was published in octavo in 1710; and afterwards with great additions, in quarto, in 1720. This last edition contains descriptions of 5650 plants; of which number upwards of two-thirds had been introduced into the garden since the time of Herman, by his illustrious successor. Boerhaave's characters are derived from the habit or general appearance of plants combined with all the parts of fructification; so that, as Linnæus very properly observes, he was the first who employed the calyx, stamina, and style, in determining the genus. About 17 new genera were established by this author; among others, the very splendid family of the protea and silver tree, which, although partly described by Morrison, had remained generally unknown till this period. His method was adopted by one Emsting, a German, in a treatise entitled *The first Principles of Botany*, published in octavo at Wolfenbuttle, in 1748.

Rivinus's method.

Hitherto all the botanists had been intent upon investigating the order of nature, rather than facilitating the arrangement of vegetables; therefore their methods were very intricate and perplexed; and their writings, however entertaining to the learned, could afford but very little instruction to the young botanist. In 1690, however, Augustus Quirinus Rivinus, a German, professor of botany at Leipsic, relinquishing the pursuit of natural affinities, and convinced of the insufficiency of characteristic marks drawn only from the fruit, attached himself to the flower, which, he was sensible, would furnish characters no less numerous, permanent, and conspicuous, than those drawn from the fruit. The calyx, petals, stamina, and style or pointal, which constitute the flower, are sufficiently diversified in point of number, figure, proportion, and situation, to serve as the basis of a mode of arrangement; yet all are not equally proper for this purpose. Rivinus made use of the petals as the largest and most beautiful part, and that from which the flower itself is commonly characterized. His method consists in the following 18 classes, which have for their basis the perfection and disposition of the flowers, and regularity and number of the petals. 1. Regular monopetalous, or having one petal. 2. Dipetalous. 3. Tripetalous. 4. Tetrapetalous. 5. Pentapetalous. 6. Hexapetalous. 7. Polypetalous, or having many petals. 8. Irregular monopetalous. 9. Irregular dipetalous. 10. Irregular tripetalous. 11. Irregular tetrapetalous. 12. Irregular pentapetalous. 13. Irregular hexapetalous. 14. Irregular polypetalous. 15. Compound flowers of regular florets. 16. Compound flowers of regular and irregular florets. 17. Compound flowers of irregular florets only. 18. Incomplete or imperfect plants.

As Rivinus set out with the professed design of imparting facility to botany, he judged very properly in divesting his method of all extraneous matter, and rendering it as simple and uniform as the nature of the science would admit. The distinction into herbs and trees had been adopted by every writer on plants since the time of Aristotle. Rendered in some measure sacred by its antiquity, this distinction maintained a kind of

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of importance to which it was by no means essentially entitled. Rivinus was the first who in this matter dared to think for himself. He was early sensible of the inconveniences to which those had submitted who employed it as a primary division; and therefore resolved at once to get rid of a distinction that is frequently uncertain, always destructive to uniformity, and in its nature repugnant to the genuine spirit of system, because totally unconnected with the parts of fructification. In the uniformity of its orders or secondary divisions, which are 91 in number, and acknowledge the fruit for their principle, Rivinus's method equals, perhaps excels, all that went before or succeeded it. Only three classes of this method were published by Rivinus himself. These are the 11th, 14th, and 15th, which were offered to the public at different times, illustrated with very splendid figures. The method was completed and published entire by Heucher, in a work entitled *Hortus Wirtenbergensis*, printed in quarto at Wirtenberg in 1711.

Followers of Rivinus.

Several German authors have followed Rivinus's method, either wholly or in part, without offering any considerable amendment. The principal of these are, Koenig, in a work on vegetables, published at Basil in 1696; Welch, in his *Basis Botanica*, printed at Leipsic in octavo, in 1697; Gemeinhart, in a catalogue of plants published in 1725; Kramer, in a work entitled *Tentamen Botanicum*, published at Dresden in 1728, and afterwards reprinted with additions at Vienna in 1744; and Hecker, in a dissertation on botany published at Hal in Saxony, in 1734. To these may be added Hebenstreit, an ingenious botanist, who in a treatise on plants published at Leipsic in 1731, just before his famous African expedition, established generical characters, which had hitherto been wanting in Rivinus's method.

The writers who have attempted to improve upon Rivinus's method are Bernard Ruppius, Christopher Ludwig, and Christian Knaut. Ruppius, in his *Flora Jenensis*, published at Francfort in 1718, has arranged the 1200 plants there described by a method partly Rivinus's and partly his own. It consists of 17 classes, and sets out with the same divisions and subdivisions as that of Rivinus's; with this difference, however, that, whereas in Rivinus's method all perfect flowers are divided into simple and compound, in Ruppius the division of regular and irregular flowers precedes that just mentioned, and simple and compound flowers are made subdivisions of the regular flowers only.

Ludwig's method.

Christopher Ludwig's method, which was published in 1737, and consists of 20 classes, differs but little from that of Rivinus. The author accompanied Hebenstreit on his expedition to Africa, and seems to have made plants his favourite study. The improvement, however, which he has made on Rivinus's plan, consists only in rendering it more universal, having enriched it with a multitude of genera collected from the works of Tournefort, Ray, Boerhaave, Dillenius, and other eminent botanists, whose generical characters he has likewise adopted. His plan of arrangement has been followed by two succeeding writers: M. Wedel, in a botanical essay published in 1747; and three years after by M. Bochmer, in his catalogue of the plants which grow in the garden of Leipsic.

The method of Christian Knaut is much more properly his own, and departs in a much greater degree from that of Rivinus than either of the two former. The regularity and number of the petals furnished the classical divisions in Rivinus's method: in that of Knaut, number takes place of regularity; so that it is very properly termed by Linnæus, "The system of Rivinus inverted." This method was published in 1716; and sets out with a division into flowers which have one petal, and such as have more than one. It consists of the 17 following classes. 1. Monopetalous uniform or regular. 2. Monopetalous difform or irregular. 3. Monopetalous compound uniform or regular. 4. Monopetolous compound difform or irregular. 5. Monopetalous compound uniform and difform together. 6. Dipetalous uniform or regular. 7. Dipetalous difform or irregular. 8. Tripetalous uniform or regular. 9. Tripetalous difform or irregular. 10. Tetrapetalous uniform or regular. 11. Tetrapetalous difform or irregular. 12. Pentapetalous uniform or regular. 13. Pentapetalous difform or irregular. 14. Hexapetalous uniform or regular. 15. Hexapetalous difform or irregular. 16. Polypetalous uniform or regular. 17. Polypetalous difform or irregular.

Christian Knaut's method.

The sections or secondary divisions in Knaut's method are 121, and depend upon the internal divisions of the fruit; and upon this his opinions are somewhat singular. Every kind of fruit, whether pulpy or membranaceous, is termed by our author a *capsule*. Neither is the term restricted to fruits properly so called: it is extended also to those termed by botanists *naked seeds*, the existence of which Knaut absolutely denies. Agreeable to this opinion, capsules, he says, with respect to their consistence or substance, are of two sorts; pulpy, or membranaceous. The former correspond to the fruits of the apple, berry, and cherry kind; the latter to the capsules properly so called, and naked seeds of other botanists. Again, with respect to their cells or internal divisions, capsules are either simple or compound. Simple capsules have an undivided cavity or a single cell; compound capsules are internally divided into two or more cells. With other botanists, the umbelliferous flowers bear two, the lip flowers four, naked seeds; according to Knaut, the former produce two, the latter four, simple capsules. Ranunculus, adonis, anemony, herb-bennet, and some other plants, have their flowers succeeded by a number of naked seeds collected into an aggregate or head; each of these seeds passes with Knaut for a simple capsule; so that the whole is an aggregate of several capsules with an undivided cavity or single cell. In numbering the cells or internal divisions of the pulpy fruits, our author has adopted a very singular method. Some fruits of the apple kind enclose a capsule that is divided into five membranaceous cells. It might then be very reasonably expected to find such fruits arranged with compound capsules of five cells: but, instead of this, the author whimsically enough combines in their arrangement the idea both of a simple and compound capsule. The pulpy part is undivided; in other words, it is a simple capsule furnished with one cell; the compound capsule enclosed contains five cells, which added to that of the pulp make the number six; and thus these kinds of fruits are arranged with those having capsules of six cells. By the same kind of reasoning, the fruit of the dogwood, which is of the cherry kind, and contains a stone

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stone with two cells or cavities, is placed by Knaut among compound capsules with three cells; the pulp passing for one division, and cavities of the stone or nut for the remaining two. This method of calculation is not the only singularity for which Knaut is remarkable. The essence of the flower is made by Ray, Tournefort, Rivinus, and most other botanists, to consist in the stamina and style. This position Knaut absolutely denies; and has established for a principle, that the flower is essentially constituted by the petals only. With him, the flower-cup, stamina, and style, are of little significance: their presence does not constitute a flower, if the petals are wanting; neither is their absence sufficient to destroy its existence, if the petals are present: from this it follows, 1. That there can be no flowers without petals; and, 2. That the regularity or irregularity of the flower can never depend on the stamina and style, which are only occasionally present, and nowise essential to its existence; both of which are evidently false to every botanical reader.

Tournefort's method.

Since the time of Rivinus, no leading method in botany has appeared except those of Tournefort and Linnæus. Tournefort sets out with reviving the distinction of plants into herbs and trees, which had been exploded by Rivinus. His system is founded on the regularity and figure of the petals, together with the twofold situation of the receptacle of the flowers; his orders, on the pistillum or calyx. The classes are, 1. Herbs with simple flowers monopetalous, and bell-shaped. 2. Simple flowers monopetalous, tunnel and wheel-shaped. 3. Simple flowers monopetalous, labiated or lipped. 4. Simple flowers monopetalous, anomalous or irregular. 5. Simple flowers polypetalous, cruciform or cross-shaped. 6. Simple flowers polypetalous, and rosaceous or rose-like. 7. Simple flowers polypetalous, umbellated. 8. Simple flowers polypetalous, caryophyllaceous, or clove-form. 9. Simple flowers polypetalous, liliaceous or lily-form. 10. Simple flowers polypetalous, papilionaceous, or butterfly-form. 11. Simple flowers polypetalous, anomalous or irregular. 12. Compound flowers, flosculous, tubular or whole florets. 13. Compound flowers, semiflosculous, flat or half florets. 14. Compound flowers radiated, like the spokes of a wheel. 15. Apetalous, having no petals. 16. No flower, but bearing seed. 17. No flower nor seed, in the vulgar estimation. 18. Trees with no petals, but bare stamina. 19. Trees with no petals bearing catkins. 20. Trees monopetalous. 21. Trees rosaceous. 22. Trees papilionaceous.

The secondary divisions in Tournefort's method, which are 122 in number, have obtained the name of *sections*. Their general distinctions are founded principally upon the fruit, as those of the classes are upon the flower.

Other writers.

Tournefort hath been followed by a vast number of botanical writers, of whom the most considerable are, Dr William Sherard, an eminent botanist of the last and present centuries. In 1689, he published the first sketch of Tournefort's method, under the title of *Schola Botanices*; or a catalogue of the plants demonstrated by Dr Tournefort, in the royal gardens at Paris. It was not till five years after, that the *Elementa Botanica*, a work which contains the rudiments and illustration of his method, was published by Tournefort himself.—Father Plumier, termed by way of eminence the *Tournefort of America*, published in 1703, at Paris, a description of American plants, which he has arranged according to the system of Tournefort. In this work he accurately characterized 96 new genera. Falugi, an Italian, has described, in pretty elegant Latin verse, all the genera of Tournefort, in a work entitled *Prosopopœiæ Botanicæ*, published at Florence, 12mo, 1705. Several celebrated French academicians, particularly Marchant, Dedart, Nissole, Jussieu, and Vaillant, have also occasionally paid their tribute of acknowledgement to this author, from the year 1700 to 1740. The other authors of note who have followed Tournefort's method, are, M. Petit, an ingenious French botanist; Johren, a German, author of a treatise published at Colberg in 1710, entitled *Vade mecum Botanicum, seu Odegus Botanicus;* Feuille, in his description of the plants of Chili and Peru, published at Paris in quarto, 1714; Christopher Valentin, a German, author of a book entitled *Tournefortius Contractus*, published at Francfort, in folio, 1715; Ripa, an Italian, in a work entitled *Historiæ Universalis Plantarum Conscribendi Propositum*, published in quarto, at Padua, in 1718; Michael Valentin, a German, in his *Viridarium Reformatum*, published in folio, at Francfort, in 1719; the celebrated Dillenius, professor of botany at Oxford, and author of several much esteemed publications on botany; particularly the *Hortus Elthamensis*, and History of Mosses, in his Flora Gissensis, printed at Francfort in 1719; Pontedera, an Italian, author of the delineation of a method which combines those of Tournefort and Rivinus, published at Padua, in his botanical dissertations, in 1720; Monti, an Italian, in a work published at Bologna in 1724, under the title of *Indices Plantarum Varii;* Dindem, a German, in his *Tournefortius Alsaticus*, first published in 1728; Signior Micheli, author of several curious discoveries respecting mosses and mushrooms, in his *Nova Genera Plantarum*, published in folio at Florence in 1729; Elvebemes, a Swede, in a work published in the Swedish language at Upsal in 1730; Fabricius, a German, author of a work entitled *Primitiæ Floræ Butisbacensis, seu sex Decades Plantarum Rariorum*, published in 1743; Sabbati, an Italian, in his catalogue of the plants that grow in the neighbourhood of Rome, printed at Rome in 1745; and the ingenious Dr Charles Alston, late professor of botany at Edinburgh, in his *Tyrocinium Botanicum*, published at Edinburgh in 1753.

Plumier's method.

Of all this numerous list of writers, Father Plumier and Pontedera alone have ventured to quit the track pointed out by Tournefort. The former, in his arrangement of American plants, has relinquished the distinction into herbs and trees; but the latter has attempted more considerable variations. His classes are, 1. Uncertain. 2. Having no flowers. 3. Without buds, imperfect plants. 4. Anomalous or irregular. 5. Labiated. 6. Bell-shaped. 7. Saucer-shaped. 8. Wheel-shaped. 9. Tunnel-shaped. 10. Flosculous. 11. Semiflosculous. 12. Radiated. 13. Irregular. 14. Papilionaceous. 15. Liliaceous. 16. Caryophyllaceous. 17. Cruciform or cross-shaped. 18. Umbellated. 19. Staminous, or with naked stamina. 20. Bearing buds apetalous, or without petals. 21. Bearing buds irregular. 22. Bearing buds bell-shaped. 23. Bearing

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ing buds wheel-shaped. 24. Bearing buds tunnel-shaped. 25. Bearing buds papilionaceous. 26. Bearing buds rosaceous.

Magnol's method.

Besides all these methods, there have been invented two others, founded upon the calyx. The first of these was the invention of Peter Magnol, a celebrated professor of botany at Montpelier, and published in 1720, five years after the author's death. The other was delineated by Linnæus, and published in his *Classes Plantarum* in 1738, three years after the publication of the sexual system. Magnol distinguishes two kinds of calyx; one external, which envelopes and sustains the flower, and is the flower-cup properly so called; the other internal, which is the seed-vessel or fruit. According to this idea, all plants, whether herbaceous or woody, are furnished with either the external calyx only, or with both. His classes are, 1. Herbs with the calyx external, including a flower unknown. 2. Calyx external, including a flower staminous. 3. Calyx external, including a flower monopetalous. 4. Calyx external, including a flower polypetalous. 5. Calyx external, including a flower compound. 6. Calyx external, supporting a flower monopetalous. 7. Calyx external, supporting a flower polypetalous. 8. Calyx internal only, which is the corolla. 9. Calyx external and internal, flower monopetalous. 10. Calyx external and internal, flower with two and three petals. 11. Calyx external and internal, tetrapetalous. 12. Calyx external and internal, polypetalous. 13. Trees with the calyx external only. 14. Calyx internal only. 15. Calyx external and internal both.

The characters of the orders, or secondary divisions, in Magnol's method, are derived chiefly from the figure of the calyx, petals, and seeds; from the disposition of the flowers; from the number of petals, and substance of the fruit. Fifty-five sections or orders arise from the combination of these characters with those of the classes; and these are again subdivided into genera, which possess this singularity, that, in place of distinctive characters hitherto employed, they exhibit complete descriptions of all the parts of fructification of one or two species of each genus. From this improvement Linnæus manifestly borrowed the hint of his generical characters.

Sir John Hill's system. * Vol. i. p. 150.

Sir John Hill, in his Vegetable System, endeavours to class plants according to their internal structure *. "Perhaps (says he), upon the foundation of a true anatomy of plants a natural method may be established: for it is certain, the forms of all the external parts of vegetables depend on the disposition of the internal; and all their differences are founded there. On the different inner structure of the vegetable body, under certain courses of its vessels, evidently depend the differences which characterize the seven first families, to the distinctions of which all classes are subordinate; and as these original distinctions are truly natural, we may here begin very safely.

"The seven families are these: 1. The mushrooms. 2. The algæ, or foliaceous sea and land plants. 3. The mosses. 4. The ferns. 5. The grasses. 6. The palms. 7. The common race of plants. Their distinctions one from another are these:

"1. The mushrooms are fleshy; and are destitute of leaves and visible flowers. 2. The algæ are merely foliaceous, the entire plant consisting of a leafy matter without other visible parts. 3. The mosses have processes of the inner rind for leaves. 4. The ferns consist of a single leaf raised on a stalk; and bear their flowers upon its back. 5. The grasses have jointed stalks and undivided leaves, and husks to hold the seeds. 6. The palms have a simple trunk, with leaves only on the top, and have the flowers and fruit in divided ears."

Lastly, The seventh class, which he calls the *common race of plants*, are such as have their roots, leaves, stalks, flowers, and fruits, distinct and obvious; and have not the characters of any of the other six families.

To this natural method his artificial one, consisting of 43 classes, and which takes up the whole of his voluminous work, is designed only as an index; but as this is universally allowed to be inferior to Linnæus's, though he intends to improve that system, we think it needless to take any further notice of it.

Linnæus's arrangement by the calyx.

Besides the sexual system of Linnæus, which is now almost universally followed, he formed another, which, like that of Magnol, had the calyx for its basis, but greatly superior both in the idea and execution, being indeed singularly serviceable to the novice in botany, by familiarizing to him various appearances of an organ so important in its nature, and so diversified in its form, as the calyx is. The classes are, 1. Spathaceous, like a sheath or hose. 2. Glumose or chaffy. 3. Amentaceous, or catkins. 4. Umbellated. 5. Common calyx or flower-cup. 6. Double calyx. 7. Flowering; the petals and stamina inserted into the flower-cup. 8. Crowned, or crown-shaped, with a radius. 9. Irregular. 10. Difform, or different shapes. 11. Caducous, which fall off or shed their leaves. 12. Not caducous, uniform and monopetalous. 13. Not caducous, uniform and polypetalous. 14. Not caducous, difform and monopetalous. 15. Not caducous, difform and polypetalous. 16. Incomplete calyx. 17. Apetalous, or a bare calyx without petals. 18. Naked, or neither petals nor calyx.

Sect. IV. *Of the Sexes of Plants.*

As many philosophers and botanists deny that such a thing as the distinction of sexes takes place in vegetables, it will be necessary to give a statement of the arguments employed by both parties on this subject. We shall begin with the arguments in favour of the sexes.

Sexual system ancient.

I. Linnæus is at great pains in tracing the notion of sexes in plants to the remotest periods of antiquity. He informs us, that Empedocles, Anaxagoras, and other ancient philosophers, not only attributed the distinction of sexes to plants, but maintained that they were capable of perceiving pleasure and pain.

Hippocrates and Theophrastus are next introduced as distinguishing the conyza, the abies, the filix, &c. into male and female. The latter of these writers affirms that the fruits of the female palm will not germinate, unless the pollen of the male be shaken over the spatha of the female previous to the ripening of the seed.

Dioscorides takes notice of a male and female mandragora, mercurialis, cistus, &c.

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Pliny does not confine his views of sex to animals, but exclaims, that every thing this earth produces is characterized by the distinction of sex.

From the days of Pliny to those of Cæsalpinus, who lived in the 16th century, the analogy between the vegetable and animal seems to have been entirely neglected. Cæsalpinus tells us, that the males of the oxycedrus, taxus, mercurialis, urtica, and cannabis, are barren; and that the females of these plants only bear fruit.

After Cæsalpinus, we find Dr Grew and Sir Thomas Millington engaged in a conversation concerning the utility of the stamina and styli of plants. The result of this conversation was the mutual agreement of these two eminent naturalists, that the stamina and styli of vegetables were analogous to the organs of generation in animals, and that they were adapted by nature to answer the same purposes. Dr Grew, in his anatomy of plants, after enumerating the analogies between plants and animals, concludes, that the pollen probably emits certain *vivific* effluvia, which may serve for the impregnation of the seeds.

Mr Ray gave further sanction to the doctrine of sexes, by concurring with Grew, and adding some further illustrations from analogy.

In the year 1695, Camerarius attempted to prove the sexes of plants. But, as he trusted solely to the palm-tree, and withal seemed to be doubtful as to the authenticity of the fact, he cannot be considered as having done any thing in confirmation of the sexual hypothesis.

Mr Morland, in the year 1703, adopted the same hypothesis, but gave it a new modification, by supposing that the pollen contained the seminal plant in miniature, and consequently that it behoved one pollen at least to be conveyed into every separate seed before it could be properly impregnated. Analogy and the structure of the parts are the only arguments he employs.

Some years after this, Mr Geoffroy wrote a treatise on the sexes of plants: but as he advanced nothing new, we shall take no further notice of him.

Vaillant, in the year 1717, judiciously considering that the canal in the stylus of most plants was too narrow to admit the pollen itself, republished Dr Grew's theory of impregnation by means of a subtile seminal aura.

These were the sentiments of the principal botanists with regard to the generation of plants, till the celebrated Linnæus made his appearance as a botanical writer, who has extended the idea so far as to compose a complete system upon it.

Although Linnæus can have no claim to the supposed discovery of the sexual hypothesis, his being precisely the same with that of Dr Grew; yet, as he is the chief supporter and improver of this doctrine, we shall give a succinct narration of the arguments he makes use of in order to prove that vegetables propagate their species by a regular commerce of sexes.

In a treatise entitled, *Sponsalia Plantarum*, published as an inaugural dissertation by Wahlbom, in the first volume of the *Amœnitates Academicæ*, all the arguments made use of by Linnæus in his *Fundamenta Botanica*, and other works, are collected and arranged in one view. But as Wahlbom honestly attributes all the merit of this dissertation to his great master, we shall here drop his name altogether, and give the arguments as the property of Linnæus, by whom they were originally employed.

Linnæus, then, first attempts to shew, that vegetables are endowed with a certain degree of life; and, secondly, that they propagate their species in a manner similar to that of animals.

Vegetables possess life.

"That vegetables are really living beings (says he), must be obvious at first sight; because they possess all the properties contained in that accurate definition of life laid down by the great Dr Harvey, namely, *Vita est spontanea propulsio humorum*. But universal experience teaches, that vegetables propel humours or juices: hence it is plain that vegetables must be endowed with a certain degree of life."

Not trusting solely to a syllogism founded on a definition, Linnæus proceeds to support the life of vegetables by arguments drawn from the following particulars in their economy; the first of which he entitles,

"1. *Nutritio*.—The very idea of nutrition implies a propulsion of humours, and of course the idea of life. But vegetables derive their nourishment from the earth, air, &c. and consequently must be considered as living creatures.

"2. *Ætas*.—Every animal must not only begin to exist, and have that existence dissolved by death, but must likewise pass through a number of intermediate changes in its appearance and affections. *Infancy*, *youth*, *manhood*, *old age*, are characterized by *imbecility*, *beauty*, *fertility*, *dotage*. Are not all these vicissitudes conspicuous in the vegetable world? Weak and tender in *infancy*; beautiful and salacious in *youth*; grave, robust, and fruitful, in *manhood*; and when *old age* approaches, the head droops, the springs of life dry up, and, in fine, the poor tottering vegetable returns to that *dust* from whence it sprung.

3. *Motus*.—No inanimate body is capable of self-motion. Whatever moves spontaneously, is endowed with a living principle: for motion depends on the spontaneous propulsion of humours: and wherever there is a spontaneous propulsion of humours, there also is life. That vegetables are capable of motion, is evident from the following facts: Plants, when confined within doors, always bend towards the light, and some of them even attempt to make their escape by the windows. The flowers of many plants, especially those of the syngenesia class, pursue the sun from east to west, rejoicing in his beams. Who then can deny that vegetables are possessed of living and self-moving powers?

"4. *Morbus*.—The term *disease* means nothing more than a certain corruption of life. It is well known, that vegetables are subject to diseases as well as animals: when over-heated, they turn thirsty, languish, and fall to the ground; when too cold, they are tormented with the chilblain, and not unfrequently *expire*: they are sometimes afflicted with cancers; and every plant is infested with lice peculiar to its species.

"5. *Mors*.—Death is opposed to life, the former being only a privation of the latter. Experience shows that every living creature must die. But as vegetables are daily cut off by internal diseases and external injuries; as they are subject to death from the attack of hunger,

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hunger, thirst, heat, cold, &c. with what propriety could vegetables be thus said to *die*, unless we allow that they previously *lived*?

"6. *Anatomia.*—Under this article we are referred to Malpighius and Grew for the organic fibres, membranes, canals, vesicles, &c. of plants, as additional proofs of their living powers.

"7. *Organisation.*—Vegetables not only propel humours, but also prepare and secern a number of different juices for the fruit, the nectar, &c. analogous to the various secretions in animal bodies."

From these facts and observations, Linnæus concludes, that plants are unquestionably endowed with life as well as animals; and then proceeds in the following manner to show how these animated vegetables propagate their species.

Arguments for the sexual system.

After discussing the long-exploded doctrine of equivocal generation, he lays hold of another maxim of Dr Harvey, viz. *Omne vivum ex ovo.*—"It being fully evident (says he), from the foregoing chain of reasoning that vegetables are endowed with life, it necessarily follows, agreeable to this maxim of Harvey's, that every vegetable must in like manner derive its existence from an *egg*. But as vegetables proceed from eggs, and as it is the distinguishing property of an egg to give birth to a being similar to that which produced it, the seeds must of course be the *eggs* of vegetables.

"Granting then that the seeds of vegetables are intended by nature to answer the same end as the eggs of animals, and considering at the same time that no egg can be fecundated without receiving an impregnation from the male, it follows, that the seeds or eggs of vegetables cannot be fecundated by any other means. Hence also the necessity of vegetables being provided with organs of generation. But where are these organs situated? The answer is easy:—We have already found impregnated seeds within the flowers of plants; and it is natural to expect that the *genitalia* should not be at a greater distance. Now, as *copulation* always precedes *birth*, and every *flower* precedes the *fruit*, the *generating faculty* must be ascribed to the *flower*, and the *birth* to the *fruit*. Again, As the *antheræ* and *stigmata* are the only essential parts of flowers, these parts must necessarily be the *organs of generation*."

Being thus far advanced, Linnæus affirms, that the *antheræ* are the *testes*, and that the pollen performs the office of the male *semen*. These affirmations he attempts to establish by the following arguments; the first of which he terms

"1. *Præcedentia.*—The antheræ, or vegetable testes, always precede the fruit; and as soon as the antheræ come to maturity, which constantly happens before the maturity of the fruit, they continue to throw out their pollen as long as the flower lasts; but decay and fall off whenever the fruit comes to perfection.

"2. *Situs.*—The antheræ of all plants are uniformly situated in such a manner that the pollen may, with the greatest facility, fall upon the stigma or female organ.

"3. *Tempus.*—The antheræ and stigma always flourish at the same time, whether the flowers be of the hermaphrodite or dioicous kind.

"4. *Loculamenta.*—When the antheræ are dissected, they discover as great a variety of structure as the pericarpia or seed-capsules; for some of them have one cell, as the mercury; some two, as the hellebore, &c.

"5. *Castratio.*—If all the antheræ be cut off from an hermaphrodite plant, just before the flowers begin to expand, taking care at the same time that no plant of the same species grow near it, the fruit will either prove entirely abortive, or produce barren seeds.

"6. *Figura.*—When the pollen of different plants is examined by the microscope, it exhibits as great a variety of figures as is discoverable in the seeds themselves.

"The accumulated force of these arguments (concludes Linnæus) amounts to a full demonstration that the antheræ are the testes, and that the pollen is the semen or genitura of vegetables.

"The male organ being thus investigated, we hope (says Linnæus) that none will hesitate to pronounce the stigma to be the female organ, especially when the following observations are attended to.

"The pistillum is composed of the germen, stylus, and stigma. The germen, being only a kind of rudiment of the future fœtus or seed, ceases to exist as soon as the flower comes to maturity. Neither is the stylus an essential part, as many flowers have no stylus. But no fruit ever comes to maturity without the assistance of the stigma. It follows, that the stigma must be the female organ adapted by nature for the reception of the pollen or impregnating substance. This will appear still clearer from the following chain of reasoning.

"1. *Situs.*—The stigmata are always situated so that the pollen may with most ease fall upon them. Besides, it is remarkable, that in most plants (though not in all) the number of the stigmata exactly corresponds with the loculaments or cells of the pericarpium.

"2. *Tempus.*—Here the observation, that the stigmata and antheræ constantly flourish at the same time, is repeated.

"3. *Decidentia.*—The stigmata of most plants, like the antheræ, decay and fall off as soon as they have discharged their proper function; which evidently shows, that their office is not to ripen the fruit, but solely to answer the important purpose of impregnation.

"4. *Abscissio.*—The argument here is precisely the same with the castration of the antheræ; and the result is likewise the same, namely the destruction of the fruit.

"These arguments (concludes Linnæus) are sufficient to demonstrate, that the stigma is the female organ of generation, or that organ which is suited for the reception and conveyance of the semen to the *vegetable eggs*. Hence plants may be said to be *in actu veneris*, when the antheræ or testiculi spread their pollen over the stigma or female *vulva*."

To show how the *coitus* of vegetables is effected, is our author's next object of investigation. He affirms, that the pollen is conveyed, by means of the wind or insects, to the moist stigma; where it remains until it discharges a subtile fluid, which being absorbed by the vessels of the stigma, is carried to the seeds or ova, and impregnates them. His proofs are taken from the following particulars.

"1. *Oculus.*—When the flowers are in full blow, and the pollen flying about, every one may then see the pollen adhering to the stigma. This he illustrates by mentioning

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mentioning as examples the viola tricolor, iris, campanula, &c.

"2. *Proportio.*—The stamina and pistilla, in most plants, are of equal heights, that the pollen, by the intervention of the wind, may, with the greater facility, fall upon the stigma.

"3. *Locus.*—The stamina of most plants surround the pistillum, to give the pollen an opportunity of falling upon the stigma at every breeze of wind. Even in the monœcia class, the male flowers stand generally above the female ones, to afford an easier conveyance of the pollen to the stigma.

"4. *Tempus.*—It is remarkable that the stamina and pistilla constantly appear at the same time, even in plants belonging to the monœcia class.

"5. *Pluviæ.*—The flowers of most plants expand by the heat of the sun, and shut themselves up in the evening or in rainy weather. The final cause of this must be to keep the moisture from the pollen, lest it should be thereby coagulated, and of course prevented from being blown upon the stigma.

"6. *Palmicolæ.*—That the cultivators of palm-trees were in use to pull off the spadices from the males, and suspend them over the spathæ of the females, is attested by Theophrastus, Pliny, Prosper Alpinus, Kempfer, and many others. If this operation happened to be neglected, the dates were sour and destitute of nuts. Kempfer adds this singular circumstance, that the male spadix, after being thoroughly dried and kept till next season, still retained its impregnating virtue.

"7. *Flores nutantes.*—As the pollen is specifically heavier than air, such flowers as have their pistillum longer than the stamina, hang down or incline to one side, e. g. the fritillaria, campanula, &c. An easy admission of the pollen to the stigma is the final cause of this appearance.

"8. *Submersi.*—Many plants that grow below water, emerge when their flowers begin to blow, and swim upon the surface till they receive their impregnation, and then sink down.

"9. *Omnium florum genuina consideratio.*—Here a number of particulars are recited. We shall confine ourselves to those that are most striking and applicable to the subject.

"When the flowers of the male hemp are pulled off before those of the female are fully expanded, the females do not produce fertile seeds. But as a male flower is sometimes found upon a female plant, this may be the reason why fertile seeds are sometimes produced even after this precaution has been observed.

"The tulip affords another experiment of the same purpose. Cut off all the antheræ of a red tulip before the pollen is emitted; then take the ripe antheræ of a white tulip, and throw the pollen of the white one upon the stigma of the red; the seeds of the red tulip being thus impregnated by one of a different complexion, will next season produce some red, some white, but most variegated flowers."

In the year 1744, Linnæus published a description of a new genus which he called *peloria*, on the supposition of its being a *hybrid* or *mule* plant, i. e. a plant produced by an unnatural commixture of two different genera. The root, leaves, caulis, &c. of this plant are exceedingly similar to those of the antirrhinum linaria; but the flower and other parts of the fructification are totally different. On account of its similarity to the linaria in every part but the flower, Linnæus imagined it to have been produced by a fortuitous commixture of the linaria with some other plant, although he has never yet been able to point out the father. This doctrine of the production of *mule* plants has since been greatly prized, and carefully propagated, by Linnæus and the other supporters of the sexual hypothesis. In the third volume of the *Amœnitates Academicæ*, there is a complete dissertation, entitled *Plantæ Hybridæ*, wherein the doctrine of *vegetable mules* is much improved and extended. This dissertation contains a list of 47 mules, with their supposed fathers and mothers. For example,

The Veronica spuria is said to be a *mule* plant *begot by* the Verbena officinalis *upon* the Veronica maritima.

The Delphinium hybridum, a *mule begot* by the Aconitum napellus *upon* the Delphinium elatum.

The Arctotis calendula, a *mule begot* by the Calendula pluvialis *upon* the Arctotis tristis.

The Asclepias nigra, a *mule begot* by the Cynanchum acutum *upon* the Asclepias vincetoxicum, &c.

From the examples given in this dissertation, Linnæus draws this conclusion, That only two species of each genus existed *ab origine*; and that all the variety of species which now appear have been produced by unnatural embraces betwixt species of different genera.

Under this head Linnæus likewise quotes from Ray the story of Richard Baal gardener at Brentford. This Baal sold a large quantity of the seeds of the brassica florida to several gardeners in the suburbs of London. These gardeners, after sowing their seeds in the usual manner, were surprised to find them turn out to be plants of a different species from that which Baal made them believe they had purchased; for, instead of the brassica florida, the plants turned out to be the brassica longifolia. The gardeners, upon making the discovery, commenced a prosecution of fraud against Baal in Westminster-hall. The court found Baal guilty of fraud, and decerned him not only to restore the price of the seeds, but likewise to pay the gardeners for their lost time, and the use of their ground. "Had these judges (says Linnæus) been acquainted with the sexual hypothesis, they would not have found Baal guilty of any crime, but would have ascribed the accident to the fortuitous impregnation of the brassica florida by the pollen of the brassica longifolia.

Linnæus next proceeds to celebrate the utility of insects, because they convey the pollen of the male to the stigma of the female. "In this way (says he), it is reasonable to think that many dioicous plants are impregnated. Nay, even the hermaphrodites themselves are greatly obliged to the different tribes of insects, which, by fluttering and treading in the corolla, are constantly scattering the pollen about the stigma.

"Upon the whole then (concludes Linnæus), the coitus of vegetables is evident to a demonstration. This coitus is nothing more than the conveyance of the pollen to the stigma, to which it adheres till it bursts, and discharges a subtile elastic fluid. This fluid or aura is absorbed by the vessels of the stylus, and carried directly to the ovarium or germen, where the mysterious work of impregnation is fully completed."

These are the arguments employed by Linnæus and other

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other advocates for the sexual commerce of vegetables. Let us next attend to those employed by the opposers of this hypothesis.

Objections to the sexual system.

It is admitted by Pontedera, Dr Alston, &c. that some of the ancients applied the terms *male* and *female* to several plants. But then they deny that these terms conveyed the same ideas to the ancients that they do to the moderns. *Male* and *female*, when applied to plants, were to the ancients mere terms of distinction, serving only as trivial names to distinguish one species or variety from another. The ancients were ignorant of the very characters which constitute the difference between what is called a *male* and *female* plant among the moderns. Theophrastus, Dioscorides, Pliny, and, in a word, the whole ancient botanical writers, confound the very notion of the modern sexes: they call the real female, or seed-bearing plant, the *male;* and the male, or barren plant, the *female*. Nay, they have even applied the terms *male* and *female* to many plants which bear nothing but hermaphrodite flowers.

Such is the nature of this controversy, that it cannot be determined with any degree of certainty, but by experiments made upon dioicous plants. If a female plant can produce fertile seeds without having any communication with the pollen of the male, the use of this pollen with respect to the impregnation of seeds must of necessity be entirely superseded.

Now, both Camerarius and Dr Alston tried these experiments with the same success. These two eminent botanists took female plants of the mercury, spinage, and hemp; transplanted them at a great distance from any males of the same genus, and besides had them enclosed by double rows of hedges. The result was, that each of these plants produced great quantities of fertile seeds. Tournefort made the same trial upon the lupulus, Miller upon the bryony, and Geoffroy upon the mays; and all of them declared that the seeds of these plants were as fertile as if they had been surrounded by a thousand males.

Linnæus, in his first argument for the coitus of plants, refers every man to the evidence of his senses.

"Do we not see (says he) the stigma of almost every hermaphrodite flower covered over with the pollen or impregnating substance? Do not we see the parietaria, the urtica, &c. by violent explosions, discharging their pollen in the open air, that it may be carried in that vehicle to the stigmata of their respective females?—All this is admitted by the opposers of the sexes: but then they deny that these explosions, &c. are intended to create any intercourse between the male and the female; and further allege, that this ejection of the pollen is intended by nature to throw off something excrementitious, or at least something which, if retained, would prove noxious to the fructification.

Linnæus takes his second argument from the proportion which the stamina bear to the stylus, alleging that they are generally of the same height.—This observation (say the anti-sexualists) is not only contrary to experience, but, allowing it to be universal, no conclusion can be drawn from it either for or against the sexual hypothesis.

The third argument is taken from the *locus* or situation of the stamina with respect to the stylus: "and as the male flowers in the monœcia class stand always above the female flowers, it must be concluded (says Linnæus), that the intention of nature, in this disposition of the parts, is to allow a free and easy access of the pollen to the stigma."—But the stamina cannot be said to surround the pistillum in the monandria and diandria classes: and the position of the male flowers in the monœcia class is a mere chimera; for in the ricinus, one of the examples which Linnæus mentions in confirmation of his doctrine, the female flowers stand uniformly some inches above the males.

That the stamina and pistilla generally come to perfection at the same time, and that this happens even in the dioicous plants, is Linnæus's fourth argument. But, as it is acknowledged by Linnæus himself, that there are many exceptions with respect to this fact, the opposers of the sexual hypothesis allege that it carries the best answer in its own bosom.

The fifth argument is founded on the circumstance of some flowers shutting up their petals in rainy or moist evenings.—But many flowers do not shut themselves up, either in the night or moist weather, as the passion-flower, &c.: the lychnis noctiflora, mirabilis peruviana, &c. open their flowers in the night, and shut them at the approach of the sun. Hence this is another final cause (say the anti-sexualists) perverted to support a favourite hypothesis.

We come now to the culture of the palm tree, which in the sixth and most plausible argument employed by the sexualists. Of this, the most authentic account we have is the following by Dr Hasselquist, in one of his letters to Linnæus, dated Alexandria, May 18. 1750. "The first thing I did after my arrival was to see the date tree, the ornament and a great part of the riches of this country. It had already blossomed; but I had, nevertheless, the pleasure of seeing how the Arabs assist its fecundation, and by that means secure to themselves a plentiful harvest of a vegetable, which was so important to them, and known to them many centuries before any botanist dreamed of the difference of sexes in vegetables. The gardener informed me of this before I had time to enquire; and would show me as a very curious thing, the male and female of the date or palm trees; nor could he conceive how I, a Frank, lately arrived, could know it before; for (says he) all who have yet come from Europe to see this country, have regarded this relation either as a fable or miracle. The Arab seeing me inclined to be further informed, accompanied me and my French interpreter to a palm tree, which was very full of young fruit, and had by him been wedded or fecundated with the male when both were in blossom. This the Arabs do in the following manner: when the spadix has female flowers, that come out of its spatha, they search on a tree that has male flowers, which they know by experience, for a spadix which has not yet bursted out of its spatha: this they open, take out the spadix, and cut it lengthwise in several pieces, but take care not to hurt the flowers. A piece of this spadix with male flowers they put lengthwise between the small branches of the spadix which hath female flowers, and then lay the leaf of a palm over the branches. In this situation I yet saw the greatest part of the spadices which bore their young fruit; but the male flowers which were put between were withered. The Arab besides gave me the following anecdotes: First, Unless they in this manner wed and fecundate the date tree, it bears no fruit. Secondly,

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condly, They always take the precaution to preserve some unopened spathes with male flowers from one year to another, to be applied for this purpose, in case the male flowers should miscarry or suffer damage. Thirdly, If they permit the spadix of the male flowers to burst or come out, it becomes useless for fecundation: it must have its *maidenhead* (these were the words of the Arab), which is lost in the same moment the blossoms burst out of their case. Therefore the person who cultivates date trees must be careful to hit the right time of assisting their fecundation, which is almost the only article in their cultivation. Fourthly, On opening the spatha, he finds all the male flowers full of a liquid which resembles the finest dew; it is of a sweet and pleasant taste, resembling much the taste of fresh dates, but much more refined and aromatic; this was likewise confirmed by my interpreter, who hath lived 32 years in Egypt, and therefore had opportunities enough of tasting both the nectar of the blossoms and the fresh dates.

Now, though this account seems fully to confirm the fact, viz. that such a practice obtains among the Arabs, and that they assert its efficacy in fecundating the trees, it is certain (say the opposers of this doctrine), that no intelligent person, who is not already wedded to an hypothesis, will attempt to found an argument upon the assertions of a people so full of ridiculous superstitions. Before Dr Haselquist, or any other person, can draw any argument from the above-mentioned account, he ought to see the experiment several times repeated, with his own eyes, and not take it upon the word of a people who, besides their superstition, may very probably find it their interest to impose upon travellers.

Mr Milne, author of the Botanical Dictionary, however, relates an experiment, near akin to the above mentioned, which merits some attention: "In the garden of M. de la Serre, of the Rue S. Jacques at Paris, was a female turpentine tree, which flowered every year, without furnishing any fruit capable of vegetation. This was a sensible mortification to the owner, who greatly desired to have the tree increased. Messieurs Duhamel and Jussieu very properly judged that they might procure him that pleasure by the assistance of a male pistachio tree. They sent him one very much loaded with flowers. It was planted in the garden of M. de la Serre, very near the female turpentine tree, which the same year produced a great quantity of fruits, that were well conditioned, and rose with facility. The male plant was then removed; the consequence of which was, that the turpentine tree of M. de la Serre in none of the succeeding years bore any fruit that, upon examination, was found to germinate."

Upon this experiment it is observed by the antisexualists, that, though it were a thousand times repeated, it never could be decisive. The nature of the controversy, say they, is such, that one experiment is more decisive in favour of their opinion than 10,000 can be against them. The reason is plain: If there is such a thing as a sexual intercourse in vegetables, it is as wonderful that any seeds should be perfected without that intercourse, as that a virgin should have a child; the last is not in the least more extraordinary than the first. One experiment, therefore, which shews that seeds may be perfected without such sexual intercourse, is either to be resolved into a miracle, or must prove absolutely decisive against the sexual system; while numberless experiments, such as that above mentioned, could prove nothing, because we know not what effect vegetables may have by growing in each other's neighbourhood, independent of any sexual intercourse.

In Milne's Botanical Dictionary, under the article *Sexus Plantarum*, the author quotes Dr Alston's experiments partially. The facts recorded by Dr Alston are as follow: 1. Three sets of spinach, planted at a great distance from each other, proved all of them fertile, and ripened *plenty* of seeds, which were found to answer as well as other spinach seed. 2. A plant of hemp growing by itself, being taken care of, produced about 30 good seeds, though in a situation very much exposed, and plucked up too soon, on account of bad weather, in the autumn. 3. This experiment, which is the most remarkable of the three, we shall give in the Doctor's own words. "In the spring of 1741, I carried two young seedling plants of the French mercury, long before there was any in, from this city physic garden, the only place where it was then to be found in this country, to the king's garden at the Abbey; which are more than 700 yards distant from one another, with many high houses, trees, hedges, and part of a high hill between them; and planted one of them in one enclosure, where it was shaded from the sun the greatest part of the day; and the other in another 25 yards distant, exposed to the south and west. Both plants ripened fertile seeds; and the last shed them so plentifully, that it proved a troublesome weed for several years, though none of the species was to be found in that garden for more than 20 years preceding."

Of this experiment Mr Milne hath not taken any notice; but upon the other two, has the following remark: "The result of these, and such like experiments, can be accounted for, on the principle of the sexes, in no other way than on the supposition that some male flowers have been intermixed with the female, and operated the fecundation in question. This appears the more probable, as only *a part* of the seed in the above experiments attained to perfect maturity, so as to be capable of vegetation.

The seventh argument of Linnæus is taken from the *flores nutantes*.—The pistils of these flowers, according to Linnæus, are always longer than the stamina; and nature has assigned them this pensile posture, that the pollen, which is specifically heavier than air, may the more conveniently fall upon the stigma. But the pistils of the campanula, lilium, and many other *flores nutantes*, are not longer than the stamina. Besides, granting this were uniformly the case; yet, as the pollen is heavier than air, this posture must of necessity either make the pollen miss the pistillum altogether, or, at any rate, it can only fall upon the back part of the pistil in place of the stigma; and, of course, such a direction would rather tend to frustrate than promote the impregnation of the seed.

The eighth argument is taken from the *plantæ submersæ*, which are said to emerge as soon as their flowers begin to blow, lest the pollen should be coagulated or washed off by the water. But many submarine and aquatic plants fructify entirely below water; and, supposing they did not, the same argument would equally prove

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prove it to be the intention of nature, that the pollen should be blown away by the winds, as that it should be subservient to the impregnation of the seed.

The ninth and last argument is entitled *Omnium florum genuina consideratio*; which (say the antisexualists) is nothing more than a collection of vague observations upon the structure and economy of particular plants, some of them true, others false, but all of them evidently thrust in as supports to a favourite hypothesis.

Farther arguments by Linnæus.

THUS the dispute rested some years ago; but of late there has appeared a translation of one of Linnæus's works upon the subject, which, though published in 1759, was but little known in this country. A treatise on the Sexual System had also been published by the abbé Spalanzani, in which he not only opposed the Linnæan doctrine, but treated it with ridicule, though without taking any notice of this last publication, which he seems to have been ignorant of. In this he mentions an experiment with hemp similar to some of those already related; but which was also tried by Linnæus, and in his hands turned out the very reverse of what it did with Spalanzani. In the treatise alluded to, Linnæus mentions Sir Thomas Millington as the first among the moderns who thought of the distinction of sexes in plants. He was Savilian professor at Oxford; and Dr Grew, in his Anatomy of Plants, relates, that in a conversation on the nature of the antheræ of flowers, Sir Thomas hinted, that those parts might probably be analogous to the male organs of animals, and serve for the impregnation of the fruit. Grew improved on the idea, and pursued it. That the subject, however, may be properly understood, our author is of opinion, that we should first accurately understand the nature of vegetable bodies; and in order to do this, we ought first to consider the operations of nature in the human frame, and from thence continue our researches through the various tribes of inferior animals, till at last we arrive at the vegetable creation. In like manner, to illustrate the generation of plants, we must likewise take our first lights from the animal kingdom, and pursue the same chain till we come to vegetables. This subject, indeed, he owns to be so obscure, that no naturalist has hitherto been able to say any thing satisfactory concerning it; he only mentions some remarkable facts concerning the production of mule animals from the copulation of two individuals of different species. In the horse kind we see two different kinds of mules produced. "From the mare and male ass (says he) proceeds the mule properly so called, which in its nature, that is, in its medullary substance and nervous system, agrees with its mother; but in its cortical substance and outward form, in its mane and tail, resembles the ass. Between the female ass and the horse, the other kind of mule is engendered, whose nature or medullary substance resembles that of the ass; but its cortical structure that of the horse. If the he-goat of Angora copulates with the common she-goat, the kid, by that means procured, inherits the external structure and valuable coat of its father; while, on the other hand, if the common he-goat impregnates the goat of Angora, the kid produced has the same external form, and bears the same worthless hair with its father. Hence it seems probable, that the medullary substance, with what Malpighi calls the keel (*carina*), and the nervous system, are latent in the egg of the mother; the cortical substance, or vascular system, being derived from the father."

These cortical and medullary substances are previously explained by our author to be those of which both animal and vegetable bodies are composed. By the medullary substance in animal bodies, he means the spinal marrow arising from the organized brain, and sending off the nerves; by the cortical substance the vessels with the heart attached to them, by which the medullary part is nourished. In vegetables, the cortical part nourishes the plant, not only by its roots, but with its whole surface. For a small branch torn from the parent stem, and placed in water, imbibes nourishment at its pores. Thus the *Fuci*, and other marine vegetables, are nourished without a root, solely by the pores dispersed through their whole substance. The bark of trees every year deposites its gelatinous internal layer, which is added to the wood, and assimilates itself to it. The medullary, which is the other essential part of vegetables, is multiplied and extended without end; and whenever it is entirely lost, the death of the plant necessarily follows. In examining this substance, we must be careful, in two cases, that we be not misled; first, by the straws of grasses, and by other hollow stems, where the medulla lines the inside of the bark; and secondly, by large trees, whose trunks become perfectly solid, throughout, except in the very summits of the branches. The wood performs the office of bones, when there is no longer any occasion for the medulla in that part; and trees, although become hollow, continue nevertheless to grow so long as this substance remains in the extreme branches. It is by no means necessary that the medulla should have any connexion with the root, as it is only nourished by the cortical substance of the plant, and is therefore increased at its upper extremity without end if it meets with no resistance. In those animals whose spinal marrow is surrounded by a bony covering, as in the larger and more perfect kinds, this substance never comes out of its confinement; and the harder its case, the more absolutely is its increase prevented; but in the smaller tribes of worms, where this covering is less rigid, a perpetual and unlimited increase of the animal takes place.

"The most important parts of the flower, and which are absolutely essential to it (our author proceeds to observe *), are the stamina and pistilla. So essential are they, that among the many thousands of flowers with which we are acquainted, no one can be found not furnished with both these organs. The stamina derive their origin from the substance of the wood, which was originally formed from the inner bark, and they may therefore be said to spring from the cortical substance of the vegetable. This is perfectly evident in the asarum (asarabacca), whose twelve stamina proceed from twelve fibres in the inner bark. Double flowers illustrate the same fact: in them, the stamina being weakened and dissolved by excess of nourishment, the woody substance re-assumes the softness of the inner bark, of which it was originally formed. All stamina consist of vessels containing the pollen, or impregnating powder, which they discharge in due time, not without the strictest observance of certain natural laws. The form of these vessels, like that of the

* *Dissert. on the Sexes of Plants*, Smith's Transl. p. 28. seq.

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the capsules of the fruit, is accurately defined, as well as their cells, their particular manner of bursting, and the pollen which they contain; this pollen, likewise, is no less certain and uniform in its figure, size, and colour, than the seeds themselves.

"The pistillum is the only part which originates from the medullary substance, and is therefore invariably situated in the centre of the flower. It always contains the rudiments of the seed, which, in process of time, ripen into fruit. The rudiments of the fruit are called the *germen*, or seed-bud; this has constantly another organ connected with it, named the *stigma*, which is in its highest degree of vigour and perfection during the time of flowering.

"Another circumstance worthy of attention is, that the root, which the first year of its growth is large and filled with medullary pulp, the following season becomes hollow, in producing the stem, flowers, and seed; all this pulp being conveyed to the flower, and seeming to be only destined to the formation of seed, so many new and distinct animations being formed from it as there are rudiments of new plants. This is particularly observable in the turnip.

"Thus vegetables, like insects, are subject to a metamorphosis; with this difference only, that their flowers are fixed to one spot, instead of being able, like insects, to fly from place to place; and that their nourishment is not given them by means of peculiar organs for the formation of chyle. We have seen, that the outer bark becomes calyx, the internal bark corolla, the wood stamina, and the medulla pistillum; the fructification exhibiting the internal parts of a plant naked and unfolded. We have likewise seen, that the fructification puts an end to vegetation in the part from whence it arises, stopping the progress of the medulla, which would otherwise have extended itself without end by the branches, and occasioning the division of that medulla into a number of seeds, each endowed with a separate living principle. But as the medulla exists naked in the germen, it cannot support itself, or make any farther progress, without the assistance of the cortical substance which it has left; it must therefore receive this assistance by some means or other, and in fact does receive it from the stamina and their pollen, which owe their origin to the woody matter derived from the inner bark, and originally generated by the outer bark. But if it happens that the cortical substance is able to invest the medullary rudiments of the seed in the flower itself, the plant becomes viviparous, as in *festuca*, *aira* and *poa vivipara*, in which nearly the same thing takes place as in the medulla of other plants, which remains in the branches, and is variously distributed, being at once both clothed and nourished by the bark, and enabled to form new branches, just as it happens in the compound animals, or *sertulariæ*.

"The organs common in general to all plants are, 1. The root, with its capillary vessels, extracting nourishment from the ground. 2. The leaves, which may be called the *limbs*, and which, like the feet and wings of animals, are organs of motion; for being themselves shaken by the external air, they shake and exercise the plant. 3. The trunk, containing the medullary substance, which is nourished by the bark, and for the most part multiplied into several compound plants. 4. The fructification, which is the true body of the plant, set at liberty by a metamorphosis, and consists only of the organs of generation; it is often defended by a calyx, and furnished with petals, by means of which it in a manner flutters in the air.

"Many flowers have no calyx, as several of the lily tribe, the *hippuris*, &c.; many want the corolla, as grasses, and the plants called *apetalous*; but there are none destitute of stamina and pistilla, those important organs destined to the formation of fruit. We therefore infer from experience, that the stamina are the male organs of generation, and the pistilla the female; and as many flowers are furnished with both at once, it follows that such flowers are hermaphrodites. Nor is this so wonderful, as that there should be any plants in which the different sexes are in distinct individuals; for plants being immoveably fixed to one spot, cannot, like animals, travel in search of a mate. There exists, however, in some plants, a real difference of sex. From seeds of the same mother, some individuals shall be produced, whose flowers exhibit stamina without pistilla, and may therefore be properly called *males*; while the rest, being furnished with pistilla without stamina, are therefore denominated *females*: and so uniformly does this take place, that no vegetable was ever found to produce female flowers, without flowers furnished with stamina being produced, either on the same individual, or on another plant of the same species, and *vice versa*.

"As all seed-vessels are destined to produce seeds, so are the stamina to bear the *pollen*, or fecundating powder. All seeds contain within their membranes a certain medullary substance, which swells when dipped into warm water. All pollen, likewise, contains in its membrane an elastic substance, which although very subtle and almost invisible, by means of warm water often explodes with great vehemence. While plants are in flower, the pollen falls from the antheræ, and is dispersed abroad, as seeds are dislodged from their situation when the fruit is ripe. At the same time that the pollen is scattered, the pistillum presents its stigma, which is then in its highest vigour, and, for a portion of the day at least, is moistened with a fine dew. The stamina either surround this stigma, or, if the flowers are of the drooping kind, they are bent towards one side, so that the pollen can easily find access to the stigma; where it not only adheres by means of the dew of that part, but the moisture occasions its bursting, by which means its contents are discharged. What issued from it, being mixed with the fluid of the stigma, is conveyed to the rudiments of the seed. Many evident instances of this present themselves to our notice; but I have nowhere seen it more manifest than in the jacobean lily (*amaryllis formosissima*), the pistillum of which, when sufficient heat is given to the plant to make it flower in perfection, is bent downwards, and from its stigma issues a drop of limpid fluid, so large that one would think it in danger of falling to the ground. It is, however, gradually re-absorbed into the style about three or four o'clock, and becomes invisible till about ten the next morning, when it appears again; by noon it attains its largest dimensions; and in the afternoon, by a gentle and scarcely perceptible decrease, it returns to its source. If we shake the antheræ over the stigma, so that the pollen may fall

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fall on this limpid drop, we see the fluid soon after become turbid, and assume a yellow colour; and we perceive little rivulets, or opake streaks, running from the stigma towards the rudiments of the seed. Some time afterwards, when the drop has totally disappeared, the pollen may be observed adhering to the stigma, but of an irregular figure, having lost its original form. No one, therefore, can assent to what Morland and others have asserted, that the pollen passes into the stigma, pervades the style, and enters the tender rudiments of the seed, as Leeuwenhoek supposed his worms to enter the ova. A most evident proof of the falsehood of this opinion may be obtained from any species of *mirabilis* (marvel of Peru), whose pollen is so very large, that it almost exceeds the style itself in thickness, and, falling on the stigma, adheres firmly to it; that organ sucking and exhausting the pollen, as a cuttle-fish devours every thing that comes within its grasp. One evening in the month of August I removed all the stamina from three flowers of the *mirabilis longiflora*, at the same time destroying all the rest of the flowers which were expanded; I sprinkled these three flowers with the pollen of *mirabilis jalappa:* the seed-buds swelled, but did not ripen. Another evening I performed a similar experiment, only sprinkling the flowers with the pollen of the same species; all these flowers produced ripe seeds.

"Some writers have believed, that the stamina are parts of the fructification which serve only to discharge an impure or excrementitious matter, and by no means formed for so important a work as generation. But it is very evident, that these authors have not sufficiently examined the subject; for as, in many vegetables, some flowers are furnished with stamina only, and others only with pistilla, it is altogether impossible, that stamina situated at so very great a distance from the fruit as on a different branch, or perhaps on a separate plant, should serve to convey any impurities from the embryo.

"No physiologist could demonstrate, *à priori*, the necessity of the masculine fluid to the rendering the eggs of animals prolific; but experience has established it beyond a doubt. We therefore judge *à posteriori* principally of the same effect in plants.

"In the month of January 1760 the *antholyza cunonia* flowered in a pot in my parlour: but produced no fruit, the air of the room not being sufficiently agitated to waft the pollen to the stigma. One day, about noon, seeing the stigma very moist, I plucked off one of the antheræ, by means of a fine pair of forceps, and gently rubbed it on one of the expanded stigmata. The spike of flowers remained eight or ten days longer; when I observed, in gathering the branch for my herbarium, that the fruit of that flower only on which the experiment had been made had swelled to the size of a bean. I then dissected this fruit, and discovered that one of the three cells contained seeds in considerable number, the other two being entirely withered.

"In the month of April I sowed the seeds of hemp (*cannabis*) in two different pots. The young plants came up so plentifully, that each pot contained 30 or 40. I placed each by the light of a window, but in different and remote apartments. The hemp grew extremely well in both pots. In one of them I permitted the male and female plants to remain together, to flower and bear fruit, which ripened in July; and being macerated in water and committed to the earth, sprung up in twelve days. From the other, however, I removed all the male plants as soon as they were old enough for me to distinguish them from the females. The remaining females grew very well, and presented their long pistilla in great abundance, these flowers continuing a very long time, as if in expectation of their mates; while the plants in the other pot had already ripened their fruit, their pistilla having, quite in a different manner, faded, as soon as the males had discharged all their pollen. It was certainly a beautiful and truly admirable spectacle, to see the unimpregnated females preserve their pistilla so long green and flourishing, not permitting them to begin to fade till they had been for a considerable time exposed, in vain, to the access of the male pollen. Afterwards, when these virgin plants began to decay through age, I examined all their calyxes in the presence of several botanists, and found them large and flourishing, although every one of the seed-buds was brown, compressed, membranaceous, and dry, not exhibiting any appearance of cotyledons or pulp. Hence I am perfectly convinced, that the circumstance which authors have recorded, of the female hemp having produced seeds, although deprived of the male, could only have happened by means of pollen brought by the wind from some distant place. No experiment can be more easily performed than the above; none more satisfactory in demonstrating the generation of plants.

"The *clucia tenella* was in like manner kept growing in my window through the months of June and July. The male plant was in one pot, the female in another. The latter abounded with fruit, not one of its flowers proving abortive. I removed the two pots into different windows of the same apartment: still all the female flowers continued to become fruitful. At length I took away the male entirely, leaving the female alone, and cutting off all the flowers which it had already borne. Every day new ones appeared from the axilla of every leaf; each remained eight or ten days; after which their footstalks turning yellow, they fell barren to the ground. A botanical friend, who had amused himself with observing this phenomenon with me, persuaded me to bring from the stove in the garden a single male flower, which he placed over one of the female ones, then in perfection, tying a piece of red silk round its pistillum. The next day the male flower was taken away, and this single seed-bud remained and bore fruit. Afterwards I took another male flower out of the same stove, and with a pair of slender forceps pinched off one of its antheræ, which I afterwards gently scratched with a feather, so that a very small portion of its pollen was discharged upon one of the three stigmata of a female flower, the other two stigmata being covered with paper. This fruit likewise attained its due size; and on being cut transversely, exhibited one cell filled with large seed, and the other two empty. The rest of the flowers, being unimpregnated, faded and fell off. This experiment may be performed with as little trouble as the former.

"The *datisca cannabina* came up in my garden from seed ten years ago, and has every year been plentifully increased by means of its perennial root. Flowers in great

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great number have been produced by it; but being all female, they proved abortive. Being desirous of procuring male plants, I obtained more seeds from Paris. Some more plants were raised; but these likewise, to my great mortification, all proved females, and bore flowers but no fruit. In the year 1757, I received another parcel of seeds. From these I obtained a few male plants, which flowered in 1758. These were planted at a great distance from the females; and when their flowers were just ready to emit their pollen, holding a paper under them, I gently shook the spike or panicle with my finger, till the paper was almost covered with the yellow powder. I carried this to the females, which were flowering in another part of the garden, and placed it over them. The cold nights of the year in which this experiment was made, destroyed these datiscas, with many other plants, much earlier than usual. Nevertheless, when I examined the flowers of these plants which I had sprinkled with the fertilizing powder, I found the seeds of their due magnitude; while in the more remote datiscas, which had not been impregnated with pollen, no traces of seeds were visible.

"Several species of *momordica*, cultivated with us, like other Indian vegetables, in close stoves, have frequently borne female flowers; which, although at first very vigorous, after a short time have constantly faded and turned yellow, without perfecting any seed, till I instructed the gardener, as soon as he observed a female flower, to gather a male one and place it above the female. By this contrivance we are so certain of obtaining fruit, that we dare pledge ourselves to make any female flowers fertile that shall be fixed on.

"The *jatropha urens* has flowered every year in my hot-house; but the female flowers coming before the males, in a week's time dropped their petals, and faded before the latter were opened; from which cause no fruit has been produced, but the germina themselves have fallen off. We have therefore never had any fruit of the jatropha till the year 1752, when the male flowers were in vigour on a tall tree at the same time that the females began to appear on a small jatropha which was growing in a garden pot. I placed this pot under the other tree, by which means the female flowers bore seeds, which grew on being sown. I have frequently since amused myself with taking the male flowers from one plant, and scattering them over the female flowers of another, and have always found the seeds of the latter impregnated by it.

"Two years ago I placed a piece of paper under some of these male flowers, and afterwards folded up the pollen which had fallen upon it, preserving it so folded up, if I remember right, four or six weeks, at the end of which time another branch of the same jatropha was in flower. I then took the pollen, which I had so long preserved in paper, and strewed it over three female flowers, the only ones at that time expanded. These three females proved fruitful, while all the rest which grew in the same bunch fell off abortive.

"The interior petals of the *ornithogalum*, commonly, but improperly, called *canadense*, cohere so closely together, that they only just admit the air to the germen, and will scarcely permit the pollen of another flower to pass: this plant produced every day new flowers and fruit, the fructification never failing in any instance; I therefore, with the utmost care, extracted the anthers from one of the flowers with a hooked needle; and, as I hoped, this single flower proved barren. This experiment was repeated about a week after with the same success.

"I removed all the anthers out of a flower of *chelidonium corniculatum* (scarlet horned poppy), which was growing in a remote part of the garden, upon the first opening of its petals, and stripped off all the rest of the flowers; another day I treated another flower of the same plant in a similar manner, but sprinkled the pistillum of this with the pollen borrowed from another plant of the same species; the result was, that the first flower produced no fruit, but the second afforded very perfect seed. My design in this experiment was to prove, that the mere removal of the antheræ from a flower is not in itself sufficient to render the germen abortive.

"Having the *nicotiana frutiosa* growing in a garden-pot, and producing plenty of flowers and seed, I extracted the antheræ from a newly-expanded flower before they had burst, at the same time cutting away all the other flowers; this germen produced no fruit, nor did it even swell.

"I removed an urn, in which the *asphodelus fistulosus* was growing, to one corner of the garden, and from one of the flowers which had lately opened I extracted its antheræ; this caused the impregnation to fail. Another day I treated another flower in the same manner: but bringing a flower from a plant in a different part of the garden, with which I sprinkled the pistillum of the mutilated one, its germen became by that means fruitful.

"*Iris chinensis*, flowering in my stove, the windows of which were shut, all its flowers proved abortive. I therefore took some of its antheræ in a pair of pincers, and with them sprinkled the stigmata of two flowers, and the next day one stigma only of a third flower; the seed-buds of these flowers remained, grew to a large size and bore seed; the fruit of the third, however, contained ripe seed only in one of its cells.

"To relate more experiments would only be to fatigue the reader unnecessarily. All nature proclaims the truth I have endeavoured to inculcate, and every flower bears witness to it. Any person may make the experiment for himself, with any plant he pleases, only taking care to place the pot in which it is growing in the window of a room sufficiently out of the reach of other flowers; and I will venture to promise him that he will obtain no perfect fruit, unless the pollen has access to the pistillum."

Sect. V. *Of the Natural Method of Classification.*

BESIDES all the above-mentioned methods of classing and distributing plants into their different orders, genera, &c. which are deduced from the fructification, and are therefore called *artificial*, Linnæus and most other botanists are of opinion that there is a natural method, or nature's system, which we should diligently endeavour to find out. That this system, say they, is no chimera, as some imagine, will appear particularly from hence, that all plants, of what order soever, show an affinity to some others; and thus, as formerly observed,

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served, not only the virtues of a great number of species may be ascertained, but we may know with certainty how to find a proper succedaneum for plants which cannot easily be had.—Linnæus divides vegetables into the 58 natural methods following.

1. *Palmæ.* These are perennial, and mostly of the shrub and tree kind. The stem is in height from 2 to 100 feet and upwards. The roots form a mass of fibres which are commonly simple and without any ramifications. The stem is generally simple, without branches, cylindrical, and composed of strong longitudinal fibres. The leaves, which are a composition of a leaf and a branch, by Linnæus called *frondes*, are of different forms; being sometimes shaped like an umbrella or fan; sometimes singly or doubly winged; the small or partial leaves, which are often three feet in length, being arranged alternately. The branches, or principal leaves, are six, eight, ten, or twelve feet long; the length varying according to the age and size of the plant. They are covered at first with a thick brown dust, like those of the ferns. The base of the leaves frequently embraces the greater part of the stem. The flowers are male and female upon the same or different roots. The flowers are all disposed in a panicle or diffused spike, except in the hydrocharis, stratiotes, and vallisneria; in which they proceed singly from the wings or angles of the leaves. The common calyx, in this order, is that termed *spatha* or *sheath*, and has either one or two valves. The spadix, or head of flowers protruded from the sheath, is generally branched. Each flower is generally furnished with a perianthium or proper flower-cup, consisting of three leaves or divisions that are small and permanent. The petals are three in number, of a substance like leather, and permanent like the leaves of the calyx. The stamina are from 2 to 20 and upwards, cohering slightly at their base. The seed-buds are from one to three in number, placed in the middle of the flower, and supporting a like number of styles, which are very short. The seed-vessel is generally a pulpy fruit of the berry or cherry kind, containing one cell filled with fibrous flesh, and covered with a skin which is of a substance like leather. The seeds are in number from one to three in each pulpy fruit, of a hard bony substance, round or oval, and attached by their base to the bottom of the fruit.—These plants, particularly the seeds, are astringent, and of efficacy in dysenteries.

2. *Piperitæ.* These plants are mostly herbaceous and perennial. The stalks of pothos creep along rocks and trees, into which they strike root at certain distances. The greatest height which any of them is known to attain is 15 feet; the greater part do not exceed three or four. The fleshy roots of many of these plants are extremely acrid when fresh. They lose this pungent quality, however, by being dried, and become of a soapy nature. The smell of many of them is extremely fetid, frequently resembling that of human excrements. The flowers, however, of an Ethiopian dracunculus or arum, and the cover in which they are involved, are said to emit a very fragrant odour. With regard to their virtues, these plants are commonly astringent.

3. *Calamariæ.* In this class the base of the leaf, which embraces the stalk like a glove, has no longitudinal aperture, but is perfectly entire. The stalk is generally triangular, and without knots or joints. The roots of some are long and knotty; in others they are composed of fleshy fibres which pierce deep into the ground; and in others, of a bulb. The flowers are either hermaphrodite, or male and female upon the same root. The mode of inflorescence in this order is generally a spike; sometimes a capitulum or head. The calyx is either a gluma or an amentum. The corolla is wanting. The filaments of the stamina are three in number, short, slender like a hair, and sometimes bristly. The antheræ are generally long, slender, and erect. The seed-bud is very small, blunt, and sometimes three-cornered. The style is thread-shaped, and of the length of the scaly calyx. The stigmata are generally three in number; slender, hairy, and sometimes permanent. The virtues, uses, and sensible qualities, of this order of plants are the same with those of the following.

4. *Gramina.* Most of these plants are annual or perennial herbs; some of them creep upon the ground, others are erect. The roots, in the greatest number, are creeping, and emit fibres from each knot or joint; in others they are simply branching and fibrous. The stems and branches are round. The leaves are simple, alternate, entire, very long, and commonly narrow. They form below a sort of sheath, which embraces or surrounds the stem, and is generally cleft or divided on one side through its whole length. The flowers are either hermaphrodite, male and female on the same root, or hermaphrodite and male on the same root. They proceed either singly from the sheath of the leaves, or are formed into a panicle or loose spike. The calyx and corolla in this order are not sufficiently ascertained; in some a single scale or husk, in others two, supply the place of both covers; some grasses have four husky scales, two of which serve for the calyx, and the other two for the corolla; some have five; others six, four of which constitute the calyx, and the other two are termed improperly enough the *husky petals*. The corolla is sometimes composed of one petal with two divisions; and in general the husks of the calyx are always placed opposite to those of the corolla. The stamina are generally three in number, and placed irregularly with regard to the situation of the calyx and corolla. The antheræ are long, furnished with two cells, and slightly attached to the filaments. The seed-bud is placed upon the same receptacle as the calyx, corolla, and stamina. The style is generally double, and crowned with a hairy stigma or summit. The seed-vessel is wanting. The seeds are single, oval, and attached below to the bottom of the flower.—The roots of the grasses are opening; such as have an aromatic smell are stomachic; their seeds are mealy, mucilaginous, and nourishing. All the parts of these plants are wholesome.

5. *Tripetaloideæ* (from *tres*, three; and *petalum*, a petal). These plants have no very striking characters, and are nearly allied to the grasses. All the genera of this order have not the circumstance expressed in the title.

6. *Ensatæ.* This order, which is very nearly allied to the grasses and liliaceous plants, furnishes a very

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beautiful collection of perennial herbs, which are of different heights, from one inch to 15 feet. The roots are tuberous or fleshy, and garnished with fibres: the stalks are simple, and commonly flat or compressed on the sides. The leaves are simple, alternate, entire, sword-shaped, and, like the liliaceous plants, form at their origin a sheath or glove, which in the greatest number is cleft or divided through the whole length, except at the base, where it is entire, and embraces the stalk like a ring. The flowers are hermaphrodite, and generally proceed from the summit of the stalks either singly, in an umbel, a spike, or in a panicle. In pontederia they proceed from the wings or angles of the leaves either singly or in an umbel. Most of these plants want the perianthium or flower-cup; the flowers burst from a common cover or sheath, termed by Linnæus *spatha*, which in this order is frequently permanent. The petals are in number from one to six. The stamina are generally three. The seed-bud is placed sometimes above the flower, sometimes below it. The style is generally single, and crowned with a triple stigma. The seed-vessel is a dry capsule, generally of an oblong shape, and opens at three valves, discovering the same number of cells, each inclosing a quantity of roundish seeds.—These plants resemble the liliaceous in their powers and sensible qualities: very few of them, however, are used in medicine.

7. *Orchideæ.* The roots of many of these plants are composed of one or more fleshy tubercles or knobs, attached to the lower part of the stem, and sending forth fibres from the top. Those of orchis bear an obvious resemblance to the scrotum in animals: from which circumstance the genus has derived its name. The leaves are of a moderate size, inscribed with a number of longitudinal nerves or ribs, and without any foot-stalk. At their origin they form round the stalk a kind of sheath, which is long, entire, cylindrical, but not furnished, like the grasses and some other plants, with a crown at top. The flowers are hermaphrodite, and placed at the summit of the stalk either in a spike or in a panicle. The calyx is that sort termed by Linnæus a *spatha* or *sheath*, that bursting open protrudes a head or cluster of flowers, termed the *spadix*, which have no perianthium or flower-cup. The petals are five in number, and very irregular. The nectarium in this order is remarkably conspicuous; yet so different in the different genera, that Linnæus has employed it for his principal character or mark of distinction, instead of the root, which had chiefly engaged the attention of former botanists. It has the appearance of a sixth petal. The filaments are always two in number, and placed upon the pistillum or female organ. The antheræ are erect, and generally covered by the upper lip of the nectarium. The seed-bud is either oblong or pillar-shaped, twisted like a screw, and universally placed below the receptacle of the flower. The style is single, very short, and forms one substance with the inner margin of the nectarium. The seed-vessel is generally a capsule with one cavity or cell, and three valves or openings, which are keel-shaped, and open on the angular sides, being jointed both at the bottom and top. The seeds are numerous; very small, like saw-dust; and attached, without foot-stalks, to a slender receptacle or rib, which extends itself lengthwise in the middle of each inclosure or valve. The plants of this order are reckoned strong aphrodisiacs.

8. *Scitamineæ.* This class consists of beautiful exotic plants, all natives of very warm countries. Some of them furnish exquisite fruits; but though the plants rise very high, they are perennial only by their roots. Those which have only one filament, have in all their parts an aromatic odour, and an acid or poignant taste; qualities, however, possessed in a much greater degree by the roots, which are hot and resinous.

9. *Spathaceæ*, so called because their flowers are protruded from a *spatha* or sheath. They are nearly allied in habit and structure to the liliaceous plants, from which they are chiefly distinguished by the spatha out of which their flowers are protruded.

10. *Coronariæ.* These plants are herbaceous, perennial, and from one inch to 15 feet high. The roots are either bulbous, fibrous, or composed of small fleshy knots, which are jointed at top. The bulbs either consist of scales laid over each other like tiles, or are solid. The stem of the liliaceous bulbous plants is properly wanting; what supplies its place being nothing else than the base of the leaves, which, wrapping or enfolding each other, form at bottom a roundish fleshy bulb, hitherto distinguished, though perhaps improperly, by the name of *root*. In the others the stem is simple, that is, has few branches, and is either furnished with leaves, or rises naked. The branches are alternate and cylindrical. The leaves are simple, alternate, and entire. Those next the root, termed *radical leaves*, generally form at their origin a sheath, which in a great number is entire, that is, goes all round; whilst in others, it is cleft or divided longitudinally on one side. The flowers are universally hermaphrodite, except in white hellebore, which has both male and hermaphrodite flowers mixed together on the same root. The flowers are sometimes single, and terminate the stem; sometimes they form an umbel, sometimes a spike, and sometimes a panicle. The calyx or flower-cup, in this order, according to Linnæus, is generally wanting. In strict propriety, however, the single cover that is present in most of these plants, though beautifully coloured, ought to be denominated a *calyx*; as its divisions, generally six in number, are placed opposite to the stamina. The petals, or, to speak more properly, the coloured leaves of the flower, are in number from one to six. Plants which have a single petal, have the limb or upper part split into six divisions or segments. The petals in some species are rolled or turned back. The nectarium is various; in the lily it is a longitudinal line which runs through each petal, and reaches from the base to the middle. In crown imperial, it is a small hollow or pore, formed at the base of each petal; in asphodel it consists of six very small valves, which, approaching, form a globe, and are inserted into the base of the petal; in hyacinth, it is composed of three melliferous pores, situated on the top of the seed-bud. In pine-apple, it is a small scale lying within the substance of each petal above the base; and in albuca, or bastard star of Bethlehem, it consists of two sharp-pointed bodies proceeding from the furrows of the seed-bud, and covered by the broader base of the three fertile filaments. In some species of lily the nectarium is hairy; in others it is naked. The stamina are six in number; erect,

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erect, and inserted into the common receptacle, if the flower consists of many petals; into the tube, or divisions of the corolla, if it consists of one. The antheræ are long, commonly divided below, and slightly attached by their sides to the filaments on which they turn like a vane or the needle of a compass. The seed-bud is single, and placed either within the flower-cup or below it. The style is single, thread-shaped, and generally of the length of the petals. The stigma is generally single, of a conic form, and shaggy or hairy at the extremity. The seed-vessel is generally a capsule, divided externally into three valves, internally into three cells.—With respect to the powers of the plants of this order, it may be affirmed in general, that such as have little taste or smell, as the roots of tulip, and star of Bethlehem, are perfectly innocent; whilst those which have a heavy nauseous smell, as squill, hyacinth, crown imperial, and spider-wort, are at least suspicious, and frequently prove noxious.

11. *Sarmentosæ*, (from *sarmentum*, a long shoot, like that of a vine). This order consists of plants which have climbing stems and branches, that, like the vine, attach themselves to the bodies in their neighbourhood for the purpose of support. These plants are far from being a true natural assemblage; in fact they scarce agree in a single circumstance, except that expressed in the title, which is far from being peculiar to this order.

12. *Holeraceæ*. This order consists of plants which are used for the table, and enter into the economy of domestic affairs; it contains trees, shrubs, perennial and annual herbs. Some of the woody vegetables retain their green leaves during the winter. The roots are very long, and frequently spindle-shaped; from the knots on the stems and branches of such plants as creep on the ground, or float on the water, proceed fibrous and branching roots. The stems and young branches are cylindric; and in the greatest part of the aquatic plants of this order, the stalks are hollow within. The buds are of a conic form, and naked; that is, not accompanied with scales. The leaves are generally simple, entire, alternate, and attached to the branches by a cylindric foot-stalk, which is sometimes very long, but commonly very short. Some plants of this kind have two stipulæ or scales which are attached to the branches near the origin of the foot-stalk of each leaf. In many others, instead of stipulæ, each leaf bears on its foot-stalk a membranaceous sheath, which is cylindric, frequently fringed on the margin, and pierced or penetrated by the stem. The flowers are either hermaphrodite; male and female upon the same root; male and female upon different roots; hermaphrodite and male on the same root; hermaphrodite and female on the same root; or hermaphrodite and male on different roots.

13. *Succulentæ*. This order consists of flat, fleshy, and juicy plants, most of them evergreens. They are astringent, refreshing, and very wholesome.

14. *Gruinales* (from *grus* a crane). These consist of *geranium*, vulgarly called *cranes-bill*, and a few other genera which Linnæus considers as allied to it in their habit and external structure. The order furnishes both herbaceous and woody plants. The roots are sometimes fibrous, sometimes tuberous. In some species of wood-sorrel they are jointed. The stems are cylindric; the young branches, in some, nearly square. The buds are of a conic form, and covered with scales. The leaves are either simple or compound. The flowers are hermaphrodite; they proceed from the wings of the leaves either singly or in clusters. The calyx or flower-cup consists of five distinct leaves, or of one leaf divided almost to the bottom into five parts. It generally accompanies the seed-bud to its maturity. The petals are five in number, spreading, and frequently funnel-shaped. The stamina are generally ten in number, awl-shaped, erect, and of the length of the petals. The stamina are generally oblong; and frequently attached to the filaments by the middle, so as to lie, and sometimes to veer about, upon them. The seed-bud is either oblong or five-cornered. The number of styles is either one or five. In *tribulus*, the style is wanting. The seed-vessel is generally a five-cornered capsule, with one, three, five, or ten cells. The seeds are generally equal in number to the internal divisions or the cells of the seed-vessel; one seed being placed in each cell.

15. *Inundatæ*. The plants of this order are aquatic, of low stature, herbaceous, and mostly perennial. The roots are fibrous. The stem is generally wanting. In its place is an assemblage of leaves, which wrapping or enfolding each other mutually form a sheath; and from the middle of this sheath is produced the foot-stalk of the flower. The leaves are sometimes alternate, sometimes placed in whirls round the stem. In a great many genera the foot-stalk is extended at its origin into a membranaceous substance, which forms a sheath that is cleft through the whole length, on the side opposite to the leaf. The flowers are hermaphrodite, or male and female on the same root. The flower-cup is either wanting, or consists of three, four, or five divisions or leaves, which accompany the seed-bud to its maturity. The petals are generally wanting. The stamina are in number from 1 to 16 and upwards. The filaments in some genera are so short, that they seem wanting. The antheræ are short, and generally marked with four longitudinal furrows. The seed-buds are in number from one to four, the style is frequently wanting. The seed-vessel is universally wanting, except in elatine, which has a dry capsule, with four external openings, and the same number of cells. The seeds are generally four in number.

16. *Calycifloræ*, (from *calyx* the flower-cup, and *flos* the flower), consisting of such plants as have the stamina (the flower) inserted into the calyx. All the plants of this order are of the shrub and tree kind. Some of them rise to the height of 12 or 14 feet; others not above two or three. The roots are branching, fibrous, and woody. The stems are cylindric. The branches, when young, are cornered; the buds of a conic form, and without scales. The leaves are simple, alternate, and attached to the branches by a very short footstalk. The flowers are either male or female upon distinct roots, or hermaphrodite and male on the same root. The calyx is a perianthium composed of one leaf, divided into two, three, or four segments. It is commonly placed upon the germen or seed-bud, which accompanies it to maturity. The corolla is universally wanting, except in *trophis*, the male plants of which, according to Linnæus, have four obtuse and spreading petals. The stamina are generally four in number, slender

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slender like a hair, short, placed at a considerable distance from the style, and inserted into the tube of the calyx. The pistillum is composed of a roundish germen, crowned with the calyx; a single thread-shaped style; and a cylindric stigma. The seed-vessel is either an obtuse oval fruit of the cherry kind, or a globular berry with one cell, containing a roundish seed. The plants of this order are astringent.

17. *Calycanthemæ*, (from *calyx* the flower-cup, and *anθos* the *flower*); consisting of plants, which, among other characters, have the corolla and stamina inserted in the calyx. This order furnishes trees, shrubs, and annual, biennial, and perennial herbs. The herbaceous annuals are by much the most numerous. The roots are branching and fibrous: the stems and branches cylindric, square, or four-cornered while young. The buds are of a conic form, and without scales. The leaves are generally either alternate, simple, and attached to the branches by a short foot-stalk, or opposite at the bottom of the stem; and, in some, alternate towards the top. They are universally sessile; that is, attached to the branches without any foot-stalk. The calyx is universally a perianthium, and generally monophyllous, or composed of one leaf. The corolla consists of four, five, and six petals, which are attached to the tube of the calyx, and are sometimes placed alternate, sometimes opposite to the divisions of the limb. The stamina, which are in number from 4 to 20 and upwards, are attached to the cube of the calyx either on its margin or lower down. When the number of stamina is double the divisions of the calyx, the stamina which stand opposite these divisions are a little longer than the rest. The antheræ are generally of a hemispherical figure; frequently cleft or slit below; and by that aperture attached slightly to the filaments, on which they often veer about like a vane or needle. They are surrounded longitudinally, and open on the sides into two loculi or cells. The pollen, or male dust, consists of a number of minute particles, of an oval figure, yellow and transparent. The germen, or seed-bud, is placed either above or under the receptacle of the flower. The style is single, thread-shaped, and of the length of the stamina. The stigma is generally single and undivided. The seed-vessel is a capsule, which is generally divided internally into four loculi or cells. The seeds are numerous, minute, and frequently three-cornered. The plants of this order are reckoned astringent.

18. *Bicornes*, (from *bis* twice, and *cornu* a horn), plants whose antheræ have the appearance of two horns. This appearance, however, is not very conspicuous, unless in a few genera. The plants of this order are all of the shrub and tree kind. The roots are branching and fibrous. The stems and branches are cylindric; the buds conic, sometimes covered with scales, and sometimes naked. The leaves are generally alternate. In most plants of this order they are either sessile, or supported by a very short foot-stalk, which is semicylindric, and flat above. The flowers are universally hermaphrodite, except in one genus, the Indian date-plum, where hermaphrodite and male flowers are produced in the same species upon distinct roots. They proceed either solitary, or in a corymbus, from the angles formed by the leaves and branches: or hang down in spikes and clusters at the end of the branches; each flower having a small scale or floral leaf placed under it. In most plants of this order the calyx is placed around or below the germen. The calyx is universally a perianthium, and generally monophyllous or of one piece, deeply divided into four or five segments, which are permanent, that is, accompany the germen to its maturity. The segments are often acute, and sometimes coloured. The corolla is generally monopetalous, and bell or funnel-shaped: the figure, however, is not very constant, even in plants of the same genus. The limb or upper part of the petal, is generally divided into four or five segments, which are sometimes rolled back, sometimes bent inwards. The limb too is sometimes slightly cut, sometimes divided almost to the bottom. The tube, or lower part of the petal, is cylindric, and generally of the same length with the calyx. The number of stamina is from 4 to 20. These are generally erect, and attached to the lower part of the tube of the corolla. The antheræ are bifid or forked below, and, being slightly attached to the filaments, are frequently inverted in such a manner as to exhibit the appearance of two horns at top. The germen or seed-bud, is generally roundish, and seated above the receptacle. The style is single, thread-shaped, of the same length with the corolla, and in a few genera permanent. The seed-vessel is either a capsule with five cells, a roundish berry, or an oblong four-cornered nut with two cells.—The plants of this order are astringent.

19. *Hesperideæ*, (from the Hesperides, whose orchards are said to have produced golden apples). The plants of this order are of the shrub and tree kind, and mostly evergreen. The bark of the stalks is slender, and comes off in thin plates. The leaves are generally opposite, and covered with small transparent points. In some, the leaves are placed opposite at the bottom of the stalks, and alternate above. The buds are of a conic form, the flowers generally hermaphrodite; they proceed from the wings of the leaves either singly, or in clusters like ivy-berries. The calyx is placed above the seed-bud, and accompanies it to its maturity. The petals are three, four, or five in number, and stand upon the brims of the tube of the calyx. The seed-bud is large, oblong, and placed below the receptacle of the flower. The style is single, awl-shaped, of the length of the stamina, and terminated with a single stigma. The seed-vessel in some genera is a berry furnished with one or three cells; a capsule with four cells, or of the nature of the cherry, containing a stone. The seeds are generally numerous, small and oblong. The leaves and fruits are astringent, the berries esculent.

20. *Rotaceæ* (from *rota*, a wheel), consisting of plants with one wheel-shaped petal without a tube. These resemble in quality those of the order of *Preciæ*, to which they are in all respects very nearly allied; but very few of them can be said in strict propriety to possess the character specified in the title.

21. *Preciæ* (from *precius* early). These consist of primrose, an early flowering plant, and some others which agree with it in habit and structure, though not always in the character or circumstance expressed in the title. These plants, which possess no striking uniform characters, are, in general, innocent in their quality; yet the root of sow-bread is dangerous, if taken internally.

22. *Caryophylleæ*. All the plants of this order are herbaceous, and mostly annual. Some of the creeping kinds

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kinds do not rise above an inch, and the tallest exceed not seven or eight feet. The roots are branching, fibrous, and of a moderate length. The stems are cylindrical. The branches proceed from the wings or angles of the leaves, and are generally opposite, and as it were jointed at each knot. In some species of cerastium the branches are square. The leaves are generally placed opposite in pairs, so as to resemble a cross; and are slightly united at the bottom by their foot-stalks, which form a sort of glove round the stem. The hairs are simple, like silk. The flowers are hermaphrodite; but some have male and female flowers upon distinct roots. They either stand single on their foot-stalks, and proceed from the wings or angles of the leaves and branches, or are disposed in a spike, corymbus, umbel, or panicle. The calyx is permanent, and composed either of one piece with five indentments, or of four or five distinct leaves. The corolla generally consists of five petals, which have claws of the length of the calyx; and a spreading limb, sometimes entire, but oftener cleft or divided into two. The stamina are in number from 3 to 15, and of a moderate length. When their number is double the divisions of the calyx, they are attached alternately to the claws of the petals, those so attached being shorter than the rest; the remaining stamina are inserted into the common receptacle, and stand opposite to the segments of the calyx. In some genera of this order the number of stamina is found to vary, even in the different flowers of the same plant. The antheræ are short, hemispherical, marked with four longitudinal furrows, frequently divided or cleft below, most commonly erect; sometimes, however, *incumbent*, that is, fastened to the filaments by the sides. The pointal is composed of a single seed-bud, which is generally roundish, sometimes cornered. The styles are thread-shaped, of the length of the stamina, and crowned with a simple stigma, which is sleek or smooth externally, and slightly hollowed or vaulted within. The seed-vessel is a dry capsule, of an oval form, of the length of the calyx, and consists of one or three cells. The plants of this order are innocent in their quality; they abound in a watery sort of phlegm, and have bitter seeds. With respect to their virtues, they are reckoned astringent, attenuating, and detersive.

23. *Trihilatæ* (from *tres* three, and *hilum* an external mark on the seed); consisting of plants with three seeds, which are marked distinctly with an external cicatrix or scar, where they are fastened within to the fruit.

23. *Corydales* (from κορυς, a helmet); consisting of plants which have irregular flowers, somewhat resembling a helmet or hood. These plants are mostly herbaceous and perennial. The roots are tuberous or knobby. The stems are generally branching. The leaves are alternate, sometimes simple, but most commonly winged. The footstalk of the leaves is strait or narrow, except in *epimedium*, where it is large, and has a membranous edge or border. The flowers are universally hermaphrodite. They proceed either singly from the wings and angles of the leaves, or are collected in clusters at the end of the branches. The calyx consists of two, four, five, or six leaves, which are frequently coloured, and commonly fall off immediately before, or very soon after, the expansion of the petals. The corolla is generally irregular; of one, or many pieces; gaping; and furnished with a nectarium, which is very different in the different genera. The stamina are in number from two to six, and of a proportionate length, except in honey-flower, which has two shorter than the rest. The filaments are distinct, except in two genera, fumitory and *monnieria*, which have two sets of strings or filaments united in a cylinder. The antheræ are universally distinct, except in *impatiens*, where they are formed into a cylinder divided at the base. The seed-bud is generally roundish, but sometimes angular or cornered. The style is commonly single, extremely short, slender, or thread shaped, and crowned with a simple stigma. The seed-vessel is either a hollow blown-up berry, a capsule of one cell, a longish, or a roundish pod. The seeds are generally numerous and round.

25. *Putaminea* (from *putamen*, a shell): consisting of a few genera of plants allied in habit, whose fleshy seed-vessel or fruit is frequently covered with a hard woody shell. Most of these plants are acrid and penetrating; and yield, by burning, a great quantity of fixed alkali. With respect to their virtues, they are powerful aperients. The Indians pretend that the fruit of a species of caper-bush, which they call *baducca*, extinguishes the flames of love.

26. *Multisiliquæ* (from *multus* many, and *siliqua* a pod); consisting of plants which have more seed-vessels than one. From the etymology of the term, one would naturally imagine that the seed-vessels in question were of that kind called by Linnæus *siliqua*, or pod; but the fact is, that not a single plant of this order bears pods; the greater part having many dry capsules, and the remainder being furnished properly with no seed-vessel, but bearing numerous distinct seeds. Plants of this order are mostly perennial herbs: the stems of some are erect; others creep upon the ground, and produce roots near the origin of each leaf; lastly, others climb, and attach themselves to the bodies in their neighbourhood, either by the footstalk of the leaves, or by tendrils and claspers which terminate the footstalk. The greatest height of those which rise erect, seldom exceeds eight feet. Those which climb rarely exceed 15 or 20 feet. The roots are generally fleshy. In some they are hand-shaped; in others finger-shaped, or cylindric. In some species of hellebore and ranunculus they are divided into spherical knobs. Lastly, In some plants of this order, the roots are fibrous. The stems and young branches are cylindric. The leaves which are of different forms, being sometimes simple and entire, sometimes hand-shaped or winged, are generally alternate. The footstalk, which is sometimes cylindric, sometimes angular, is membranous, and very large at its origin, surrounding a great part of the stem from which it proceeds. The flowers are hermaphrodite. They proceed either singly from the wings of the leaves or termination of the branches, or terminate the branches in a spike, panicle, or head. The calyx in some is wanting; in others it is generally composed of five pieces, which fall off with the petals. The petals are in number from 4 to 15; generally equal, and sometimes disposed in two or three series; five is the prevailing number. The stamina are in number from 5 to 300, distinct, and attached generally in several rows or series to the receptacle. The seed-buds are generally numerous; the style is frequently wanting. In some

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from the seed-vessel is wanting; in others it is composed of several dry capsules, each containing a single cell. The seeds are numerous, and frequently angular. Most of these plants are acrid, and many of them poisonous. In general, plants that have a great number of stamina are noxious in their quality. When burnt, these plants furnish a fixed alkali; by distillation there is drawn from them a kind of nitrous and aluminous substance. With respect to their virtues, they are caustic and purgative.

27. *Rhœadeæ*, consisting of poppy, and a few genera which resemble it in habit and structure. These plants, upon being cut, emit plentifully a juice, which is white in poppy, and yellow in the others. With respect to their virtues, they seem to operate principally upon the nerves. Their juice is soporific and narcotic, their seeds less so, their roots aperient. Applied externally they are slightly corrosive.

28. *Luridæ*, consisting of plants whose pale and ominous appearance seems to indicate something baleful and noxious in their natural quality. Most of these plants are herbaceous and perennial. Many of them are of the masked tribe of flowers; others resemble these in their general appearance, but differ from them essentially in the equality of their stamina. The roots are generally branched, sometimes tuberous. The stems and branches are cylindric. The leaves are generally simple, and placed alternate. The flowers are hermaphrodite. They proceed either singly or in clusters from the angle formed by the leaves and branches. In some species of lycium, they terminate the branches. The calyx is generally of one piece, deeply divided into five parts. The corolla consists of one petal, which is either bell, funnel, or wheel-shaped. The stamina are four or five in number; and those either of equal lengths, as in the greater, or unequal. The seed-bud is placed above the receptacle of the flower. The style is single; and is terminated by a summit which is hemispherical, and frequently channelled or furrowed. The seed-vessel, in such as have equal stamina, is a berry; in the rest, it is generally a capsule. The seeds are numerous, and frequently kidney-shaped.—These plants in general are poisonous. They have an insipid taste, and a nauseous disagreeable smell.

29. *Campanaceæ* (from *campana*, a bell); plants with bell-shaped flowers. The plants of this order are herbaceous and perennial. The roots are either spindle-shaped, or branching and fibrous. The stems are round. The branches are generally alternate. The leaves are simple alternate, and commonly attached to the branches by a semi-cylindric footstalk, which is furrowed above. The indentments are terminated by a small white tubercle or knob, which renders them conspicuous. The flowers are hermaphrodite; and proceed either solitary from the wings of the leaves, or are collected into a spike and head at the end of the flower-stalk. The calyx is universally a perianthium situated upon or round the germen, and generally composed of one leaf deeply divided into five segments. The corolla is monopetalous, and of the bell, funnel, or wheel shape. The tube, in flowers of the bell and wheel shape, is very short; in those of the funnel shape, very long. In Greek valerian, the tube is shut with five valves, which are placed on its apex or top. The limb or upper part of the corolla is deeply divided into five segments, which spread, and are alternate with the divisions of the calyx. The corolla is generally permanent. The stamina are five in number, attached to the base of the tube of the corolla, alternate with its divisions, and opposite to those of the calyx. The filaments are distinct; very large at their origin; and frequently approach so as to form a sort of vault, which covers the summit of the germen. They are slender and awl-shaped above. The antheræ are very long; oval; marked with four longitudinal furrows, either distinct, or united in a cylinder. The pollen is composed of very small, spherical, white, shining, and transparent particles. The germen is roundish, and situated either wholly or in part under the flower. The style is generally single, and of the length of the stamina or corolla. The stigma is commonly single, but deeply divided. The seed-vessel is a roundish capsule, generally divided into three cells, and furnished externally with the same number of valves. The seeds are small, numerous, attached to a receptacle in the centre of the fruit, generally rounded, and sometimes cornered.—This order furnishes many excellent medicines. The plants abound with a white milky juice, which, upon the stalk being cut, flows out in great quantities.

30. *Contortæ*, (from *con* together, and *torqueo* to twist); consisting of plants which have a single petal that is twisted or bent towards one side. This order furnishes trees, shrubs, and fat succulent plants, some of which retain their leaves during the winter. The herbaceous vegetables in this order are generally perennial. The roots are sometimes branching, but commonly fleshy, succulent, and garnished with fibres or strings like those of turnip. The stems are round, and in some genera pulpy and succulent. The branches are sometimes placed alternate, and sometimes opposite. The buds are of a conic form, and naked or without scales. The leaves are sometimes alternate, sometimes placed opposite in pairs, and not seldom surround the stem in whirls. They are attached to the branches by a cylindrical footstalk, which is short, and frequently united to the footstalk of the opposite leaf. The defensive and offensive weapons in this order are a downy sort of pubescence, and simple or forked prickles, which, in some genera, issue from the wings of the leaves. The flowers are hermaphrodite; and stand either singly upon their footstalks, or are collected into umbels and clusters. These bunches or collections of flowers sometimes terminate the branches, sometimes proceed from the angles of the branches, and sometimes stand at the side of the wings without issuing from them. The flower-cup is composed of one leaf divided almost to the base in five unequal segments, which embrace each other, and are permanent, or accompany the seed-bud to its maturity. The corolla consists of one petal, which in the different genera is bell, salver, funnel, or wheel-shaped. The limb, or upper spreading part of the petal, is generally divided into five equal parts, which are slightly bent or twisted to the left, and embrace or enfold each other like the petals of the mallow tribe. The tube is generally long and cylindrical; sometimes club-shaped, and often wanting. In several flowers of this order the petal is accompanied with that species of superfluity termed a *nectarium*. In the different genera, however, it assumes very different appearances. The stamina are five in number, short, equal,

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equal, attached at the same height to the tube of the petal, alternate with its divisions, and opposite to those of the calyx. The antheræ are generally erect, and frequently approach so as to form a compact body in the middle of the flower. The seed-bud is either single or double. In some the style is wanting. The stigma is frequently double. The seed-vessel in some genera is a pulpy fruit, of the berry and cherry kind; but most frequently that species termed by Linnæus *conceptaculum*, and *folliculus*, which has one valve or external enclosure, opens lengthways on one side, and has not the seeds fastened to it. Two of these dry fruits, with a single cell, compose the seed-vessel of most plants of this order. The seeds are generally numerous, and in several genera crowned with a long pappus or downy wing like that of the compound flowers, by means of which they easily disperse and sow themselves. —The plants of this order being cut, emit a juice which is generally milky, and sometimes of a greenish white. From the circumstance of their abounding in this milky juice, the greater part are deemed poisonous; repeated observations having established this aphorism, That milky plants, except those of the plain compound flowers, are generally of a baneful destructive nature, and ought at least to be administered with caution. With respect to their sensible qualities, they are bitter; particularly the seed, roots, and bark, in which resides their principal virtue.

31. *Vepreculæ*, (from *vepres*, a briar or bramble), consisting of plants resembling the daphne, dirca, gnidia, &c. but which, however, do not constitute a true natural assemblage.

32. *Papilionaceæ*, plants that have papilionaceous flowers, *i. e.* somewhat resembling a butterfly in shape; of which number are all the leguminous plants. The plants of this order are of very different duration; some of them being herbaceous, and these either annual or perennial; others woody vegetables of the shrub and tree kind, a few of which rise to the height of 70 feet and upwards. The herbaceous plants of this order generally climb; for, being weak, and as it were helpless of themselves, they are provided by nature with tendrils, and even sharp-pointed hooks, at their extremities, to fasten upon the neighbouring trees or rocks; or the stalks are endowed with a faculty of twisting themselves, for the purpose of support, around the bodies in their neighbourhood. The pea, vetch, and kidney-bean, afford familiar examples of this appearance. The shrubs and trees of this order are mostly armed with strong spines. The roots are very long, and furnished with fibres; but some genera have fleshy knobs or tubercles placed at proper intervals along the fibres. The stems are cylindric, as likewise the young branches, which are placed alternately; those which climb, twist themselves from right to left, in a direction opposite to the apparent motion of the sun. The bark of the large trees is extremely thick and wrinkled, so as to resemble a net with long meshes; the wood is very hard in the middle, and commonly coloured or veined. The buds are hemispherical, without scales, and proceed from the branches horizontally a little above the angle which they form with the leaves. The leaves are alternate, and of different forms, being either simple, finger-shaped, or winged. This last form is very common; the lobes or lesser leaves are entire, and sometimes placed in pairs, but most commonly the winged leaf is terminated by an odd lobe. The winged or pinnated leaves of this order have a daily or periodical motion, depending upon the progress of the sun in his diurnal course. The common footstalk of the winged and compound leaves is marked on the upper surface with a cavity or furrow which runs through its whole length. The flowers are hermaphrodite, and proceed either from the wings of the leaves, or from the extremity of the branches. The calyx is a perianthium of one leaf, bell-shaped, bunching out at the bottom, and cut on its brim or margin into five irregular divisions or teeth; the lowermost of which, being the odd one, is longer than the rest: the other four stand in pairs, of which the uppermost is shortest, and stands farthest asunder. The bottom of the calyx is moistened with a sweet liquor like honey, so may be deemed the nectarium of these plants. The petals are four or five in number, very irregular, and from their figure and position bear an obvious resemblance to a butterfly expanding its wings for flight. These petals have been characterized by distinct names; the upper one, which is commonly the largest, is termed the *standard*, (*vexillum*); the two side petals, the *wings*, (*alæ*); and the lowermost, which is generally united at top, and divided at bottom, the *keel*, (*carina*). The stamina are generally ten: these are either totally distinct, or united by the filaments into one or two bundles involving the seed-bud. In the latter case, where there are two sets of united filaments, one of the sets is composed of nine stamina, which are united into a crooked cylinder, that is cleft on one side through its whole length; along this cleft lies the tenth filament or stamen, which constitutes the second set, and is often so closely attached to the second bundle, that it cannot be separated without some difficulty. The antheræ are small, round, marked with four longitudinal furrows, and slightly attached to the filaments. In lupine, the antheræ are alternately round and oblong. The seed-bud is single, placed upon the receptacle of the flower, oblong, cylindrical, slightly compressed, of the length of the cylinder of the united stamina by which it is involved, and sometimes elevated by a slender footstalk which issues from the centre of the calyx. The style is single, slender, and generally crooked or bent. The stigma is commonly covered with a beautiful down, and placed immediately under the antheræ. The seed-vessel is that sort of pod termed a *legumen*, which is of an oblong figure, more or less compressed, with two valves, and one, two, or more cavities. These cavities are often separated, when ripe, by a sort of joints. The seeds are generally few in number, round, smooth, and fleshy. Jointed pods have generally a single seed in each articulation. The seeds are all fastened along one suture, and not alternately to both, as in the other species of pod termed *siliqua*.—The plants of this family are, in general, mucilaginous. From the inner bark of most of them flows, either naturally or by incision, a clammy liquor, which dries and hardens like gum; the juice of others is sweet like sugar; some taste bitter, and are purgative, emetic, or even mortal. A species of eastern astragalus, with goats-rue leaves, is said to be remarkably caustic, and to burn the tongue excessively when chewed. In general, however, these plants are soft and clammy. With respect to their virtues, the plants of this order are highly emollient; some of them are vulnerary

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vulnerary and astringent; and the root of anonis, or rest-harrow, is diuretic.

33. *Lomentaceæ*, (from *lomentum*, a colour used by painters.) Many of these plants furnish beautiful tinctures, and some of them are much used in dyeing. They very much resemble the last order, differing only in the following particulars. 1. In all plants of this order, except milk-wort, the stamina are distinct. The flower is not shaped like a butterfly, but is less irregular, and frequently consists but of one petal. The leaves are sometimes simple, but most commonly winged. The seeds are commonly marked with a circular furrow on both sides. Like those of the leguminous tribe, the plants of this order are generally mucilaginous. From the inner bark of the greater number exudes, either naturally or by incision, a mucilaginous liquor, which sometimes dries upon the plant, and becomes a gummy substance.

34. *Cucurbitaceæ*, (from *cucurbita*, a gourd); consisting of plants which resemble the gourd in external figure, habit, virtues, and sensible qualities.—The plants of this order, which generally climb, and have long diffused branches, are mostly herbaceous and perennial. The roots in the perennial plants of this order are shaped like those of the turnip; in the annuals they are branching and fibrous. The stems are cylindric and succulent. The young branches have generally five corners. In some species of passion-flower they are square. The leaves are alternate, angular, and sometimes hand-shaped. They are attached to the branches by a footstalk, which is pretty long and cylindrical, without any furrow. From the wing or angle of each of the upper leaves proceeds a tendril, which is either simple or branching, and twists itself spirally round the different bodies in its neighbourhood, for the purpose of supporting and training of the branches. The lower leaves have no tendril. The flowers are either hermaphrodite or male and female. In this last, the male flowers are generally separated from the female upon the same root; and that either in the same wing or angle of the leaves, or in different angles. The flower-cup, in the female flowers, is placed upon the seed-bud; and generally consists of one bell-shaped leaf, that is deeply divided into five unequal segments, and unlike the other plants which have the calyx seated upon the fruit, falls off with the petals and the other parts of the flower. The corolla consists of one petal, with five equal divisions, which adhere to the tube of the calyx, as if glued to it. A species of passion-flower, termed by Linnæus *passiflora suberosa*, wants the petals. The stamina are in number from one to five, short, and generally inserted into the calyx. The filaments are distinct; the antheræ of many genera are united in a cylinder. In the passion-flower they are slightly attached to the filaments, on which they turn like a vane or the needle of a compass. The seed-bud is single, and placed below the receptacle of the flower. The style is generally single, cylindrical, of the length of the calyx, and crowned with a triple stigma. The seed-vessel is generally pulpy, of the apple or berry kind, and consists of one, two, or three cells. The seeds are numerous, generally flat or compressed, and sometimes covered with that kind of proper coat called by Linnæus *arillus*.—The fruit of these plants is generally purgative and refreshing; that of some of them proves a very violent emetic when used too freely.

35. *Sentosæ* (from *sentis*, a briar or bramble); consisting of the rose, bramble, and other plants which resemble them in port and external structure. These plants are so nearly allied in form, habit, and structure, to those of the natural order *Pomaceæ*, that they ought never to have been separated from it. The leaves have a styptic taste; the fruits are acid and cooling. With respect to their virtues, the leaves are vulnerary and astringent, the roots are diuretic. The acid fruits, as strawberry and raspberry, are used with success in putrid and bilious fevers, as likewise in contagious and epidemic dysenteries, which prevail in summer and autumn, and are occasioned by a sudden transition from a hot to a cold air, or by the acrid humour which flows into the intestines.

36. *Pomaceæ*, (from *pomum* an apple); consisting of those which have a pulpy esculent fruit, of the apple, berry, or cherry kind. The plants of this order, which furnish many of our most esteemed fruits, are mostly of the shrub and tree kind. The roots are branched, fibrous, and in the greater part very long. The stems and branches are cylindric. These last are placed alternate; and, when young, are, in some genera, angular. The bark is thick and wrinkled. The buds are of a conic form, placed in the angles of the leaves, and covered with scales which lie over each other like tiles. The leaves, which differ in form, being in some genera simple, in others winged, are, in the greater number, placed alternate. The footstalks of the leaves is furrowed above, and frequently accompanied by a number of knobs like glands. Most of these plants are furnished with two stipulæ at the origin of the young footstalks of the leaves. These, in some genera, are pretty large: in others, they are so small as scarce to be perceived; and in cocoa-plum, in particular, they by their minuteness resemble hairs. The flowers are universally hermaphrodite, except in *spiræa aruncus*, in which male and female flowers are produced on distinct parts. In the greater number of genera they are produced in clusters or heads at the end of the branches. The calyx is of one piece, with five segments or divisions, which are permanent, and placed above the seed-bud in some; in the rest, they either fall off with the flower, or wither upon the stalk. The petals are five in number, and are inserted into the tube of the calyx. The stamina are generally 20 and upwards, and attached like the petals to the margin of the tube of the calyx. The antheræ are short, and slightly attached to the filaments. The seed-bud is single; and in those genera which have the calyx permanent, it is placed below the receptacle of the flower. The seed-vessel is a pulpy fruit of the apple, berry, or cherry kind. Those of the apple kind are divided internally into a number of cavities or cells. The seeds are numerous.—The pulpy fruits of this order are acid, esculent, and of great efficacy in putrid and bilious fevers.

37. *Columniferæ*, (from *columna* a pillar, and *fero* to bear); consisting of plants whose stamina and pistil have the appearance of a column or pillar in the centre of the flower. This order furnishes a choice collection of herbs both annual and perennial, shrubs and trees. These are very different in size and height, from the creeping

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creeping mallows, and low shrubby tea-tree, to the stately limes, and the more lofty silk-cotton trees, which by some modern writers are affirmed to be so large as not to be fathomed by 16 men, and so tall that an arrow cannot reach their top. The shrubs and trees of this order are deciduous, pretty thick, of a beautiful appearance, with an erect stem, which is formed by its branches and foliage into a round head. The roots are extremely long, branch but little, and either run perpendicularly downwards, or extend themselves horizontally below the surface. The stems are cylindric. The young branches, though commonly of the same figure, are sometimes angular. The bark is thick and pliant. The wood, in general, is very soft and light. The buds are of a conic form, naked, or without scales; and situated either at the extremity of the branches, or in the angle formed by the branch and leaf. The leaves are alternate, simple, divided into several lobes, and frequently hand or finger-shaped. The ribs or nerves on the back of the leaf, in some genera of this order, are provided near their origin with a number of hollow furrows or glands, which, being filled with a clammy honey-like liquor, have been considered as so many vessels of secretion. The foot-stalk of the leaves is cylindric, swelled at its origin, and appears jointed at its junction with the branch. The flowers are universally hermaphrodite, except in *higgeleria* and a species of Virginian marshmallow, called by Linnæus *napæa dioica*; the former of which bears male and female, the latter male and hermaphrodite, flowers on different roots. In many plants of this order, the flowers generally open about nine in the morning, and remain expanded till one in the afternoon. The flowers either terminate the branches, proceed from the angles of the leaves, or are disposed either singly, or in a corymbus, along the branches or stem. In most of these genera the calyx is single, but in others frequently double. In these last the inner calyx is always of one piece, generally divided into five segments; the outer consists either of one leaf, of three distinct leaves, or of many. The calyx, when single, is sometimes composed of one leaf which is permanent, or of several distinct leaves, which are generally coloured, and fall off with the petals. In plants that have a double calyx, both flower-cups are generally permanent. The petals in this order are from four to nine; five is the prevailing number. The stamina, which are in number from 5 to 20 and upwards, are generally inserted into the common receptacle of the calyx, or into the pistillum or seed-bud. The filaments are either distinct, or united in a cylinder, which, proceeding from the receptacle of the calyx, surrounds the seed-bud, and attaches itself to the base of the petals, with which it slightly unites. The antheræ are frequently roundish, and placed erect on the filament; most commonly, however, they are oblong or kidney-shaped, and slightly attached by the middle, or sides, to the filaments, on which they turn like a vane or needle. This last is, particularly, the characteristic of all the mallow tribe. The seed-bud is generally roundish or conic; and sometimes, as in the tea-tree, angular. The seed-vessel is generally a capsule; sometimes a pulpy fruit of the berry or cherry kind. In some it is a woody or membranous capsule, divided into as many cells internally as there were partitions in the seed-bud. The seeds are generally solitary, sometimes angular, and sometimes kidney-shaped.—These plants are mucilaginous and lubricating.

48. *Tricoccæ* (from τρεις, *three*, and κοκκος, a *grain*); consisting of plants with a single three-cornered capsule, having three cells or internal divisions, each containing a single seed. The single seed-vessel of these plants is of a singular form, and resembles three capsules, which adhere to one common footstalk as a centre, but are divided externally into three pretty deep partitions. This family is not completely natural. It must be observed, however, that the character expressed in the title is a striking one; and that though the plants which possess it are not connected by such numerous relations as to form a true natural assemblage, yet they are by that circumstance distinguished from all other plants with as great, nay greater facility, than by any artificial character yet known. But all the genera of this order have not the striking character just mentioned.

39. *Siliquosæ*, (from *siliqua* a pod); consisting of plants which have a pod for their seed-vessel. This order chiefly furnishes biennial and perennial herbs of an irregular figure. The roots are long, branched, crooked, and fibrous. In some they are succulent and fleshy, in others jointed. The stems and young branches are cylindric. The leaves, which differ in point of form, being sometimes simple, sometimes winged, are generally placed alternate. The flowers are hermaphrodite, and in the greater number disposed in a spike at the extremity of the branches. The flower-cup is composed of four leaves, which are oblong, hollow, blunt, bunched at the base, and fall with the flower. These leaves are sometimes erect, and sometimes spread horizontally. The petals, which are four in number, spread at top, and are disposed like a cross: the claws or lower part of the petals are erect, flat, awl-shaped, and somewhat longer than the calyx. The upper part widens outwards. The stamina are six in number; two of which are of the length of the calyx, and the remaining four somewhat longer, but shorter than the petals. The antheræ are of an oblong figure, pointed, thicker at the base, and erect. Betwixt the stamina, in plants of this order, are generally lodged one, two, or four, round greenish knots, which in some genera are so small as to elude the sight. These glands, called by Linnæus *glandulæ nectariferæ*, and used very improperly by that author as an essential character in discriminating the genera, seem to be prominences of the receptacle of the flower, occasioned by the stamina being deeply lodged in its substance. The seed-bud is single, and stands upon the receptacle of the flower. The style, which is either cylindric or flat like a scale, is of the length of the four longer stamina in some genera; in others it is very short, or even wanting. It accompanies the seed-bud to its maturity. The stigma is blunt, and sometimes deeply divided into two parts. The seed-vessel is either a long pod or a short and round one. Either sort has two valves, or external openings, and in a great many genera the same number of internal cavities or cells, the partition of which projects at the top beyond the valves. The seeds are roundish, small, and attached alternately by a slender thread to both sutures or joinings of the valves. These plants have a watery, sharp, lixivial taste; and are charged with a fixed alkaline

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salt, which is drawn from them by burning, and being distilled without any addition produces a volatile alkali. Most of them have a stinking smell. With respect to their virtues, they are diuretic, attenuating, detersive, and antiscorbutic. These qualities, however, are most eminently possessed by the live plants; when dried, they either entirely disappear, or are greatly diminished. Applied externally, these plants are useful in diseases of the skin, as the itch, leprosy, &c.

40. *Personatæ* (from *persona*, a masque); consisting of a number of plants whose flowers are furnished with an irregular, gaping, or grinning petal, in figure somewhat resembling the snout of an animal. This order furnishes both herbaceous and woody vegetables of the shrub and tree kind. The roots are generally fibrous and branched. The stems and branches are cylindric when young, except in some species of figwort, in which they are square. The leaves are simple, generally placed opposite in pairs at the bottom of the branches, but in many genera stand alternate towards the top. The flowers are universally hermaphrodite; they proceed either singly or in clusters from the wings of the leaves, or terminate the branches in a spike, panicle, or head. The calyx is of one leaf, which is cut into two, three, four, or five segments, or divisions, that are permanent. The corolla is composed of one irregular petal, with two lips, resembling, as was already observed, the head or snout of an animal. In some plants the stamina are two or four in number, and of an equal length; in others they are universally four in number, two of which are long and two short. The seed-bud is single, and placed above the receptacle of the flower. The calyx is single; thread-shaped; bent in the direction of the stamina; and crowned with a stigma, which is generally blunt, and sometimes divided into two. The seed-vessel is a capsule, generally divided internally into two cavities or cells, and externally into the same number of valves or enclosures. The seeds are numerous, and affixed to a receptacle in the middle of the capsule.—These plants possess nearly the same qualities with the lip flowers, though in a less degree. With respect to their virtues, many of them are aperient, anodyne, purgative, and even emetic. The internal use of many of them is extremely pernicious; applied externally, they are anodyne, and powerful resolvents.

41. *Asperifoliæ*, rough-leafed plants. The greatest part of these are herbaceous and perennial. The roots are branching and fibrous; the stems and branches rounded: the buds of a conic form, naked or without scales. The leaves are simple, alternate, commonly very rough to the touch, and in most of the herbaceous plants sessile, or attached to the stem and branches without any footstalk. In the few trees, however, of this order, the leaves have a footstalk, the lower part of which, after the fall of the leaves, remains like a spine or thorn. The hairs are simple, and generally very rough to the touch. The flowers are in some genera solitary; but commonly collected in a spike or corymbus. They do not proceed from the angle formed by the stem or branch with the leaf, as in many plants; but from the side of the leaf, or from that part of the stem which is opposite to the leaf. They are almost universally hermaphrodite: in a few species of *cordia*, male and female flowers are produced upon different roots. The calyx is composed of one leaf, which is divided into from three to ten equal or unequal parts. Those with four naked seeds have the calyx deeply divided into five parts which are permanent. The corolla is monopetalous, or composed of one petal, which in different plants is bell, funnel, salver, and wheel-shaped. The divisions of the limb or upper part of the petal are generally five, alternate with those of the calyx; equal and regular, except in *echium*. The stamina are five in number, alternate with the divisions of the corolla. They are equal, attached to the tube of the corolla, a little above its origin, and of the same height. The antheræ are in some genera *connivent*; that is, approach and form a compact body above the filaments. The pistillum is generally composed of a slender style of the same length with the stamina, and crowned with a simple stigma. It proceeds from a germen or seed-bud, which in some plants is divided, but generally split into four. The seeds are generally four in number, and lodged in the bottom of the calyx. Most of the rough-leaved plants are used in medicine: the flowers are esteemed cordial; the leaves and roots vulnerary and astringent; and the hard bony seeds are reckoned powerful promoters of urine. Externally, these plants are used for burnings and poisonous bites; they extirpate warts, and relieve disorders of the loins.

42. *Verticillatæ*, consisting of herbaceous vegetables, having four naked seeds, and the flowers placed in whorls round the stalk. The roots are branched and fibrous. The stems are round when old, but square when young; as are likewise the young branches, which stand opposite. The leaves are opposite, and in the greater number covered with transparent points. Those which are placed next the flower generally differ from the stem leaves. In the greater number of plants of this kind, the leaves are supported upon a long cylindrical footstalk that is furrowed above. The flowers are universally hermaphrodite, except in a species of thyme mentioned by Mr Adanson, which appears to have male or barren flowers on one root, and female or fertile flowers on the other. They are disposed round the stem in whorls or small heads with short footstalks. The calyx is of one piece, that is generally cut into five unequal divisions, whose disposition sometimes represents two lips; the uppermost of which has commonly a less number of divisions: it accompanies the seeds, which it nourishes in its bosom, to their maturity. The petal is of the gaping or lip kind, and in the different genera is more or less irregular or unequal, either in its tube, or in the divisions of the lips; the number of which varies from two to five. These divisions frequently form two lips; of which the uppermost, termed the *crest* and the *helmet*, is sometimes entire, sometimes more or less deeply cut into two; the lowermost, termed the *beard*, generally into three. The stamina are two or four in number. In the greater part there are four stamina of unequal length, two of them being long and two short. These four unequal stamina are frequently dissimilar, and approach by pairs: they are inclined towards the back of the petal, and parallel: the two innermost being shortest, and attached somewhat lower than the two others to the tube of the flower. The seed-bud which consists of four distinct ovaries, is placed upon the seat of the flower, and elevates

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vates from their centre a common style, which is slender, bent in the same manner as the filaments, which it somewhat exceeds in length, and terminated by a double stigma or summit, the divisions of which are unequal, and turned backwards. The seed-vessel in this order is wanting. The seeds are four in number, and lodged in the bottom of the calyx as in a matrix or seed-vessel. Each seed has two covers; the one external, of a cartilaginous or leathery substance; the other internal, membranaceous, of a very fine texture, and placed immediately above the radicle or embryo plant. The plants of this order are fragrant, warm, penetrating, and accounted cordial and cephalic. Their chief virtue resides in the leaves.

43. *Dumosæ*, (from *dumus*, a bush); consisting of a number of shrubby plants, which are thick set with irregular branches, and bushy. The plants of this order are all of the shrub and tree kind, thick and bushy, rising from 6 to 25, 30, and even 40 feet high. Many of them too, as bastard alaternus, holly, iron wood, New Jersey tea, star apple, viburnum, winter berry, and some others, retain their beautiful leaves during the whole year. The roots are branched and fibrous. The stems are cylindric; the young branches sometimes angular. The buds are naked, that is, without scales, in the evergreen shrubs of this order; covered with scales in most of the others. The leaves, which in some genera are simple, in others compound, are placed alternate in some, and opposite in others. The flowers are mostly hermaphrodite. They proceed from the wings of the leaves either singly or in clusters; or they terminate the stem in that sort of flowering head called a *corymbus*. The calyx is generally very small, placed below or around the seed-bud; and consists of one leaf, with four, five, or six divisions, which are permanent. The rhamnus has no calyx. The petals are in number from one to five. The stamina are either four, five, six, or ten. The seed-bud is generally roundish, and placed within the flower. The style is commonly single, and sometimes wanting. The stigma is either single or triple. The seed-vessel is generally a berry, sometimes a dry capsule; the seeds are generally single and egg-shaped. The berries, bark, and flowers of many of these plants are purgative, and act particularly on the lymph and bile.

44. *Sepiariæ*, (from *sepes*, a hedge); consisting of a beautiful collection of woody plants, some of which, from their size, elegance, and other circumstances, are very proper furniture for hedges. This order furnishes woody plants both of the shrub and tree kind, most of which do not drop their leaves till nearly the time when the new leaves begin to appear.

45. *Umbellatæ*, (from *umbella*, an umbel); consisting of plants whose flowers grow in umbels, with five petals that are often unequal, and two naked seeds, that are jointed at top and separated below. These plants are herbaceous, and chiefly perennial. The roots are either tuberous or spindle-shaped, and sometimes forked. The stems are cylindric, full of pith, and frequently hollow. The branches are alternate. The leaves, which like the branches are put on alternately, are very different in point of form; being simple and entire in some; target-shaped, in a species of navel-wort; finger or hand-shaped, in some others; and winged or pinnated with numerous minute divisions, as in the greater number. They are supported by a footstalk, which is very broad and membranous at its origin, and commonly embraces the whole contour of the stem and branches. The flowers are in general hermaphrodite. There are, however, some that have male or barren flowers in the same umbel. This is particularly the case with those umbelliferous plants which have the petals in the flowers of the circumference large and unequal. In these plants the flowers in the circumference only prove fertile; those in the centre, or disk, proving abortive. Oenanthe and imperatoria, on the contrary, have the flowers in the circumference abortive. In ginseng, hermaphrodite and male flowers are produced upon distinct plants. The flowers are disposed in an umbel, which is either simple or compound. The common calyx in this order is that sort termed very improperly by Linnæus *involucrum*, or the flower-cover; which in the greater number consists of one or more leaves placed under the partial or universal umbel, or both, for the purpose of support. The presence or absence of one or both of these covers affords excellent marks in discriminating the genera of this very similar order of plants. The proper calyx of each flower, in the aggregate, consists of five minute indentments placed upon the seed-bud, which it envelopes, and accompanies to its maturity. The petals are five in number, and disposed upon the sides of the flower-cup in form of a rose. In the florets of the centre, the petals are generally pretty equal and small; in those of the circumference, they are frequently unequal and larger; in the greater number, they are heart-shaped, and cut almost to the middle in two. The stamina are five in number, placed opposite to the divisions of the flower-cup, and alternate with the petals. The seed-bud is universally placed under the seat of the flower, and supports two styles which are turned backwards, and crowned with simple summits which do not differ in appearance from the styles. The seed-vessel in this order is wanting. The seeds are two in number, which, when ripe, separate below, but remain closely attached at top. The plants of this order, which grow in dry places, are sudorific, stomachic, and warming. Their virtue resides chiefly in the seeds and leaves. Those which grow in marshy places are generally poisonous; but, notwithstanding the extremely warm and even caustic quality of most of these plants, many of them are employed in the kitchen, and in the economy of domestic affairs.

46. *Hederaceæ* (from *hedera*, ivy); consisting of ivy and a few other genera that seem nearly allied to it. This order furnishes both herbaceous and shrubby plants; most of which, particularly ivy and vine, have creeping branches, which attach themselves by roots or tendrils to the bodies in their neighbourhood. The roots are long, with few branches. The stems and young branches are cylindric. In some species of vine they are square. The leaves are alternate; sometimes simple, sometimes winged, in which the surface of the leaves is covered with points. The footstalk of the leaves is cylindrical, and without any furrow. The buds are of a conic form, and without any scales. The flowers are either hermaphrodite, male and female upon different roots, or hermaphrodite and male upon different roots. In some they terminate the branches in an umbel; in others they proceed in clusters from the side

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side opposite to the leaves; and in some, they are produced along the branches. The calyx consists of one leaf divided in five parts, which are small and generally permanent. The stamina are in number five; awl-shaped, erect, and generally of the length of the petals. Cissus has only four stamina, which are inserted into the nectarium, a sort of border surrounding the seed-bud. The antheræ are roundish, and sometimes, as in ivy, attached to the filaments by the sides. The seed-bud is sometimes round, sometimes shaped like a top or pear, and ends in one, two, or five awl-shaped styles, which are crowned with a simple stigma. The flowers of the vine have no style. The seed-vessel is of the berry kind, with one, two, or five styles. The seeds are from one to five in number; placed either in distinct cells, or dispersed through the pulp without any partition.

47. *Stellatæ*, (from *stella*, a star); consisting of plants with two naked seeds, and leaves disposed round the stem in form of a radiant star. This order contains herbs, shrubs, and trees. The herbs, which are most numerous, are chiefly annual, and creep along the surface of the ground. The shrubs and trees are mostly evergreens, which rise erect, and are of an agreeable conic form.—These plants are opening; some of their seeds, particularly those of coffee, are bitter and cordial; some of them are used in dyeing, and others in medicine.

48. *Aggregatæ*, (from *aggregare*, to assemble or collect); comprehending those plants which have aggregate flowers, consisting of a number of florets or small flowers, each of which has a proper and common calyx.

49. *Compositæ*, consisting of plants with compound flowers. In this order Linnæus has constructed his first or primary divisions from the different sexes of the florets, which he terms *polygamy;* the subaltern divisions are constructed from the figure of the petals, the disposition of the flowers, the pappus or crown of the seed, the common receptacle, and other circumstances which characterize the subaltern divisions in other authors.

50. *Amentaceæ* (from *amentum* a catkin), plants bearing catkins; as salix, populus, plantanus, &c.

51. *Coniferæ*, (from *conus* a cone, and *fero* to bear; consisting of plants whose female flowers, placed at a distance from the male, either on the same or distinct roots, are formed into a cone. In this character, the only one expressed in the title, the plants in question seem to be nearly allied to the family of mosses: from which, however, they are easily distinguished by their habit, as well as by the structure of the small flowers, in which the stamina are united below into a cylinder, and distinct at top. The plants of this order are mostly of the shrub and tree kind, and retain their leaves all the year. The form of these plants is generally conic, and extremely beautiful, from the disposition of the branches, which cover the stems even to the roots, extending themselves horizontally and circularly like so many rays. The height of some genera of this order does not exceed half a foot, that of others approaches to a hundred. The roots are short, branching, not very fibrous, and extend horizontally. The stems and branches are cylindric. The bark is thin, and split into slender scales. The wood, except that of the yew tree, possesses little hardness. The buds are of a conic form, and naked, or without scales. The leaves are entire, small, and thick, frequently triangular, and generally pointed. Juniper has a prickly and thorny leaf. With respect to situation, they admit of great variety, being either alternate, opposite, placed in whorls round the stem, or collected into small bundles which proceed from a single point. They are placed on the branches without any sensible footstalk. The flowers in this order are universally male and female. In some genera, the male flowers are collected into a spike or cone at the end of the branches; in others, they proceed singly from the wings of the leaves, or termination of the branches. The female flowers are generally collected into a cone; but in yew tree and shrubby horse-tail they are single, and terminate the branches. The calyx of the male flowers is a catkin; of the female, a cone. The petals of this order are wanting; except in the female flowers of juniper, which have three sharp, rigid, and permanent petals. The stamina are in number from 3 to 20 and upwards; united by their filaments into a cylinder or pillar, which rises out of the centre of the calyx. The antheræ are erect, distinct, of a roundish form, and divided into internal partitions or cells, which, in the different genera, are in number from two to ten. The seed-buds are generally numerous, and placed betwixt the scales of the cone, which serve for a calyx. From each seed-bud arises a very short cylindric style, crowned with a simple stigma, of a conic form. These plants have probably no seed-vessel or fruit; the seeds being naked, and involved only by the scales of the calyx. In some genera these scales are of a bony nature, and almost united; in others, they are of a substance like leather; in juniper, they are united, and become fleshy and succulent like a berry. The seeds in this order, being nourished, as in a seed-vessel, by the scales of the cone, or common calyx, differ in nothing from the germina or seed-buds.—Most of the cone-bearing plants are resinous, or gummy; and the gums proceeding from them have a bitter taste, but generally a very agreeable smell.

52. *Coadunatæ*, (from *coadunare*, to join or gather together); so termed from the general appearance of the seed-vessels, which are numerous, and being slightly attached below, form altogether a single fruit in the shape of a sphere or cone; the parts of which, however, are easily separated from one another. This order, which consists of exotic plants, furnishes a beautiful and choice collection of shrubs and trees, both evergreen and deciduous. The trees are often 60 feet high, and garnished from the bottom to the top with spreading branches and leaves of a bright green colour, which assume a very agreeable conic form. The roots are branching and fibrous. The stems are cylindric, and the wood very hard. The buds are conic, flat, and generally without scales. The leaves are universally simple and alternate. The footstalk is cylindric, without furrows, frequently swelled at its origin, and appears jointed at its insertion into the branch. The flowers are hermaphrodite, and are generally produced either along or at the end of the branches. The calyx generally consists of three oblong plain leaves, like petals, which fall off with the flower. The petals are in number from 6 to 18, oblong, concave, and frequently disposed in two or three series or rows, the outermost of which are largest. The stamina are numerous, short, inserted into the common

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common receptacle in some, and into the seed-bud in others. The filaments are very short and slender, some genera having scarce any at all. The antheræ are numerous, slender, and placed round the seed-bud. The pistillum generally consists of a number of seed-buds disposed in the form of a cone, and seated upon a receptacle which rises like a small pillar above the receptacle of the calyx. From each seed-bud generally arises a cylindric style, which is very short. The stigma is commonly blunt. The seed-vessel is commonly a berry; but in magnolia it is an oval cone, consisting of a number of roundish capsules laid over each other like tiles. The fruits or seed-vessels, whether of the berry, capsule, or cherry kind, are equal in number to the seed-buds, and generally slightly attached below. The seeds are numerous, hard, roundish, and sometimes cornered. The plants of this order have a strong, agreeable, and aromatic smell; the fruits and seeds have a pungent taste like pepper: the bark and wood are bitter.

53. *Scabridæ*, (from *scaber*, rough, rugged or bristly), consisting of plants with rough leaves. There seems to be some impropriety in characterizing these plants by a name expressive of the roughness of their leaves, as that circumstance had previously furnished the classic character of the *Asperifoliæ*. The degree of roughness, however, is much greater in the plants which make the subject of the present article.—The plants of this order are in general of an astringent nature: their taste is bitter and styptic.

54. *Miscellaneæ*, miscellaneous plants. This order consists of such genera as are not connected together by very numerous relations. They are, datisca, poterium, reseda, sanguisorba, lemna, pistia, coriaria, empetrum, achyranthus, amaranthus, celosia, gomphrena, resine, phytolacca, nymphæa, sarracenia, cedrela, swietenia, corrigola, limeum, telephium.

55. *Filices*, ferns; consisting of plants which bear their flower and fruit on the back of the leaf or stalk. These plants, in figure, approach the more perfect vegetables; being furnished, like them, with roots and leaves. The roots creep, and extend themselves horizontally under the earth, throwing out a number of very slender fibres on all sides. The stem is not to be distinguished from the common foot-stalk, or rather middle rib of the leaves: so that in strict propriety the greater number of ferns may be said to be *acaules*; that is, to want the stem altogether. In some of them, however, the middle rib, or stalk proceeding from the root, overtops the leaves, and forms a stem upon which the flowers are supported. The leaves proceed either singly, or in greater number, from the extremities of the branches of the main root. They are winged or hand-shaped in all the genera except in adders-tongue, pepper-grass, and some species of spleen-wort. The flowers, whatever be their nature, are, in the greater number of genera, fastened, and as it were glued, to the back of the leaves; in others, they are supported upon a stem which rises above the leaves; but in some, are supported on a flower-stalk, as already mentioned. The stamina are placed apart from the seed-bud in a genus termed by Mr Adanson *palma filix*; in the other ferns, where we have been able to discover the stamina, they are found within the same covers with the seed-bud. Most of the ferns have a heavy disagreeable smell: as to their virtues, they are opening and attenuating.

56. *Musci*, mosses. These plants resemble the pines, firs, and other evergreens of that class, in the form and disposition of their leaves, and manner of growth of the female flowers, which are generally formed into a cone. They frequently creep, and extend themselves like a carpet upon the ground, trees, and stones, being generally collected into bunches and tufts: the smallest are only one-third of an inch in height, and the largest do not exceed five or six. Few of the mosses are annual: small as they are, the greater number are perennial and evergreens. Their growth is remarkably slow, as may be judged by the time that the antheræ take to ripen. This, reckoning from the first appearance of the antheræ to the dispersion of its powder or male dust, is generally four or six months. Although preserved dry for several years, these plants have the singular property of resuming their original verdure upon being moistened. It would be worth while to determine whether they do not also resume their vegetative quality. The roots of plants of this order are fibrous, slender, branched, and short. The stems are cylindric and weak, as are also the branches; they creep upon the ground, and strike root on every side. The leaves are very small and undivided. They differ with respect to situation; being either alternate, opposite, or placed by fours round the stalk. They have no perceptible foot-stalk nor middle rib, and are seated immediately upon the stems. The flowers are universally male and female: in some, the male flowers are produced upon the same plants with the female, and stand before them; in others, they are produced sometimes on the same, and sometimes on distinct plants. The male flowers consist entirely of antheræ, and their covering; proceed either singly, or in clusters, from the extremity of the branches, or angles of the leaves; and are either seated immediately upon the branches, or supported by a long foot-stalk. The female flowers, which generally resemble capsules or cones, are all placed immediately upon the stem or branches, without any foot-stalk; and proceed singly either from the wings of the leaves, or summit of the branches; when produced upon the same plant with the male, they are always placed under them. The female cones of the mosses greatly resemble those of the pines and evergreen trees of that class; the scales which form them are true leaves, each containing in its wing or angle a single seed. When the seeds are ripe, the cones probably open for their dispersion. When shut, they resemble buds, and have sometimes been ignorantly mistaken for such. The calyx, in this order, if it can be called such, is that appearance resembling a veil or monk's cowl, which in the male flower covers or is suspended over the tops of the stamina like an extinguisher, and is termed by Linnæus *calyptra*. The petals are universally wanting. The mosses in general are almost tasteless, have few juices, and being once dried do not readily imbibe moisture from the air. Those which grow in water, being thrown into the fire, grow red, and are reduced to ashes without receiving or communicating any flame; on which account some superstitious people, the Siberians in particular, place water moss in their chimneys as a preservative against fire. Most of the mosses are purgative, some violently so, and even emetic. They are all of wonderful efficacy in preserving

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slender like a hair, short, placed at a considerable distance from the style, and inserted into the tube of the calyx. The pistillum is composed of a roundish germen, crowned with the calyx; a single thread-shaped style; and a cylindric stigma. The seed-vessel is either an obtuse oval fruit of the cherry kind, or a globular berry with one cell, containing a roundish seed. The plants of this order are astringent.

17. *Calycanthemæ*, (from *calyx* the flower-cup, and *anθος* the *flower*); consisting of plants, which, among other characters, have the corolla and stamina inserted in the calyx. This order furnishes trees, shrubs, and annual, biennial, and perennial herbs. The herbaceous annuals are by much the most numerous. The roots are branching and fibrous: the stems and branches cylindric, square, or four-cornered while young. The buds are of a conic form, and without scales. The leaves are generally either alternate, simple, and attached to the branches by a short foot-stalk, or opposite at the bottom of the stem; and, in some, alternate towards the top. They are universally sessile; that is, attached to the branches without any foot-stalk. The calyx is universally a perianthium, and generally monophyllous, or composed of one leaf. The corolla consists of four, five, and six petals, which are attached to the tube of the calyx, and are sometimes placed alternate, sometimes opposite to the divisions of the limb. The stamina, which are in number from 4 to 20 and upwards, are attached to the cube of the calyx either on its margin or lower down. When the number of stamina is double the divisions of the calyx, the stamina which stand opposite these divisions are a little longer than the rest. The antheræ are generally of a hemispherical figure; frequently cleft or slit below; and by that aperture attached slightly to the filaments, on which they often veer about like a vane or needle. They are surrounded longitudinally, and open on the sides into two loculi or cells. The pollen, or male dust, consists of a number of minute particles, of an oval figure, yellow and transparent. The germen, or seed-bud, is placed either above or under the receptacle of the flower. The style is single, thread-shaped, and of the length of the stamina. The stigma is generally single and undivided. The seed-vessel is a capsule, which is generally divided internally into four loculi or cells. The seeds are numerous, minute, and frequently three-cornered. The plants of this order are reckoned astringent.

18. *Bicornes*, (from *bis* twice, and *cornu* a horn), plants whose antheræ have the appearance of two horns. This appearance, however, is not very conspicuous, unless in a few genera. The plants of this order are all of the shrub and tree kind. The roots are branching and fibrous. The stems and branches are cylindric; the buds conic, sometimes covered with scales, and sometimes naked. The leaves are generally alternate. In most plants of this order they are either sessile, or supported by a very short foot-stalk, which is semi-cylindric, and flat above. The flowers are universally hermaphrodite, except in one genus, the Indian date-plum, where hermaphrodite and male flowers are produced in the same species upon distinct roots. They proceed either solitary, or in a corymbus, from the angles formed by the leaves and branches: or hang down in spikes and clusters at the end of the branches; each flower having a small scale or floral leaf placed under it. In most plants of this order the calyx is placed around or below the germen. The calyx is universally a perianthium, and generally monophyllous or of one piece, deeply divided into four or five segments, which are permanent, that is, accompany the germen to its maturity. The segments are often acute, and sometimes coloured. The corolla is generally monopetalous, and bell or funnel-shaped: the figure, however, is not very constant, even in plants of the same genus. The limb or upper part of the petal, is generally divided into four or five segments, which are sometimes rolled back, sometimes bent inwards. The limb too is sometimes slightly cut, sometimes divided almost to the bottom. The tube, or lower part of the petal, is cylindric, and generally of the same length with the calyx. The number of stamina is from 4 to 20. These are generally erect, and attached to the lower part of the tube of the corolla. The antheræ are bifid or forked below, and, being slightly attached to the filaments, are frequently inverted in such a manner as to exhibit the appearance of two horns at top. The germen or seed-bud, is generally roundish, and seated above the receptacle. The style is single, thread-shaped, of the same length with the corolla, and in a few genera permanent. The seed-vessel is either a capsule with five cells, a roundish berry, or an oblong four-cornered nut with two cells.—The plants of this order are astringent.

19. *Hesperideæ*, (from the Hesperides, whose orchards are said to have produced golden apples). The plants of this order are of the shrub and tree kind, and mostly evergreen. The bark of the stalks is slender, and comes off in thin plates. The leaves are generally opposite, and covered with small transparent points. In some, the leaves are placed opposite at the bottom of the stalks, and alternate above. The buds are of a conic form, the flowers generally hermaphrodite; they proceed from the wings of the leaves either singly, or in clusters like ivy-berries. The calyx is placed above the seed-bud, and accompanies it to its maturity. The petals are three, four, or five in number, and stand upon the brims of the tube of the calyx. The seed-bud is large, oblong, and placed below the receptacle of the flower. The style is single, awl-shaped, of the length of the stamina, and terminated with a single stigma. The seed-vessel in some genera is a berry furnished with one or three cells; a capsule with four cells, or of the nature of the cherry, containing a stone. The seeds are generally numerous, small and oblong. The leaves and fruits are astringent, the berries esculent.

20. *Rotaceæ* (from *rota*, a wheel), consisting of plants with one wheel-shaped petal without a tube. These resemble in quality those of the order of *Preciæ*, to which they are in all respects very nearly allied; but very few of them can be said in strict propriety to possess the character specified in the title.

21. *Preciæ* (from *precius* early). These consist of primrose, an early flowering plant, and some others which agree with it in habit and structure, though not always in the character or circumstance expressed in the title. These plants, which possess no striking uniform characters, are, in general, innocent in their quality; yet the root of sow-bread is dangerous, if taken internally.

22. *Caryophylleæ*. All the plants of this order are herbaceous, and mostly annual. Some of the creeping kinds

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Bunch (racemus), a fruitstalk with short lateral branches.

Bundle (fasciculus), several flowers rising to the same point from their respective fruitstalks, as in sweet-william.

Bundled, applied to leaves, as in the larch.

Butterfly-shaped (papilionaceus), as the pea and broom flowers.

C.

Calycled (calyculatus), having a double calyx.

Calyptre, veil.

Calyx, or empalement, a continuation of the outer bark of the plant, forming part of the flower, is called a cup, as in primrose, involucrum in carrot, catkin in hazel, calyptre in the mosses, a husk in oats, a sheath in the narcissus, and a curtain in some funguses.

Capsule, a dry hollow seed-vessel opening in some determinate manner.

Catkin (amentum), a composition of flowers and chaff on a long thread-shaped receptacle; the whole like a cat's tail; e. g. the willow.

Cell (loculamentum), vacuity in the capsule to lodge the seed.

Central florets (flores flosculosi); those which occupy the middle part of a compound flower, as the yellow ones in a common daisy.

Chaff (palea), thin membranaceous substance separating the florets from each other, and growing on a common receptacle.

Channelled (canaliculatus), having a furrow from the base to the end.

Cicatrised, scarred.

Ciliate, fringed.

Circumference, the florets farthest from the centre of a compound flower, as the white ones in the common daisy.

Clammy (viscosus), adhesive like bird-lime.

Claw (unguis), the part of a petal next the base, distinguished from the limb or upper part.

Cleft, divided half-way down.

Climbing (scandens), plants that rise by the aid of others.

Clothing (pubes), hairiness on the surface of plants.

Cloven, see *Cleft*.

Club-shaped (clavatus), thinner at the base, and thicker upwards.

Cluster (thyrsus), flowers collected in somewhat of an egg-shaped form, like the lilac.

Coated (tunicatus), root, composed of layers like the onion.

Cobwebbed (arachnoideus), covered with a substance resembling a cobweb.

Coloured (coloratus), not green.

Column (columella), the little pillar in the centre of some capsules to which the seeds are fixed.

Comb (coma), a collection of floral leaves terminating the flowering stem, as in the pine-apple.

Comb-like (pectinatum), a sort of winged leaf, the leafets of which are like the teeth of a comb.

Common calyx, including several flowers, as in thistles.

Compact, growing close together.

Compound flowers (compositi flores) consist of many florets or little flowers, on a receptacle or seat, as in thistles.

Compressed (compressus), a cylindrical substance, more or less flatted.

Cone (strobilus), a seed-vessel, formed by a catkin, with hardened scales, as in the pine and fir.

Cone-shaped (cucullatus), applied to leaves rolled up, as the grocers roll up paper to hold spices, sugar, &c.

Confluent (confluentia folia), running into one another at the base.

Congregated (glomeratus), spikes, &c. crowded together, somewhat in a globular form.

Connected (adnatus) leaves, having their upper surface at the base, growing to the stem or branch.

Contiguous (adpressus) leaves, &c. close to the stem.

Converging (connivens), approaching at the top.

Convex, rising like the surface of a globe.

Convolute, twisted spirally.

Corolla, blossom.

Corymb, a collection of flowers standing each on its own fruitstalk, with fruitstalks of such a length, that the whole collection forms a flat broad surface at the top, as in the pear-tree.

Cotton, *Cottony* (tomentosum, tomentosus), downy, covered with a whitish soft substance.

Cotyledones, seed-lobes.

Creeping (repens) stem; creeping along the ground, as ivy.

——— root, as spearmint.

Crescent-shaped (lunaris, lunatus), shaped like a waxing moon, like the anthers of the strawberry.

Crested (cristatus) flowers, tufted.

Crooked (cernuus) fruitstalk, with the flower facing the earth, and so stiff, that it cannot be straighted without breaking; as in the crown imperial.

Cross-pairs (decussatus), leaves in pairs, each pair pointing in a direction different from the pair above or below it.

Cross-shaped (cruciatus, cruciformis) flowers, having four petals in a form of a cross; called cruciform plants.

Crowned (coronatus) seed, a seed to which the calyx adheres, e. g. teazel.

Cruciform, see *Cross-shaped*.

Cryptogamia, stamens and pistils indistinct.

Cup (perianthium), a calyx contiguous to the other parts of the flower.

——— double (calyculatus), when the base of one cup is surrounded by another cup.

Curtain (volva), the calyx of agarics and boleti.

Cut-round (circumscissus), when a seed-vessel opens in a circle, and not longways.

Cylindrical (teres), round like a walking stick.

D.

Dagger-pointed (mucronatus), ending, not gradually, but suddenly in a sharp point.

Deciduous (deciduus) leaves, which fall at the approach of winter.

——— cup or calyx, falling off before the blossom.

——— seed-vessel, falling off before it opens.

Declining (declinatus), bent like a bow, with the arch downwards.

Decurrent (decurrens) leaf, without a leafstalk, but where the leaf runs down the stem.

Dented

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Dented (retusus), a blunt leaf with a blunt notch at the end.
Depressed (depressus), when the surface of a leaf is slightly sunk.
Diadelphia, the 17th class of plants, having the filaments united into two sets.
Diamond-shaped (rhombeus), applied to leaves resembling a diamond on cards.
Diandria, two stamens.
Didynamia, the 14th class, having two stamens longer.
Digynia, two pistils.
Dimpled (umbillcatus), having a hollow dot.
Dioecia, dicecious, having the flowers bearing stamens and those bearing pistils on different plants.
Disk (discus) of a leaf is its surface: of a compound flower is its central florets; thus, in a daisy, the minute yellow florets form the disc, and the larger white-shaped florets form the ray.
Distant (distans,) far asunder, as the stamens of mint.
Distended (ventricosus), as the cup of the rose.
Diverging (divergens), spreading wide from the stem almost horizontally, opposed to compact.
Divided (partitus), or parted, partite, signifies that a cup, leaf, or petal, is parted more than half way down.
Dodecandria, 12 stamens.
Dorsal, fixed to the back.
Dotted (punctatus), marked with little hollow dots.
Double (didymus), applied to two anthers on one filament.
Doubly-compound (decompositus) leaves, having the primary leaf-stalk divided, so that each division forms a compound leaf. They are twin-fork (begeminus), when a forked leaf-stalk has several leafets at the end of each fork; or, doubly-threefold (bi-ternatus), when a leaf-stalk, with three divisions, has three leafets on the end of each division or fork; or doubly winged (duplicato-pinnatum, bi-pinnatum), when a leaf-stalk has lateral ribs, each of which forms a winged leaf.
Down (pappus), the fine hair or feather-like substance, crowning the seeds of some plants, and wafting them abroad.
Downy leaf, see *Cottony*.
Drupe, a pulpy seed-vessel, without valves, consisting of a nut surrounded by a pulpy substance, *ex gr.* a cherry.
Dusted (pulveratus), applied to some plants which appear covered with a kind of powder.

E

Ear-shaped (auriculatus), somewhat resembling a human ear.
Egg-shaped (ovatus), in form of an egg.
Egg-spear-shaped (ovato-lanceolatum), see *Spear-egg-shaped*.
Elliptic, oval.
Embracing (amplexicaulis) the stem, when the base of a leaf nearly surrounds the stem.
Entire (integer), opposed to cleft, gashed, &c.
Equal (æqualis), regular.
Erect, upright.
Even (lævis) surface; level, regular.
Excrescence (apophysis), a substance growing on some of the mosses from the seat of the flower.
Expanding (patens), between upright and horizontal.
Eye (hilum), the scar by which a seed is fixed to the seed-vessel.

F.

Feathered (plumosum), the down of seeds when it sends out lateral hairs.
Feeble (debilis), unable to stand upright.
Female flowers or florets, such as have one or more pistils, but no stamens.
Ferns, the first order of the class of cryptogamia.
Fertile (fertiles vel feminei) flowers, those that produce seed capable of vegetation. Those that have stamens only are always barren. Those that have pistils only, are only barren when placed beyond the reach of the pollen coming from the anthers of staminiferous flowers.
Fibres (nervi), woody strings running along a leaf.
Fibrous (fibrosus) roots, composed of small threads or fibres.
Fiddle-shaped (panduriformis), oblong, but narrow in the middle, and broader below.
Filament or thread (filamentum) the slender part of a stamen supporting the anther.
Fistulous, hollow.
Finger-like (digitatus) leaves, expanded like a man's hand, in pairs, threes and fives.
Flat-topped (fastigiatus), rising to the same height, so as to form a flat surface.
Fleshy seed-vessel, *ex gr.* an apple.
Floral leaves (bracteæ) are generally on the fruitstalk, so that they are sometimes mistaken for the calyx; but the calyx withers when the fruit is ripe, whereas the floral leaves endure as long as the other leaves of the plant.
Floret (flosculus), one of the small flowers forming a compound or incorporated flower.
Flower (flos), a temporary part of a plant subservient to the formation of the seed. It consists of eight parts, a calyx, corolla or blossom, stamens, pistils, seed-vessel, seeds, receptacle, and a nectary. Wanting any of these parts, a flower is incomplete.
Forked (furcatus, dichotomus), divided.
Fringed (ciliatus), as the blossom of the buck-bean.
Fruit (fructus), a part of a flower consisting of the seed-vessel, seed, and receptacle.
Fruitstalk (pedunculus), a part of a branch or stem bearing flowers, but not leaves.
Fungus, the last order of the class of cryptogamia.
Funnel-shaped (infundibuliformis), when a one-petaled blossom is tubular at the base, and conical at the top.
Furrowed (sulcatus), marked with lines running lengthwise.

G

Gaping (ringens, personatus) blossom, so called from its resemblance to a gaping mouth.
Gashed (lobatus), divided nearly half way down into lobes, convex at the edges, and distant from each other.
Gelatinous, jelly-like.
Gem, a bud.
General involucrum, a calyx at the base of a general umbel, as in carrot.
Germ, germen, seed-bud.
Gibbous, bulged, or bulging.
Gills (lamellæ), thin plates on the under side of the pileus

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pileus or hat of an agaric; remarkable in the common mushroom.
Glass-shaped (cyathiformis), tubular, but widening towards the mouth.
Glaucous (glaucus), hoary, as the back of a cabbage-leaf.
Globular (globosus), like a round ball.
Glume (gluma), husk.
Gnawed (erosum), when an indented leaf seems as if bitten at the edges.
Granulated, resembling beads.
Gymnospermia, naked seeds.
Gynandria, stamens on the pistils.

H.

Hair-like (capillaris), slender, undivided, and cylindrical.
Hairs (pili), by some thought secretory ducts.
Hand-shaped (palmatus), like the human hand with the fingers expanded.
Hat (pileus), the upper broad part of funguses.
Hatchet-shaped (dolabriforme) leaf, like an axe of unequal thickness.
Headed (capitulus) stalk, supporting one compact knob of flowers at its extremity.
Heads (capitatus) of flowers, growing in compact knobs, as in peppermint.
Heart (corculum), that part of a seed which is the future plant in miniature.
Helmet (galea), the upper part of a gaping blossom.
Hemispherical, like a half globe.
Herbaceous stem, succulent, opposed to woody.
Hermaphrodite flowers or florets, such as contain both a stamen or stamens, and a pistil or pistils, as the greater part of flowers.
Hexagonal, or six-sided.
Hexagynia, having six pistils.
Hexandria, six-stamened.
Hoary (incanus), covered with a silvery-looking substance.
Honey-combed (favosum), a receptacle with cells open at the top, and having a seed in each.
Husk (gluma), the calyx of a grass plant.
Hybrid (hybrida), a plant produced by the pollen of one plant fertilizing the germen of a plant of a different species. A mule.

J.

Jagged (laciniatus) leaves, irregularly divided and subdivided into lobes.
Icosandria, 20-stamened.
Imperfect flowers, wanting anther or pistil, or both.
Incomplete flowers want the cup, the corolla, or some other important part. See FLOWER. The tulip wants a cup, and the nettle has no blossom or corolla.
Incorporated (aggregatus), when little flowers or florets form a compound flower, as a daisy.
Incumbent, anthers fixed by the side, or stamens leaning or resting against.
Indented leaf, having the edges deeply scolloped, and the lobes far asunder.
Inflated, as if blown up like a bladder.
Inferior, see *Beneath*.
Interrupted, broken in its regular form, as a spike by leaves intervening.
Inversely heart-shaped (obcordatus), with the point of the heart next the stem.
Involucellum, a partial involucrum.
Involucrum or fence, the calyx of an umbel placed at a distance from the flowers.
Jointed (articulatus), *ex gr.* a wheat straw.

K.

Keel, the lowest petal in a butterfly-shaped corolla.
Keeled (carinatus), bent.
Knob, see *Heads*.

L.

Lactescent, having a milky juice.
Laminated, when the flat surfaces of leaves lie close on each other.
Lateral branches, growing from the sides of the stem, opposed to terminating.
Leaf, the part of a plant corresponding to the lungs, and also to the organs of motion of animals.
Leafet, or little leaf, one of the single leaves of a compound leaf.
Leaf-stalk (petiolus), the footstalk of a leaf.
Leather-like (coriaceus), tough like leather.
Legume (legumen) or shell, a seed-vessel of two valves with the seeds fixed to one seam, as in the pea.
Level, when several branches or fruitstalks grow to equal heights.
Lid (operculum), a cover to the capsules of several mosses.
Ligulate, strap-shaped.
Limb, the upper spreading part of a petal.
Limber (flaccidus) bending with its own weight.
Lip, the upper or under division of a gaping corolla.
Lobes, the division of a gashed leaf.
Lopped (truncatus), looking as if cut off by scissars.

M.

Male flowers, which have stamens, but no pistils.
Matted (cæspitosus), thickly interwoven.
Membranous (membranaceus), thin, skinny, and semi-transparent.
Monadelphia, united filaments.
Monandria, one stamen.
Monœcia, one house, or plants having the stamens and pistils in different flowers, but on the same plant.
Monogynia, one pistil in each flower.
Monopetalous, one-petaled.
Mouth (faux), the upper or opening part of the tube in a one-petaled corolla.
Mules, see *Hybrid*.

N.

Naked, without leaves or hairs.
Nectary, or honey-cup, the part of the flower which secretes the honey.
Nut, a seed covered by a hard woody shell.

O.

Oblong-egg-shaped, oblong at the base, but egg-shaped towards the end.
Octandria, eight-stamened.
Octagynia, eight pistils.

P.

Paleaceous, chaffy.
Panicle, an irregular assemblage of flowers.
Papilionaceous flowers, butterfly-shaped, as the pea.
Parasitical plants, which grow not on the earth, but on other plants.
Pedicle, a little fruitstalk.
Pentagon, five-cornered.
Pentagynia, five pistils.

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Pentandria, five stamened.
Perennial, continuing more than two years.
Petals (petala), the leaves which constitute the corolla or blossom.
Pillar (stipes), the pedicle of the down of some seeds, as in dandelion.
Pimpled (papillosus), beset with little hard protuberances.
Pistil, a part of a flower consisting of the germen, the style, and the summit.
Pitcher-shaped (urceolatus), bellying like a jug.
Pith, a soft substance filling the cavities of some plants.
Plaited, folded.
Pod (siliqua), seed-vessel of two valves, within which the seeds are alternately fixed to each seam.
Pollen (farina), a fine powder in the anthers of flowers.
Polyadelphia, stamens in three or more sets.
Polyandria, many stamens.
Polygamia, see introduction to the 23d class.
Pores, little holes.
Pouch, a short pod.
Prism-shaped, different from cylindrical, in having the circumference angular.
Proliferous, when one flower, &c. springs out of another.
Pubescent, clothed with soft wool or hair.

R.

Radiate, compound flowers in which the florets of the centre differ from those of the circumference. See *Disk*.
Rays (radii), outer florets of a radiate compound flower. See *Disk*.
Receptacle, the seat or base of a flower.
Reflected, bent back.
Remote whirls, having a considerable length of stem between each.
Rhomboidal, nearly diamond-shaped.
Rigid, inflexible.
Root-leaves (radicalia), those which proceed immediately from the root.
Ruffle or ring, the part of the curtain of an agaric which adheres to the stem after the outer part is gone.

S.

Salver-shaped (hypocrateriformis), when a one-petaled corolla has its lower part tubular, and its higher part flat and expanded.
Scaly (squamosus), like the skin of a fish.
Scurfy (squarrosus), applied to the rough cup of some compound flowers.
Seed, that which contains the rudiments of the new plant.
Seed-lobes (cotyledones), the perishable part of a seed which affords food to the rest in germination.
Seminal leaves, those which rise from the seed-lobes.
Serrated, like the teeth of a saw.
Sheath (spatha), a kind of calyx like that of the crocus.
Simple, undivided.
Sitting leaves or flowers, without leaf or flower-stalks.
Solitary, only one in a place.
Spear-egg-shaped, like a spear at the base, and an egg at the extremity.
Spike (spica), a collection of flowers placed alternately on each side of a common fruitstalk without little fruitstalks.
Stamen, consists of a filament and anther.
Staminiferous, bearing stamens.
Streaked, marked with depressed lines.
Syngenesia, united anthers.

T.

Target-shaped leaf, having the stalk fixed, not in the edge, but the centre.
Tetragynia, four pistils.
Tetradynamia, four stamens longer.
Tiled, one leaf or scale partly covering another.
Tooth-serrated, when the edge of a leaf is marked with little serrated teeth.
Triandria, three stamens.
Trigynia, three pistils.
Tubercled, having solid warts; applied to certain lichens.
Tuberous root, having many roundish knobs in a bundle.
Tubular, hollow like a tube.

U.

Umbel (umbella), an assemblage of flowers in which a number of slender fruitstalks, proceeding from the same centre, rise to nearly the same height, so as to form a regular surface at the top, as in hemlock or carrot.
Unequal florets (radiati), when the florets of an umbel are larger in the circumference than in the centre.
Valve, the pieces of a capsule are called valves.
Vaulted (fornicatus), like the roof of the mouth.
Veil (calyptra), the calyx of mosses.

W.

Wheel-shaped, a corolla of one petal, with a flat border and a short tube.
Whirls of branches, leaves or flowers; *ex gr.* the branches of the fir.
Wings, the lateral petals of a butterfly-shaped blossom.
Winged leaf-stalk, with a thin membrane on each side.
——— leaf, when an undivided leaf-stalk has many little leaves growing from each side.
Wing-cleft, a leaf deeply cut.
Woody, opposed to herbaceous.
Woolly, curly haired clothing on some plants.

Z.

Zigzag, having many contrary bendings.

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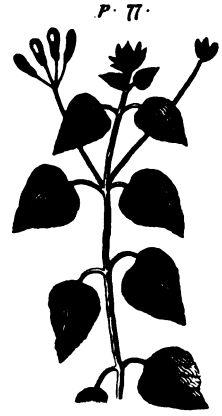

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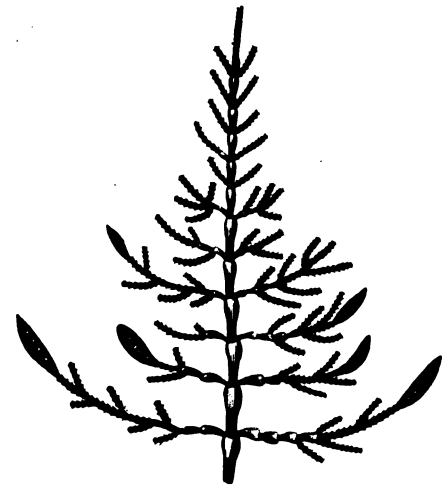

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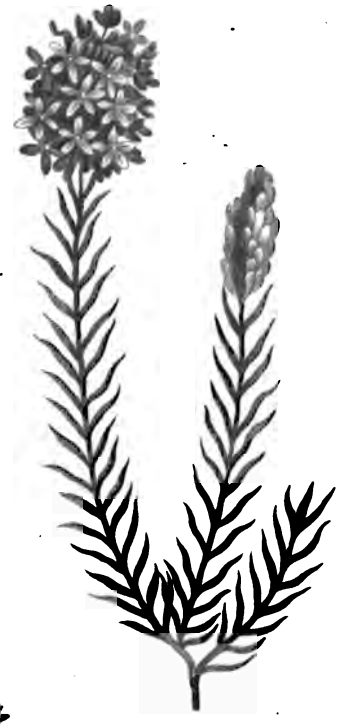

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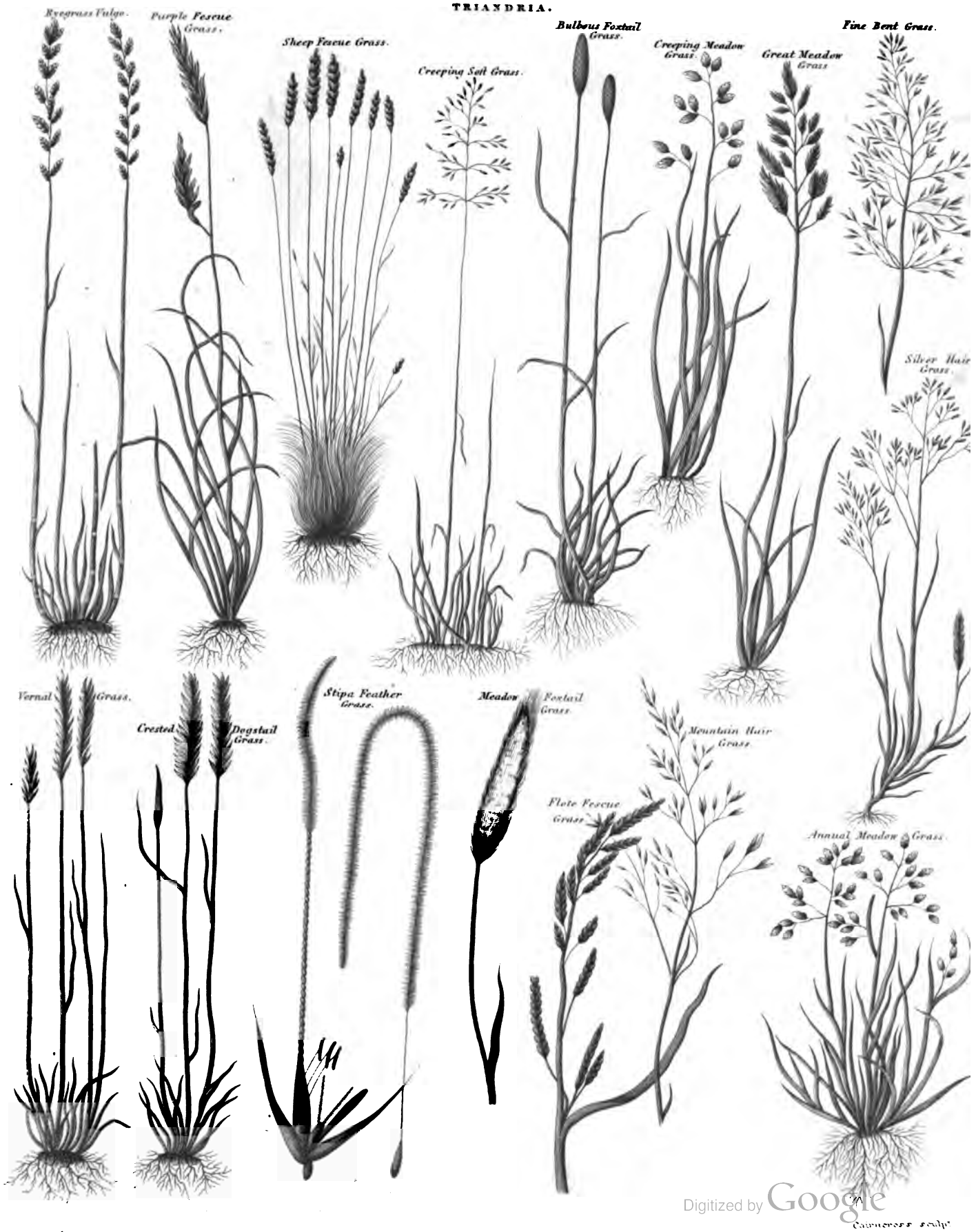

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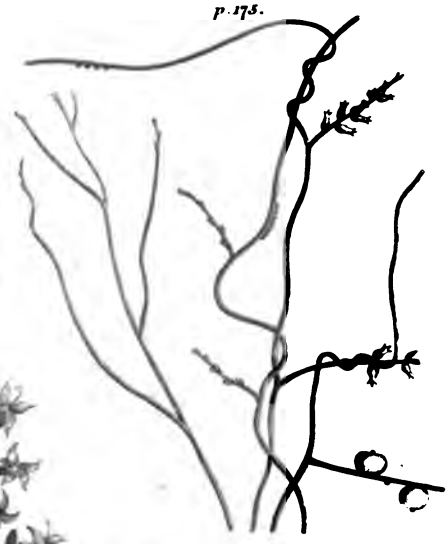

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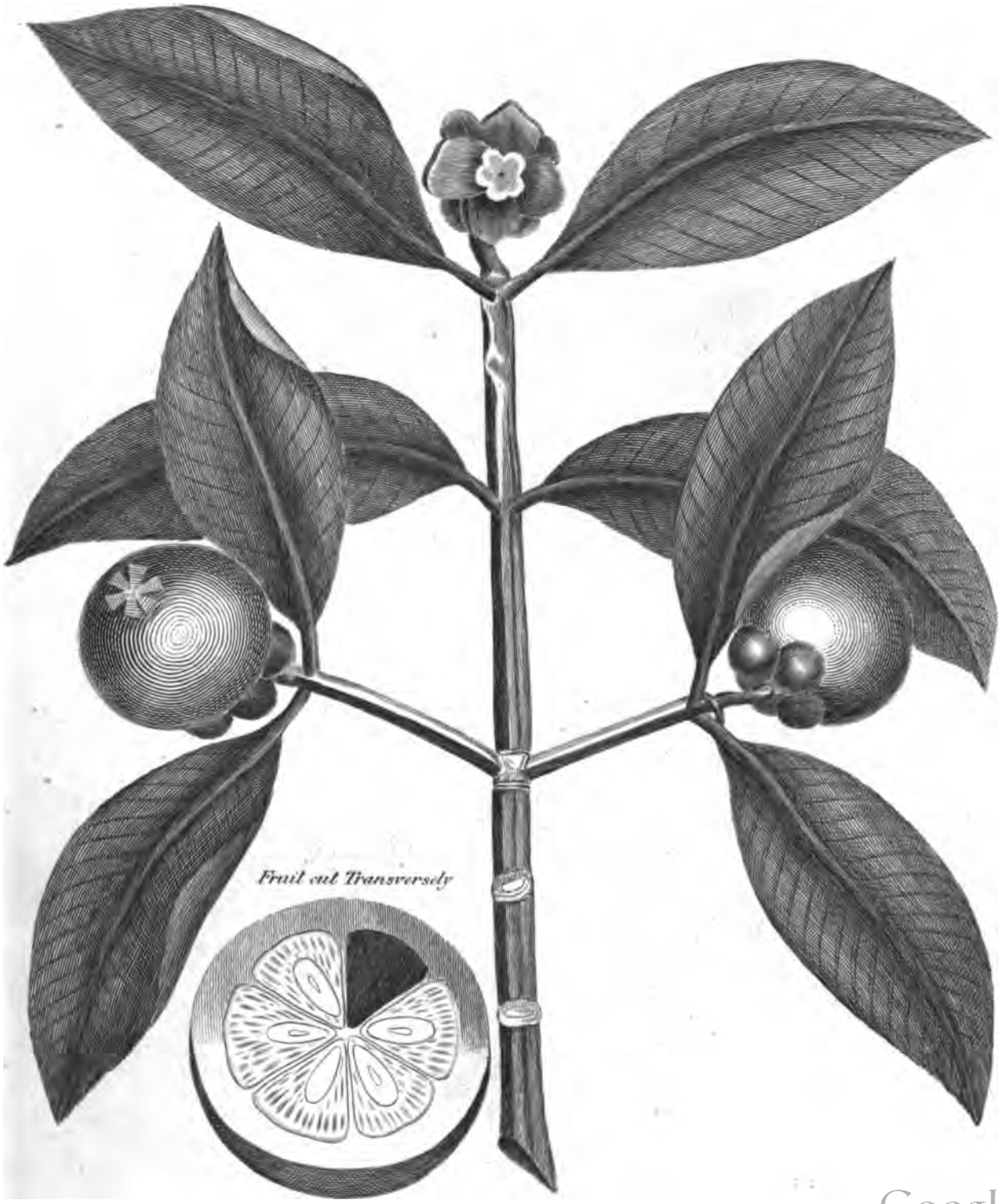

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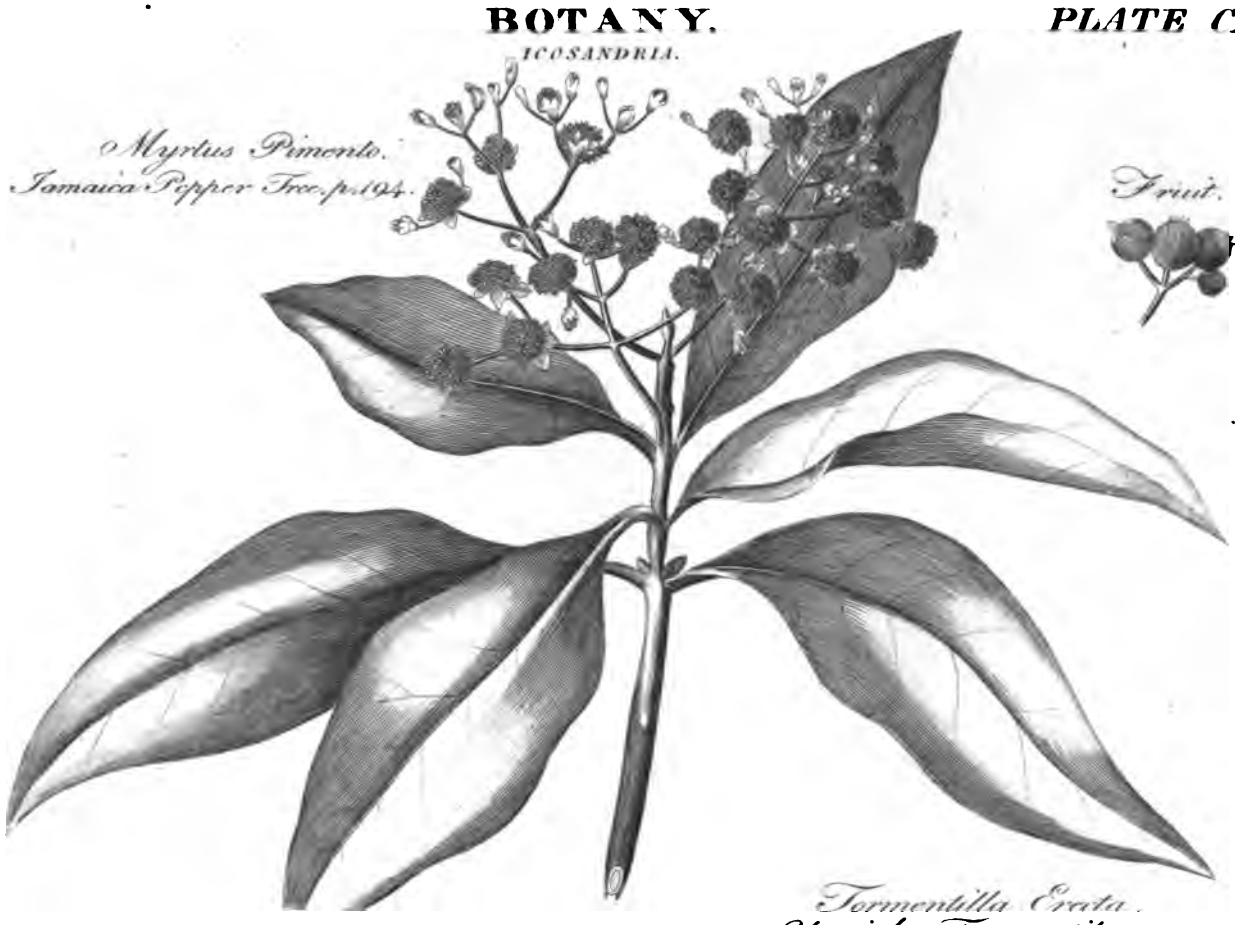

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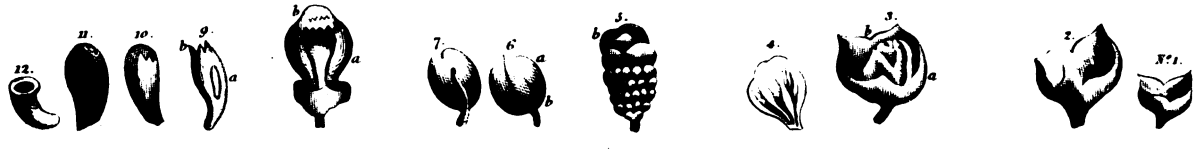

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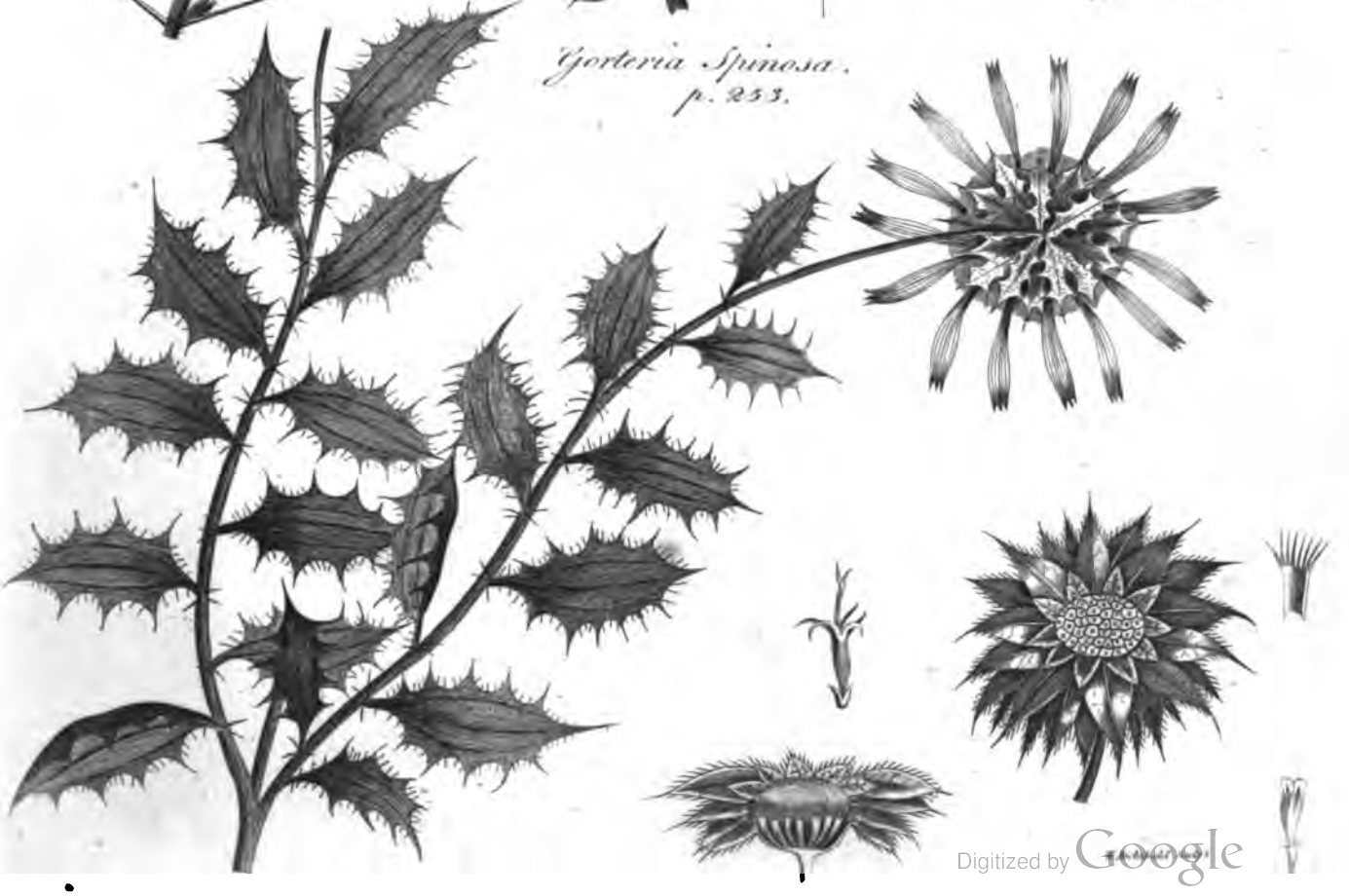

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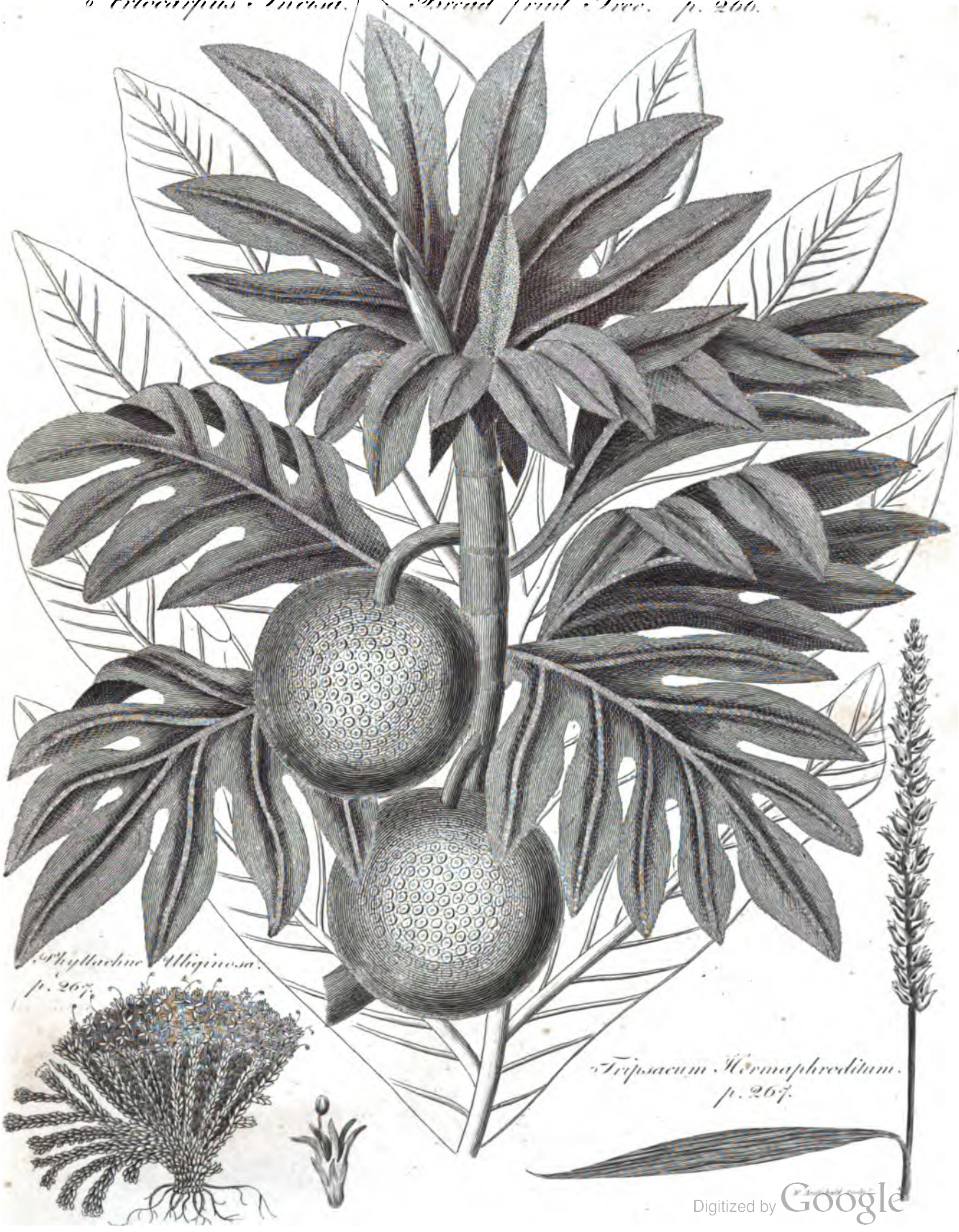

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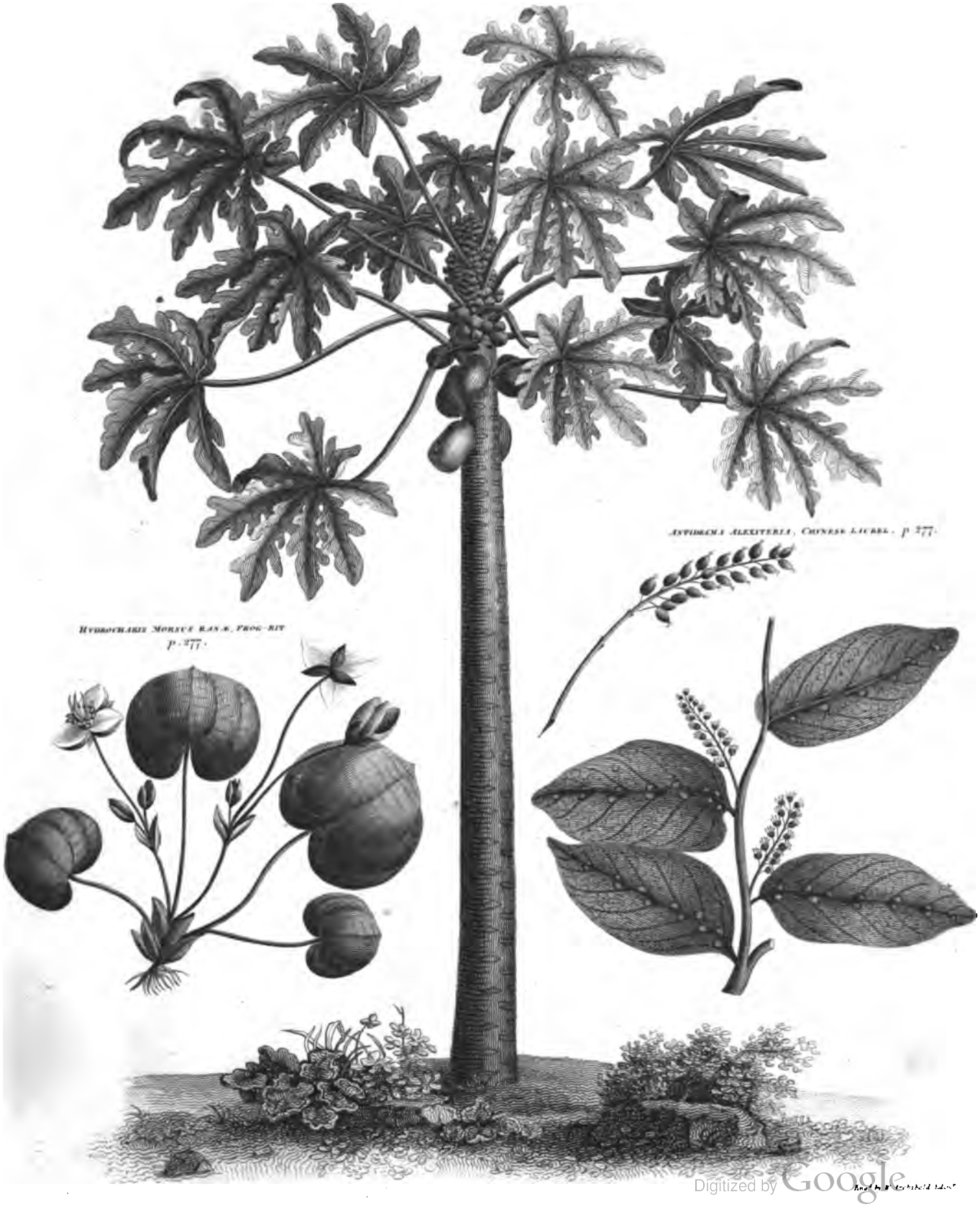

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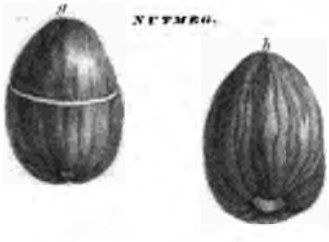

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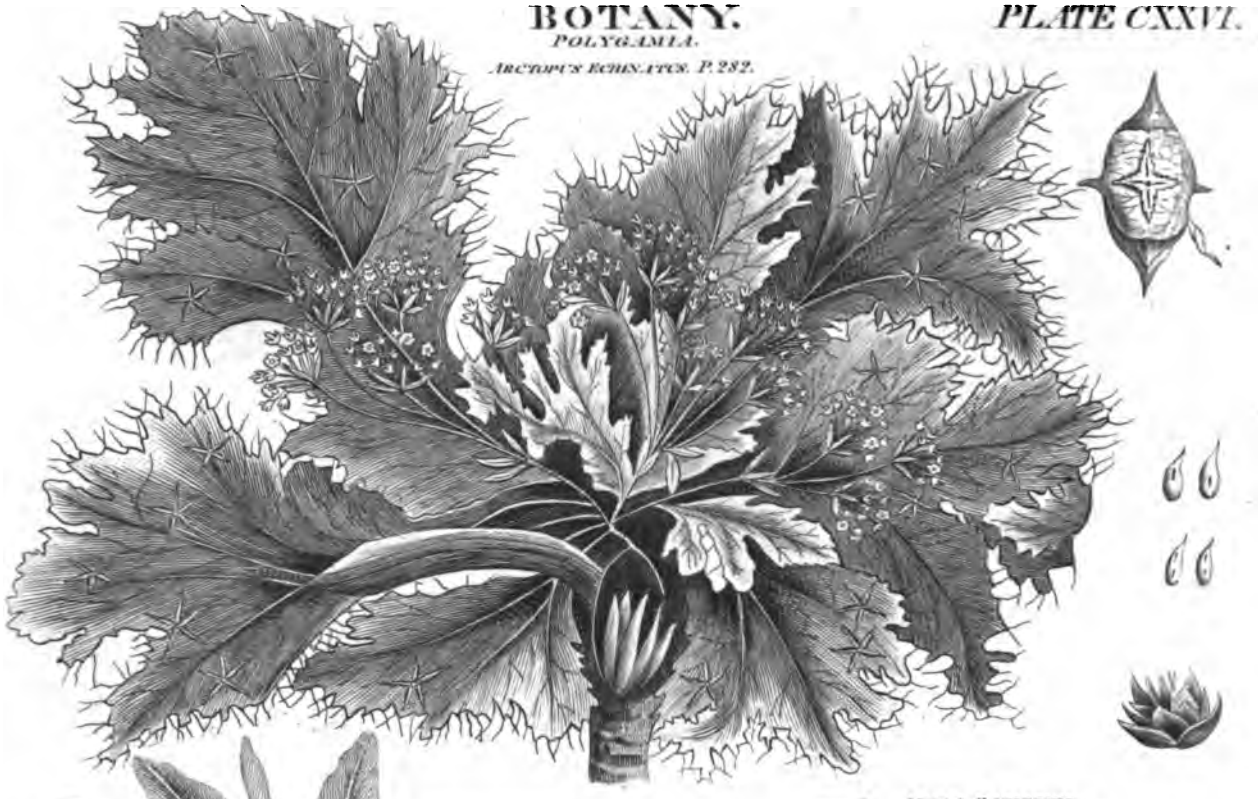

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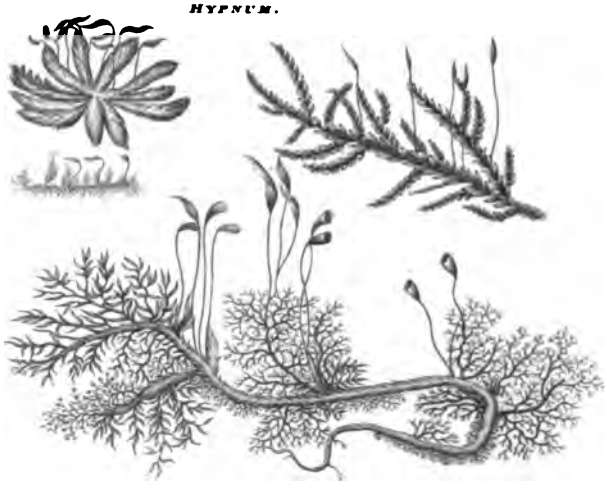

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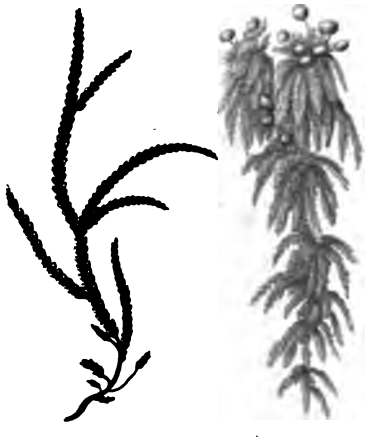

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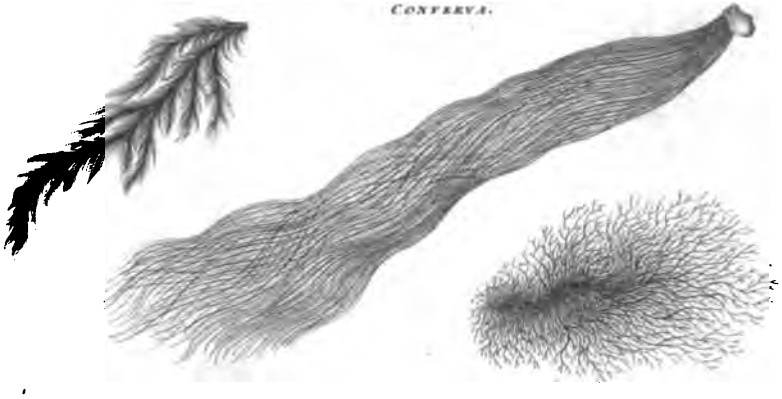

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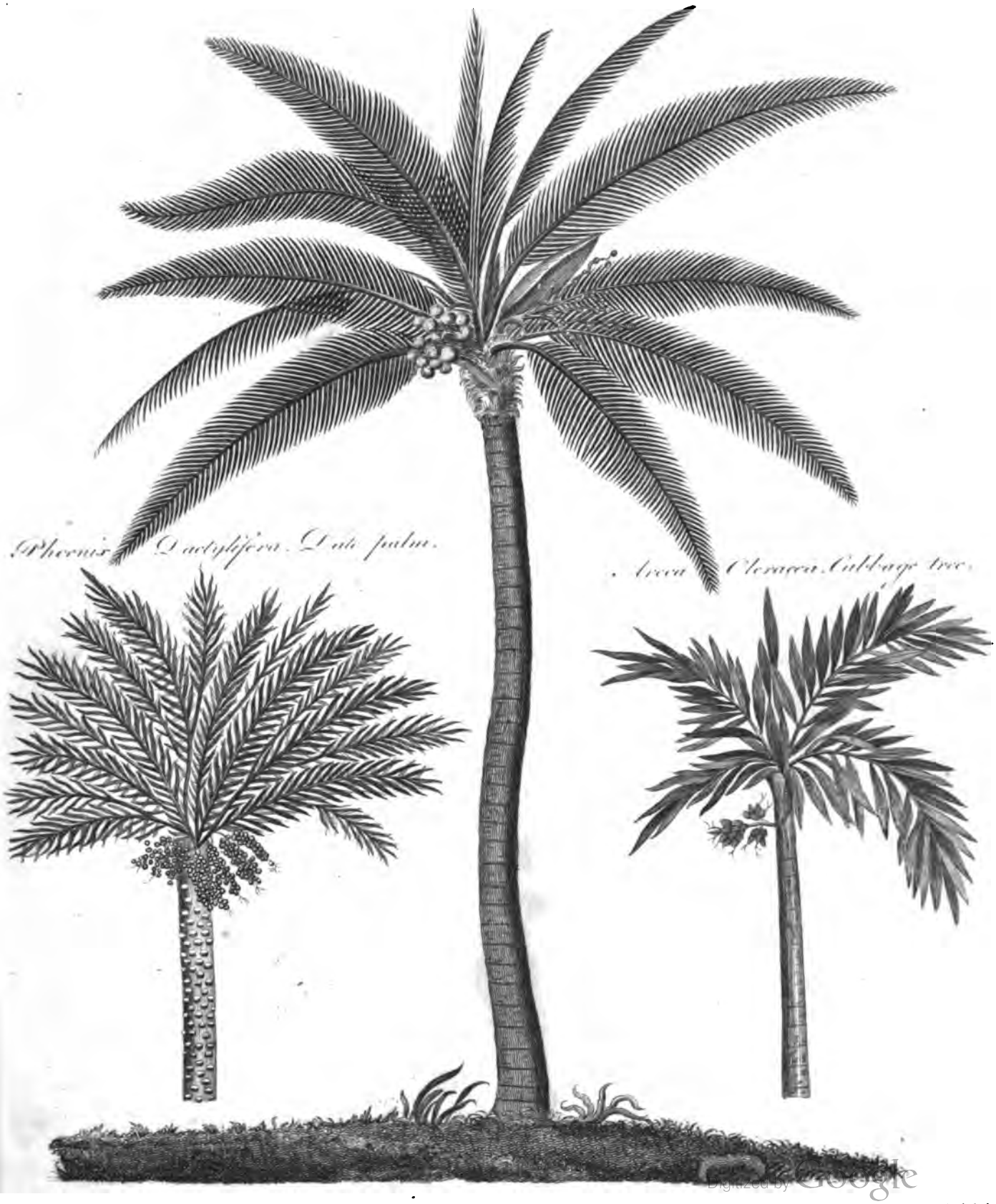

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Botany-Bay ‖ Bothnia.

BOTANY-BAY, so called from the great number of new plants which were discovered by the naturalists who first visited it. See *New-Holland*.

BOTANOMANCY, (from βοτανη, *herb*, and μαντια, *divination*), an ancient species of divination, by means of plants; especially sage and fig leaves. The manner of performing it was thus: the persons who consulted wrote their own names and their questions on leaves, which they exposed to the wind; and as many of the letters as remained in their own places were taken up, and being joined together, contained an answer to the question.

BOTARGO, a kind of sausage, made with the eggs and blood of the mullet, a large fish common in the Mediterranean. The best kind comes from Tunis in Barbary: It must be chosen dry and reddish. The people of Provence use a great deal of it, the common way of eating it being with olive oil and lemon juice. There is also a great consumption of it throughout the Levant.

BOTE, (Sax.), signifies a recompense, satisfaction, or amends: hence comes *manbote*, compensation or amends for a man slain, &c. In King Ina's laws is declared what rate was ordained for expiation of this offence, according to the quality of the person slain. From hence likewise we have our common phrase, *to-boot*, i. e. *compensationis gratia*. There are *house-bote*, *plough-bote*, &c. privileges to tenants in cutting of wood, &c.

BOTELESS, (*sine remedio*). In the charter of Hen. I. to Tho. archbishop of York, it is said, "that no judgment or sum of money shall acquit him that commits sacrilege; but he is in English called *boteless*, viz. without emendation." We retain the word still in common speech; as, It is *bootless* to attempt such a thing; that is, It is in vain to attempt it.

BOTH, JOHN and ANDREW, Flemish painters, and pupils of Bloemart. The union of these brothers was very singular; they were inseparable in their studies, travels and painting. John painted the landscape part of their pictures in the manner of Lorrain, and Andrew the figures and animals in the style of Bamboche. They both died in 1650. John's taste in landscape is elegant; his ideas are grand; his composition beautiful; and his execution rich and masterly in the highest degree. His light is not always well distributed; but his figures are excellent. It is to be regretted that we have not more of his works; for they are certainly, upon the whole, among the best landscapes we have.

BOTHNIA, a province of Sweden, at the end of the gulf of the same name. It is divided into two parts, called *east* and *west Bothnia*, the former of which belongs to Finland, and is now subject to Russia. West Bothnia is full of mountains; the earth is sandy, and yet a scarcity of provisions is seldom known. Cattle and game are so common, salmon and a sort of herrings so plenty, and the trade of skins is so gainful, that the inhabitants can command what they want from their neighbours. There are only two towns worth mentioning, viz. Tornea and Uma. The inhabitants of this province are Protestants.

Bothnia ‖ Botticelli.

BOTRYS, BOTRUS, or *Bostra*, in *Ancient Geography*, a town of Phoenicia, on the Mediterranean, built by Saturn, (a proof at least of antiquity); twelve miles to the north of Byblus, and twenty to the south of Tripolis. Now almost in ruins, and called *Boteron* or *Boturn*, (Postellus). E. Long. 37. 30. N. Lat. 34. 6.

BOTT, among bone-lace weavers, a kind of round cushion of light matter placed on the knee, whereon they work or weave their lace with bobbins, &c.

BOTT, in *Zoology*. See BOTTS.

BOTTICELLI, SANDRO, or ALESANDRO, born at Florence in 1437, learned the rudiments of painting under Filippo Lippi. He executed several pictures for Pope Sixtus IV. and others for the city of Florence: for these he received large sums of money, all of which he expended, and died at last in great distress, aged 78. He was not only a painter but a man of letters. Baldini, according to the general report, communicated to him the secret of engraving, then newly discovered by Finiguerra their townsman. The famous edition of Dante's poem of Hell, printed at Florence by Nicholo Lorenzo della Magna, A. D. 1481, and to which, according to some authors, Botticelli undertook to write notes, was evidently intended to have been ornamented with prints, one for each canto; and these prints (as many of them as were finished) were designed, if not engraved, by Botticelli. It is remarkable, that the two first plates only were printed upon the leaves of the book, and for want of a blank space at the head of the first canto, the plate belonging to it is placed at the bottom of the page. Blank spaces are left for all the rest; that as many of them as were finished might be pasted on. Mr Wilbraham possesses the finest copy of this book extant in any private library; and the number of prints in it amounts to nineteen. The two first, as usual, are printed on the leaves; and the other seventeen, which follow regularly, are pasted on the blank spaces; and these apparently were all that Botticelli ever executed. About the

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Botticelli || Bottling.

the year 1460, it is said that he engraved a set of plates, representing the *Prophets and Sibyls*. Basan tells us that he marked these plates with a *monogram* composed of an A and a B joined together.

BOTTLE, a small vessel proper to contain liquors, made of leather, glass, or stone. The word is formed from *butellus* or *botellus*, used in barbarous Latin writers, for a lesser vessel of wine; being a diminutive of *bota*, which denoted a but or cask of that liquor.

The ancient Jewish bottles were cags made of goats or other wild beasts skins, with the hair on the inside, well swed and pitched together; an aperture in one of the animals paws serving for the mouth of the vessel.

Glass bottles are better for cyder than those of stone. Foul glass bottles are cured by rolling sand or small shot in them; musty bottles, by boiling them. See GLASS.

Bottles are chiefly made of thick coarse glass: though there are likewise bottles of boiled leather made and sold by the case-makers. Fine glass-bottles covered with straw or wicker, are called *flasks* or *bettees*. The quality of the glass has been sometimes found to affect the liquor in the bottle.

Dr Percival cautions against the practice of cleaning of wine bottles with leaden shot. It frequently happens, he thinks, through inattention, that some of the little pellets are left behind; and when wine or beer is again poured into the bottles, this mineral poison will slowly dissolve, and impregnate those vinous liquors with its deleterious qualities. The sweetness which is sometimes perceived in red port wine may arise from this cause, when such an adulteration is neither designed nor suspected.—Potash is recommended for cleansing bottles: a small quantity in the water will clean two gross.

BOTTLING, the operation of putting up liquors in bottles corked, to keep, ripen, and improve. The writers on good husbandry give divers rules concerning the bottling of beer, cyder, and the like. The virtues of Spaw, Pyrmont, Scarborough, and other waters, depend on their being well bottled and corked, otherwise they lose both their taste and smell. To preserve them, it is necessary the bottles be filled up to the mouth, that all the air may be excluded, which is the great enemy of bottled liquors. The cork is also further secured by a cement. Some improve their bottled beer, by putting crystals of tartar, and wine or malt spirits, and others, by putting sugar boiled up with the essence of some herb, and cloves, into each bottle.

Cyder requires special precautions in the bottling; being more apt to fly, and burst the bottle, than other liquors. The best way to secure them, is to have the liquor thoroughly fine before it be bottled. For want of this, some leave the bottles open a while, or open them after two or three days bottling to give them vent. If one bottle break, through fermentation, it is best to give them all vent, and cork them up again. Mean cyder is apter to break the bottles than rich. Some soak the corks in scalding water, to render them more pliant and serviceable. Another particular to be observed is, to lay the bottles so as that the liquor may always keep the cork wet and swelled. Something also depends on the place where the bottles are set, which ought to be such as exposes them as little as possible to the alterations and impressions of the air; the ground is better for this purpose than a frame; sand better than the bare ground: and a running water, or a spring often changed, best of all. Bottling || Bottony.

To hasten the ripening of bottled liquors, they are sometimes set in a warm place, or even exposed to the sun, when a few days will bring them to maturity.

BOTTOM, in a general sense, denotes the lowest part of a thing, in contradistinction to the top or uppermost part.

BOTTOM, in *Navigation*, is used to denote as well the channel of rivers and harbours, as the body or hull of a ship. Thus, in the former sense, we say, *gravelly bottom*, *clayey bottom*, *sandy bottom*, &c. and in the latter sense, a *British bottom*, a *Dutch bottom*, &c. By statute, certain commodities imported in foreign bottoms, pay a duty called *petty custom*, over and above what they are liable to if imported in British bottoms.

BOTTOMRY, in *Commerce*, (a practice which originally arose from permitting the master of a ship in a foreign country to hypothecate the ship in order to raise money to refit), is in the nature of a mortgage of a ship; when the owner takes up money to enable him to carry on his voyage, and pledges the keel or bottom of the ship (*pars pro toto*) as a security for the repayment. In which case it is understood, that if the ship be lost, the lender loses also his whole money; but if it return in safety, then he shall receive back his principal, and also the premium or interest agreed upon, however it may exceed the legal rate of interest. And this is allowed to be a valid contract in all trading nations, for the benefit of commerce, and by reason of the extraordinary hazard run by the lender. And in this case, the ship and tackle, if brought home, are answerable (as well as the person of the borrower) for the money lent. But if the loan is not upon the vessel, but upon the goods and merchandise, which must necessarily be sold or exchanged in the course of the voyage, then also the borrower, personally, is bound to answer the contract; who therefore, in this case, is said to take up the money at *respondentia*. These terms are also applied to contracts for the repayment of money borrowed, not on the ship and goods only, but on the mere hazard of the voyage itself; when a man lends a merchant 1000l. to be employed in a beneficial trade, with condition to be repaid with extraordinary interest, in case such a voyage be safely performed; which kind of agreement is sometimes called *fœnus nauticum*, and sometimes *usura maritima*. But as this gave an opening for usurious and gaming contracts, especially upon long voyages, it was enacted by the statute 19 Geo. II. c. 37. that all moneys lent on bottomry, or at *respondentia*, on vessels bound to and from the East Indies, shall be expressly lent only upon the ship, or upon the merchandise; that the lender shall have the benefit of salvage; and that if the borrower has not on board effects to the value of the sum borrowed, he shall be responsible to the lender for so much of the principal as hath not been laid out, with legal interest and all other charges, though the ship and merchandise be totally lost.

BOTTONY. A cross bottony, in *Heraldry*, terminates

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Bottony || Botts.

nates at each end in three buds, knots, or buttons, resembling, in some measure, the three-leaved grass; on which account Segoing, in his *Tresor Heraldique*, terms it *croix treflee*. It is the badge of the order of St Maurice. See HERALDRY *Plates*.

BOTTRIGARO, HERCOLE, a person eminently skilled in the science of music, though not a musician by profession. He was a man of rank in Bologna; and appears, from several letters to him that have been printed, to have had the title of *Count*. He published several controversial pieces on the subject of music. It seems that he entertained strong prejudices in favour of the ancient music; and that he attempted, as Vincentine and others had done, to introduce the chromatic genus into practice, but with no better success than had attended the endeavours of others. He corrected Gogavino's Latin version of Ptolemy in numberless instances; and that to so good a purpose, that Dr Wallis has in general conformed to it in that translation of the same author which he gave to the world many years after. He also translated into Italian *Boetius de Musica*, and as much of Plutarch and Macrobius as relates to music: besides this, he made annotations upon Aristoxenus, Franchinus, Spataro, Vicentino, Zarlino, and Galilei; and, in short, on almost every musical treatise he could lay his hands on, as appears by the copies which were once his own, and are now reposited in many libraries in Italy. Of Bottrigaro's works it is said, that they contain greater proofs of his learning and skill in music, than of his abilities as a writer, his style being remarkably inelegant: nevertheless, he affected the character of a poet; and there is extant a collection of poems by him, in 8vo, printed in 1557. Walther * represents him as an able mathematician, and a collector of rarities; and says that he was possessed of a cabinet, which the emperor Ferdinand II. had a great desire to purchase. He died in 1609.

* *Musical Lexicon.*

BOTTS, in *Zoology*, a species of worms which can be produced and nourished only in the intestines of a horse. It is there alone they can enjoy the proper temperature of heat, and receive the nourishment necessary for them. See OESTRUS, ENTOMOLOGY *Index*.

Besides the long worms which have been observed in the bodies of horses, there are also short ones.—By these are to be understood what we call *botts*.

All authors, both ancient and modern, who have treated of the diseases of horses, have taken notice of these worms; but M. Vallisnieri is the first who has traced them to the last stage of their transformation, and has seen them change into a hairy kind of fly like the drone.

The flies from which these botts are produced inhabit the country, and do not come near houses, at least not near those of large towns: and therefore horses are never liable to have the worms (i. e. botts) in their bodies, if they have been kept in the house, especially in a town, during the summer and autumn.

It is in the former of these seasons, and perhaps too in the beginning of the latter, that the females of these flies apply themselves to the anus of horses, and endeavour to gain admittance, in order there to deposit their eggs, or perhaps their worms.

The precise instant of their entrance will scarce admit of an eye-witness, but by the merest chance; yet M. Vallisnieri says, that Dr Gaspari had attained this very uncommon sight. The doctor (he tells us) was one day looking at his mares in the field; and from being very quiet, he observed, that on a sudden they became very restless, and ran about in great agitation, prancing, plunging, and kicking, with violent motions of their tails. He concluded, that these extraordinary effects were produced by some fly buzzing about them, and endeavouring to settle upon the anus of one of them; but the fly not being able to succeed, he observed it to go off with less noise than before, towards a mare that was feeding at a distance from the rest; and now the fly taking a more effectual method to obtain its design, passed under the tail of the mare, and so made its way to the anus. Here at first it occasioned only an itching, by which the intestine was protruded with an increasing aperture of the anus; the fly taking the advantage of this, penetrated further, and secured itself in the fold of the intestine:—this effected, it was in a situation proper for laying its eggs. Soon after this, the mare became very violent, running about, prancing, and kicking, and throwing herself on the ground; in short, was not quiet, nor returned to feeding, till after a quarter of an hour. Botts.

The fly then, we see, can find means of depositing its eggs, or perhaps its worms (i. e. botts), in the fundament of the horse; which once effected, it has done all that it is necessary for them. If these bott-worms are not hatched when first deposited in the horse, but are then only eggs, it will not be long before it happens, from the nutritive heat they there receive.

These bott-worms soon make their way into the intestines of the horse: they occupy such parts of this region as are to them most convenient; and sometimes (as we shall see presently) they penetrate even to the stomach. All the hazard they appear to be exposed to, is that of being carried away from the places they have fixed on by the excrement, which may seem likely to drive all before it. But nature has provided for all things; and when we shall have further described these bott-worms, it will seem that they are able to maintain their situation, and to remain in the body of the horse, as long as they please.

There is a time when these bott-worms are of themselves desirous to leave this their habitation, it being no longer convenient for them after the purposes of their growth are answered. Their transformation to a fly must be performed out of the horse's body: and accordingly, when the time of their transformation draws near, they approach towards the anus of the horse; and then leave him of their own accord, or with the excrement, with which they then suffer themselves to be carried along.

According to M. de Reaumur's observations, the bott-worms have two unequal claws, by which they are enabled to remain in the intestines of the horse in opposition to all efforts of the excrement to force them out.—These claws are a sort of anchor, differently disposed from those of common anchors, but contrived to produce the same effect. Besides these two claws, nature has given them a great number of triangular spines or bristles, very sufficient to arm them against the coats of the intestines, and to resist the force employed to drive them towards the anus, provided the head be directed towards the stomach of the horse.

It will be asked, no doubt, if these bott-worms are not

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Botts || Bova.

not dangerous to horses?—The mares which afforded M. de Reaumur, for several years, those on which he made his observations, did not appear to be less in health than those which had none, but it may sometimes happen, that they are in so great a quantity in the body of the horse as to prove fatal to him. M. Vallisnieri supposes these bott-worms to have been the cause of an epidemical disease that destroyed a great many horses about Verona and Mantua in the year 1713. —The observations communicated to him by Dr Gaspari sufficiently confirm his supposition. This gentleman, upon dissecting some horses that died of this distemper, found in their stomachs a surprising quantity of short worms; of which to give us some idea, he compares them to the kernels of a pomegranate opened; each of these, by gnawing on the coat of the stomach, had made to itself a kind of cellule therein, each of which would easily contain a grain of Indian wheat. It is easy to imagine by this means the stomach must be reduced to a wretched condition; the outer membranes were inflamed, and the inner ones ulcerated and corrupted; a very small quantity of these worms was found in the small intestines, and only a few in the larger, to which last they were found affixed, but had not corroded them. It is only perhaps when these bott-worms are in great numbers, and thereby incommode each other in the intestines of the horse, that they make their way towards the stomach; and indeed a very few flies must be enough to overstock the inside of a horse, provided they should deposite all their eggs, and such should all be animated, M. Vallisnieri having counted 700 and odd in the body of one single fly.

When one of these botts has left the anus of the horse, it falls on the ground; and immediately seeks out for some place of safety, where it may retire, to prepare for the last stage of its transformation, by which it is to become a fly. And now by degrees the skin hardens and thickens; and at length forms a solid shell or cod, the form of which scarce differs from that of the worm. It is first of a pale red colour, which changes into chesnut; and at length, by the addition of gradual and successive shades of brown, the shell is rendered black. The worm or bott, before it passes into a nymph, is of the form of an oblong ball; it remains in this form much longer than worms of the flesh-fly kind. M. de Reaumur met with worms that retained this figure five or six days: as yet, one can perceive no traces of the legs, wings, and head of the nymph. Hence he first learned, that those bott-worms do not become nymphs immediately upon their first change; but that, in order to become flies, they must undergo one change more than caterpillars ordinarily do to become butterflies.—For the cure of horses troubled with botts, see FARRIERY *Index*.

BOTWAR, a town of Germany, in the circle of Suabia, and subject to the king of Wirtemberg. E. Long. 9. 15. N. Lat. 49. 0.

BOTZENBURG, a town of Germany, in the duchy of Mecklenburg. It had a castle, which was destroyed by the Danes in 1202. It is seated on the Elbe, and the vessels that pass by are obliged to pay a considerable toll. E. Long. 10. 48. N. Lat. 53. 34.

BOVA, an episcopal town of Italy, in the kingdom of Naples, seated near the Apennine mountains. E. Long. 16. 15. N. Lat. 37. 15.

Bouchain || Boufiers.

BOUCHAIN, a fortified town of the French Netherlands, in the department of the north. It is divided into two parts by the river Scheld. It was taken by the French in 1676: and by the allies under the duke of Marlborough in 1711, which was the last military atchievement of that great general; but the following year it was retaken by the French. E. Long. 3. 15. N. Lat. 50. 17.

BOUCHE OF COURT, the privilege of having meat and drink at court scot-free. The word is also written *bouge*, *bouge*, and *budge*; it is mere French, where it signifies *mouth*.—The French still use the phrase, *Avoir bouche à la cour*; that is, *to have table or diet at court*. This privilege is sometimes only extended to bread, beer, and wine; it was a custom anciently in use, as well in the houses of noblemen as in the king's court. Thomas earl of Lancaster retained Sir John de Ewre, to serve him with ten men at arms in time of war, allowing them *bouge of court*, with livery of hay and oats, horse-shoes and nails. Sir Hugh Merril had the same privilege for life, on condition of serving King Edward II.

BOUCHET, JOHN, a French poet and historian, flourished in the 16th century. The most considerable of his writings are the Annals of Aquitaine, and his *Chapelet des Princes*.

BOUDRY, a small town of Swisserland, in the province of Neufchatel, and capital of a chatelainry of the same name. E. Long. 7. 5. N. Lat. 47. 11.

BOVEY COAL, an inflammable fossil found in England, France, Italy, Swisserland, Germany, Ireland, &c. Its colour is brown or brownish black, and of a laminar structure. It is composed of wood, penetrated with petrol or bitumen; and frequently contains pyrites, alum, and copperas.

BOUFLERS, LEWIS FRANCIS, DUKE OF, a peer and marshal of France, and a general of distinguished reputation, was the son of Francis count of Boufiers. He was born in the year 1644, and entering early into the army, was raised in 1669 to the rank of colonel of dragoons, and in the conquest of Lorraine, served under Marshal Crequi. In the war against Holland he served under the celebrated Turenne, and frequently distinguished himself by his skill and bravery; and when that general was killed, in 1675, he commanded the rear-guard during the retreat of the French army. After performing various military services in Germany, in Flanders, and on the frontiers of Spain, he gradually rose in rank as well as in reputation. In 1690, he was created general of the army of the Moselle. In the following year, he acted as lieutenant-general, under the king in person; and while he invested Mons was wounded in an attack on that place. He conducted the bombardment of Liege, although it was defended by a superior enemy, and he forced the allied generals to abandon Luxemburg. He was entrusted with the command of the covering army, against King William, at the siege of Namur; and for this and many other important services, he was raised in 1693 to the high rank of marshal of France. In 1694, he was appointed governor of French Flanders, and of the town of Lisle. By a skilful manœuvre he threw himself into Namur, in 1695, and held out for sixty-three days, against the combined armies of the allies under King William. Having agreed to a capitulation, he was arrested prisoner of war,

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Boufflers ‖ Bougie.

war, because the French had not performed the stipulated terms on which the garrison had surrendered; and when he remonstrated that the garrison should have been retained rather than himself, he received a fine compliment, by being answered, that he was estimated at 10,000 men. In the conferences which were held with the earl of Portland, and which terminated in the peace of Ryswick, he had a principal share.

During the following war, when Lisle was again threatened, in 1708, with a siege by the duke of Marlborough and Prince Eugene, Boufflers was appointed to the command, and made a very obstinate resistance of four months. His magnanimity was not less remarkable than his military conduct; for when a partisan represented to him that it would not be difficult to kill Prince Eugene, he was told by the marshal, that he might expect a great reward for taking him prisoner, but the severest punishment if any thing were attempted against his life. He was rewarded and honoured by the king for his defence of Lisle, as if he had been victorious. When the affairs of France were threatened with the most urgent danger, though a senior officer to Villars, he made an offer to serve under that general, and was with him at the battle of Malplaquet. Here he again displayed his military skill, by conducting the retreat, so that he lost neither cannon nor prisoners. He died at Fountainbleau in the year 1711, at the age of 68, and left the character of a true patriot, as well as of a great commander. Madame de Maintenon, said of him, "that his heart was the last part that died." His conduct was uninfluenced by private interest, and superior to court intrigue. When he was ordered to take upon him the defence of Lisle, and permitted to have the choice of his lieutenants, he waited not to arrange or regulate his private affairs, or even to take leave of his family, but flew to the place, and carried with him only two officers, one taken from the Bastile, and another who had been in disgrace; preferring merit obscured in the shades of retirement, to the gaudy flutterer in the sunshine of court favour.

BOUGAINVILLE, L. A. a celebrated French navigator. See SUPPLEMENT.

BOUGEANT, WILLIAM HYACINTH, a famous Jesuit, first taught humanity at Caen and Nevers, and afterwards settled at the college of Louis the Great, where he employed himself in writing several works; the principal of which were, 1. A collection of physical observations, extracted from the best authors. 2. A history of the wars and negociations which preceded the treaty of Westphalia. 3. The female doctor, a philosophical amusement on the language of beasts, &c. He died in 1743.

BOUGH, denotes much the same with BRANCH.—Green boughs anciently made part of the decoration of altars and temples, especially on festival occasions. Oaken boughs were offered to Jupiter; those of laurel, to Apollo; of olive, to Minerva; myrtle, to Venus; ivy, to Bacchus; pine, to Pan; and cypress to Pluto.

BOUGIE, in the French language, signifies a wax candle, and is applied to a machine which (as the wax candle formerly was) is introduced into the urethra for removing obstructions there. Mons. Daran, a French surgeon, lately boasted of his introducing them as an improvement in his art, and acquired considerable profit by making and selling them. Scultetus, about the middle of the 17th century, used bougies in diseases of the urethra, and Mons. Daran probably took the hint from him. Different compositions have been used, and generally mercury was a part of them. Riverius made a plaster as follows: ℞ ol. oliv. ℔ iv. ceræ citrin. ℔ ii. minii & ceruss. āā ℔ iss, tereb. venet. & rez. alb. āā ℥ iii. m. Whether the bougies are made up of this or any other composition, they must be of different sizes, from the bigness of a knitting needle to that of a goose quill. They are made of linen rags, spread with a proper matter, and then rolled up as follows. Having spread any quantity of the linen rag with the composition that is chosen for the purpose, cut it into slips from six to ten inches long, and from half an inch to an inch broad: then dexterously roll them on a glazed tile into the form of a waxed candle: and as the end of the bougie that is to be entered first into the urethra should be somewhat smaller than the rest, it would be as well to cut the slips a little tapering. It should also be observed, that when the bougies are rolled up, that side must be outward on which the plaster is spread.

Bougie ‖ Bouhours. Motherby's Med. Dict.

Mons. Daran, and some others, attributed the action of their bougies to the composition they made use of in forming them. Mr Sharp apprehended, that as much of their efficacy was owing to the compression they made on the affected part, as to any other principle; and Mr Aiken very justly says, As it is evident that bougies of very different compositions succeed equally well in curing the same disorders in the urethra, it is plain that they do not act by means of any peculiar qualities in their composition, but by means of some property common to them all. This must be their mechanical form and texture, therefore their mode of action must be simple compression. The efficacy of mere compression in many cases of constriction is well known, from the use of sponge tents for widening parts that are straitened by cicatrices; and admitting obstructions in the urethra to be from a constriction formed by cicatrized ulcers, or a projection of the spongy substance of the urethra into the canal, we may easily conceive, that a gentle continued elastic compression will in time overcome the disease. We may also readily account for the inferior efficacy of metallic and whalebone bougies, from their not having the property of swelling with moisture, and therefore not making so equal a compression. As to bougies procuring a discharge of matter, there is no doubt but the mechanical stimulus of a foreign body in such a tender part, though free from disease, must produce it in some degree; and that this will be varied according to the chemically irritating quality of the composition, and the irritable state of the urethra; but it seems an absurdity to apply a topic, made uniform throughout, to the whole length of a canal, with a view of producing extraordinary effects upon a particular part of it, by means of some powerful quality in the ingredients. That a part of the bougie is particularly covered with matter, is probably owing to the greater irritation of that part of the urethra where the disorder is.

BOUGUER, PETER, an eminent French mathematician. See SUPPLEMENT.

BOUHOURS, DOMINIC, a celebrated French critic,

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Bouhours, Bouillon.

tic, was born at Paris in 1628; and has been by some considered as a proper person to succeed Malherbe, who died about that time. He was entered into the society of Jesuits at the age of 16; and was appointed to read lectures upon polite literature in the college of Clermont at Paris, where he had studied; but he was so incessantly attacked with the headach, that he could not pursue the destined task. He afterwards undertook the education of two sons of the duke of Longueville, which he discharged with great applause. The duke had such a regard for Bouhours, that he would needs die in his arms; and the "Account of the pious and Christian death" of this great personage was the first work which Bouhours gave the public. He was sent to Dunkirk to the Popish refugees from England; and in the midst of his missionary occupations, found means to compose and publish books. Among these were, *Entretiens d'Ariste et d'Eugene*, or "Dialogues between Aristus and Eugenius;" a work of a critical nature, and concerning the French language. His book was printed no less than five times at Paris, twice at Grenoble, at Lyons, at Brussels, at Amsterdam, at Leyden, &c. and embroiled him in quarrels with a great number of censors, with Menage in particular, who, however, lived in friendship with our author before and after. The fame of this piece, and the pleasure he took in reading it, recommended Bouhours so effectually to the celebrated minister Colbert, that he trusted him with the education of his son the marquis of Segnelai. He wrote afterwards several other works; the chief of which are, 1. Remarks and doubts upon the French language. 2. Dialogues upon the art of thinking well in works of genius. 3. The life of St Ignatius. 4. The art of pleasing in conversation. 5. The life of St Francis Xavier, apostle of the Indies and of Japan. This last work was translated from the French into English by Mr Dryden, and published at London in the year 1668, with a dedication prefixed to James II.'s queen.

BOUILLON, a town of the Netherlands, in the duchy of the same name, and in the county of Luxemburg, with a fortified castle, which is seated on a rock that is almost inaccessible. The French took it in 1676; upon which it was given to the duke of Bouillon. This duchy was a sovereignty, independent of France; and in 1792, the king of Great Britain granted to Philip d'Auvergne, captain in the royal navy, his license to accept the succession to the said duchy, in the case of the death of the hereditary prince, only son of the reigning duke, without issue male, pursuant to a declaration of his serene highness, in 1791, "at the desire, and with the express and formal consent of the nation." Accordingly, Captain d'Auvergne afterwards assumed the title of prince of Bouillon. In May 1794 this town was taken by storm, by General Beaulieu, after defeating a considerable body of republicans, and given up to pillage; 1200 French were killed, and 300 taken prisoners. It is seated near the river Semois, 12 miles north of Sedan. E. Long. 5. 20. N. Lat. 49. 45.

BOUILLON, in the manege, a lump or excrescence of flesh that grows either upon or just by the frush, insomuch that the frush shoots out, just like a lump of flesh, and makes the horse halt; and this is called the *flesh blowing upon the frush*. Manege horses, that never wet their feet, are subject to these excrescences, which make them very lame. See FRUSH.

Bouillon Boulanger.

BOVINA AFFECTIO, a distemper of black cattle, caused by a worm lodging between the skin and the flesh, and perforating the same. This distemper is not mentioned by the ancient Greeks, and is but little known in Europe.

BOVINES, a small town of the French Netherlands, in the department of the North, seated on the river Maese, in E. Long. 4. 50. N. Lat. 49. 45.

BOVINO, an episcopal town of Italy, in the Capitanata, seated at the foot of the Apennine mountains, in E. Long. 16. 15. N. Lat. 41. 17.

BOVIUM (Itinerary); a town of the Silures, in Britain, fifteen miles to the south of Isca Silurum, or Caer-leon, in Monmouthshire: Now called *Cowbridge*; according to Baudrand, *Bangor* in Caernarvonshire.

BOULAINVILLIERS, HENRY DE, Lord of St Saise, and an eminent French writer, was descended from a very ancient and noble family, and born at St Saise in 1658. His education was among the fathers of the oratory; where he discovered from his infancy those uncommon abilities for which he was afterwards distinguished. He applied himself principally to the study of history; and his performances in this way are numerous and considerable. He was the author of a history of the Arabians; fourteen letters upon the ancient parliaments of France; a history of France to the reign of Charles VIII.; the state of France, with historical memoirs concerning the ancient government of that monarchy, to the time of Hugh Capet, "written (says M. Montesquieu) with a simplicity and honest freedom worthy of that ancient family from which their author was descended." M. Boulainvilliers died at Paris in 1722; and after his death was published his Life of Mahomet.

BOULANGER, NICHOLAS ANTHONY, a very singular Frenchman, was born at Paris in 1722, and died there in 1759, aged only 37. During his education, he is said to have come out of the college of Beauvais almost as ignorant as he entered into it; but struggling hard against his unaptness to learn, he at length overcame it. At seventeen, he began to study mathematics and architecture; and in three or four years made such a progress, as to be useful to the baron of Thiers, whom he accompanied to the army in quality of engineer. Afterwards he had the supervision of the highways and bridges; and he executed several public works in Champagne, Burgundy, and Lorrain. The author of his life, in the *Dictionnaire des Hommes celebres*, writes, that in this province a terrible spirit discovered itself in him, which he himself did not suspect before; and this was, it seems, the spirit of "thinking philosophically." In cutting through mountains, directing and changing the courses of rivers, and in breaking up and turning over the strata of the earth, he saw a multitude of different substances, which (he thought) evinced the great antiquity of it, and a long series of revolutions which it must have undergone. From the revolutions in the globe, he passed to the changes that must have happened in the manners of men, in societies, in governments, in religion; and he formed many conjectures upon all these. To be farther satisfied, he wanted to know what, in the history of ages, had been said upon these particulars; and

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Boulanger || Boulette.

that he might be informed from the fountain-head, he learned first Latin and then Greek. Not yet content, he plunged into Hebrew, Syriac, Chaldaic, and Arabic; and acquired so immense an erudition, that, if he had lived, he would have been one of the most learned men in Europe: but death, as we have observed, prematurely took him off. His works are, 1. *Traité du Despotism Oriental*, 2 vols 12mo; a very bold work; but not so bold and licentious, as, 2. *L'Antiquité devoille*, 3 vols 12mo. This was posthumous. 3. He furnished to the *Encyclopedié* the articles *Deluge*, *Corveé*, and *Societé*. 4. He left behind him in MS. a Dictionary, which may be regarded as a concordance in ancient and modern language. As a man, he is said to have been of a sweet, calm, and engaging temper; which, however, it is very difficult to reconcile with the dark, impetuous, ardent spirit, that appears to have actuated him as a writer.

Strutt's Dict.

BOULANGER, *John*, an engraver, who flourished towards the end of the last century, was a native of France. His first manner of engraving appears to have been copied, in some degree, from that of Francis de Poilly; but soon after he adopted one of his own, which, though not original, he however greatly improved: He finished the faces, hands, and all the naked parts of his figures, very neatly, with dots instead of strokes, or strokes and dots. The effect is singular enough, and by no means unpleasing: only, in some few instances, he has opposed the coarse graving of his draperies and back ground, so violently to the neater work of the flesh, that the outline of the latter is thereby rendered hard, and the general appearance of it flat and chalky. This style of engraving has been carried to its greatest perfection in the present day, particularly in England. He did not draw the naked parts of his figures correctly, or with fine taste. His draperies are apt to be heavy, and the folds not well marked. However, his best prints possess much merit, and are deservedly held in great esteem.

BOULAY, CÆSAR EGASSE DU, in Latin *Bulæus*, was born at St Ellier, a village of Maine in France; and became professor of humanity at the college of Navarre, register, rector, and historiographer of the university of Paris. He died in 1678, after having published several works. The principal of them are, A History of the University of Paris, in Latin, 6 vols folio; and the Treasure of Roman Antiquities, in 1 vol. folio.

BOULCOLACA, among the modern Greeks, denotes the spectre of some wicked person who died excommunicated by the patriarch, reanimated by the devil, and causing great disturbance among the people; of which many strange stories are told. The word is Greek, and is sometimes written *βορκολακος*, *bourkolakos*; and supposed to be derived from *βορος*, or *βορα*, "mud," and *λακκος*, a "ditch," on account of the filthiness of the sight.

BOULDER-WALL, a kind of wall built of round flints or pebbles, laid in strong mortar, and used where the sea has a beach cast up, or where there are plenty of flints.

BOULETTE, in the manege. A horse is called *boulette*, when the fetlock, or pastern-joint, bends forward, and out of its natural situation, whether through violent riding, or by reason of being too short jointed, in which case the least fatigue will bring it.

Boulogne || Boulognois. *Pilkington.*

BOULLOGNE, LEWIS, painter to the French king, and professor of the academy of painting, distinguished himself by his art; and died at Paris in 1674, aged 65. There are three of his pictures in the church of Notre Dame.—He left two sons who were admired for their skill in painting. The elder, who is well known under the name of *Bon Boullogne*, was first instructed by his father; after which he went to perfect himself in Italy, and for that purpose the king allowed him a pension: at his return, he was made professor of the academy of painting. Louis XIV. employed him in adorning several of his palaces; and there is a great number of his pictures at Paris. His talents for copying the pictures of the great Italian masters were so very extraordinary, that he frequently deceived the greatest judges. He died in 1717.—*Lewis Boullogne*, his brother, after being also instructed by his father, gained the prize of painting at 18 years of age; upon which he obtained the king's pension. He set out for Italy at his brother's return, and acquired great skill in designing and colouring. At his return to Paris he was much employed: and at length became director of the academy of painting, knight of the order of St Michael, and first painter to the king. Louis XIV. allowed him several pensions, and raised him and his posterity to the rank of nobility. He embellished the church of the Invalids, the chapel of Versailles, &c.

BOULLOGNE, *Bon de*, a painter of some eminence, was born at Paris in 1649. From his father Louis de Boullogne he learned the first principles of the art: but went to Rome in order to perfect himself from the works of the best masters. He abode in Italy five years. He excelled in history and portrait. His talents for copying the pictures of the great Italian painters were so very extraordinary, that he frequently deceived the greatest judges. He died at Paris in 1717, aged 68.

BOULLOGNE, *Louis de*, born at Paris in 1654, was the younger brother of the preceding; and, like him, learned from his father the first principles of painting, and afterwards went to Rome to complete his studies. His works, on his return, were so much esteemed, that Louis XIV. honoured him with the order of St Michael, and, after the death of Anthony Coypell, appointed him his principal painter. He chiefly excelled in historical and allegorical subjects. He died at Paris in 1734, aged 80 years.

BOULOGNE, a large sea-port town of Picardy in France, and capital of the Boulognois, now called the department of the Straits of Calais, with a harbour, and formerly a bishop's see. It is divided into two towns; the higher, and the lower. The former is strong both by nature and art; and the latter is only surrounded with a single wall. The harbour has a mole for the safety of shipping, which at the same time prevents it from being choaked up. The lower town is inhabited by merchants, and has three large streets, one of which leads to the high town, and the other two run in a line on the side of the river. It is situated at the mouth of the river Lianne, and contained 10,140 inhabitants in 1815. E. Long. 1. 42. N. Lat. 50. 42.

BOULOGNOIS, a territory of France, in the north part of Picardy, about 30 miles in length and 20 in breadth. The chief town is Boulogne, and the chief

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Boulogne, Boulter.

trade is in pit-coal and butter. It now forms the department of the Straits of Calais.

BOULTER, Dr Hugh, was born in or near London, of reputable and wealthy parents. He was educated at Merchant-taylors school; and, before the Revolution, was from thence admitted a commoner of Christ-church in Oxford. Some time after he was chosen a demy of Magdalen college, at the same election with Mr Addison and Dr Wilcox. From the merit and learning of the persons elected, this was commonly called by Dr Hough, president of the college, the *golden election*. He afterwards became fellow of the same college; in which station he continued in the university till he was invited to London by Sir Charles Hedges, principal secretary of state, in the year 1700, who made him his chaplain, and recommended him to Dr Tenison archbishop of Canterbury; but his first preferments were owing to the earl of Sunderland, by whose interest and influence he was promoted to the parsonage of St Olave in Southwark, and the archdeaconry of Surry. Here he continued discharging very faithfully and diligently every part of his pastoral office, till he was recommended to attend George I. as his chaplain when he went to Hanover in 1719. He had the honour to teach Prince Frederic the English language; and by his conduct he so won the king's favour, that he promoted him to the deanery of Christ-church, and the bishopric of Bristol, in the same year. As he was visiting his diocese five years afterwards, he received a letter from the secretary of state, acquainting him that his majesty had nominated him to the archbishopric of Armagh and primacy of Ireland. This honour he would gladly have declined; and desired the secretary to use his good offices with his majesty to excuse him from accepting it. Ireland happened to be at this juncture in a great flame, occasioned by Wood's ruinous project; and the ministry thought that the bishop would greatly contribute to quench it by his judgment, moderation, and address. The king therefore laid his absolute commands upon him: to which he submitted, but with some reluctance. As soon as he had taken possession of the primacy, he began to consider that country, in which his lot was cast for life, as his own; and to promote its true interest with the greatest zeal and assiduity. Accordingly, in innumerable instances, he exerted himself in the noblest acts of beneficence and public spirit. In seasons of the greatest scarcity, he was more than once instrumental in preventing a famine which threatened that nation. On one of these occasions he distributed vast quantities of corn throughout the kingdom, for which the house of commons passed a vote of public thanks; and at another time 2500 persons were fed at the poor-house in Dublin, every morning, and as many every evening, for a considerable time together, mostly at the primate's expence. When schemes were proposed for the advantage of the country, he encouraged and promoted them not only with his counsel but his purse. He had great compassion for the poor clergy of his diocese, who were disabled from giving their children a proper education; and he maintained several of the children of such in the university. He erected four houses at Drogheda for the reception of clergymen's widows, and purchased an estate for the endowment of them. His charities for augmenting small livings and buying glebes amounted to upwards of 30,000l. besides what he devised by will for the like purposes in England. In short, the instances he gave of his generosity and benevolence of heart, his virtue, his piety, and his wisdom, are almost innumerable, and the history of his life is his noblest panegyric. This excellent prelate died at London, on the 2d of June 1742, and was interred in Westminster-abbey, where a beautiful monument of finely polished marble is erected to his memory.

Boulter || Bounty.

BOULTINE, a term which workmen use for a moulding, the convexity of which is just one-fourth of a circle; being the member just below the plinth in the Tuscan and Doric capital.

BOULTON, Matthew, an eminent English engineer. See Supplement.

BOULUKE, in the military orders of the Turks, a body of the janizaries, with an officer in the place of a colonel at their head, sent upon some particular enterprise.

BOUM, in *Ancient Geography*, a town in Ethiopia beyond Egypt, on the west side of the Nile.

Boum solis stabula, in *Ancient Geography*, the territory of Mylæ, so called: A peninsula on the east coast of Sicily, to the north of Syracuse; remarkable for its fertility and rich pastures (Theophrastus): and hence arose the fable of the oxen of the sun feeding there (Scholiast on Apollonius). Pliny and Seneca say, that something like dung is thrown out on the coast of Mylæ and Messana, which gave rise to the fable of the oxen of the sun being stalled there; and at this day the inhabitants affirm the same thing (Cluverius).

BOUNCE, in *Ichthyology*, the English name of a species of squalus. See Squalus.

BOUND, in dancing, a spring from one foot to the other; by which it differs from a hop, where the spring is from one foot to the same. It also differs from a half coupee, as in the latter the body always bears on the floor, either on one foot or the other; whereas, in the bound, it is thrown quite from the floor.

Bound-Bailiffs, are sheriffs officers for executing of process. The sheriffs being answerable for their misdemeanors, the bailiffs are usually bound in a bond for the due execution of their office; and thence are called *bound-bailiffs*, which the common people have corrupted into a much more homely appellation.

BOUNDS of lands. See Abuttals.

BOUNTY, in *Commerce*, a premium paid by government to the exporters of certain British commodities, as sail-cloth, gold and silver lace, silk stockings, fish, corn, &c. The happy influence which bounties have on trade and manufactures is well known: nor can there be a more convincing proof of the good intentions of the government under which we live, than the great care that is taken to give all possible encouragement to those who shall establish or improve any hazardous branch of trade.

All undertakings, in respect either to mercantile enterprises, or in the establishment of manufactures, are weak and feeble in their beginnings; and if unsuccessful, either sink entirely, or at least are seldom revived in the same age. Accidents of this nature are not only destructive to private persons, but exceedingly detrimental to the public interest. On this principle, more *Campbell's Political Survey of Britain.*

especially

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Bounty. especially since trade, for which Providence designed us, hath been attended to, such attempts have been thought deserving, and have been favoured, with public support. This in former times usually flowed from the crown, in the form of letters-patent, charters, or other grants of privileges, which, however requisite they might be, were notwithstanding very frequently objects of censure. If such as obtained them failed in their endeavours, they were reputed *projectors;* if, on the other hand, they succeeded, they were considered as *monopolizers*. Corporations, which imply the uniting certain individuals into a body, that they may thereby become more useful to the community, are created by the crown. Many of these were formed for promoting trade; and, according to the old system of our government, were necessary and useful. On the same principle, privileges were granted to private persons, on a suggestion, that what was immediately of use to them would terminate in public utility. These also did good in bringing in many arts and manufactures; though, in some cases, tending to private interest more than public emolument, they were liable to legal correction. In later times, and in concerns of moment, a much better method has been adopted, as often as it hath been found practicable, by rejecting private or particular interest, and proposing the designed advantages to such as should perform the stipulations on which they are granted. These bounties, as they are paid by the public, so they are solely calculated for the benefit of the public. They are sometimes given to encourage industry and application in raising a necessary commodity; which was intended by the bounty on exporting corn. The intention of this bounty was to encourage agriculture; and the consequence hath been, that we now grow more than twice as much as we did at the establishment of the bounty; we even consume twice as much bread as we then grew; yet in A. D. 1697, we exported a fifteenth part of what we grew, of late years a twenty-ninth part only. The bounty on this twenty-ninth part amounted to somewhat more than 50,000l. and the produce to more than 400,000l. It is evident that all this is so much clear gain to the nation. But this is far from being all that we have annually gained. For if our cultivation is double, as indeed it is, then the rent of lands, the subsistence of working hands, the profits of the tradesmen supplying them with utensils, clothes, the value of horses employed, &c. must all be taken into the account. Besides this, we must add the freight (amounting to half the bounty), to make the idea of the advantages complete.

Sometimes bounties are given with a view to promote manufactures, as in the case of those made of silk. Many laws are to be found in our statute books in favour of the silk manufacture, made with great wisdom and propriety, for the encouragement and support of many thousands of industrious persons employed therein. By statute 8 Geo. I. cap. 15. § 1. a bounty was given on the due exportation of ribbons and stuffs, of silk only, of three shillings upon a pound weight; silk, and ribbons of silk, mixed with gold and silver, four shillings a-pound; on silk gloves, silk stockings, silk fringes, silk laces, and sewing silk, one shilling and threepence a-pound; on stuffs of silk and grogram yarn, eightpence a-pound; on silks mixed with inkle or cotton, one shilling; on stuffs of silk mixed with worsted, sixpence a-pound, for three years; and, from experience of their utility, these were continued by subsequent statutes. Bounty.

Sometimes bounties are given to support a new manufacture against foreigners already in possession of it, as in making linen and sail-cloth. The promoting of the manufacture of British sail-cloth was undoubtedly a very important national object, as the consumption was very large, and of consequence the purchase of it from foreigners a heavy expence on the public. Many methods were therefore devised, and countenanced by law, both here and in Ireland, for introducing and encouraging our own in preference to that of strangers, more especially in the royal navy. By stat. 12 Ann. cap. 16. § 2. a bounty was given of one penny per ell on all that was exported for a term, and continued by subsequent statutes. By 4 Geo. II. cap. 27. § 4. an additional bounty of another penny an ell is granted. These bounties were to be paid out of an additional duty on imported sail-cloth. By the same statute every ship built in Britain, or in the plantations, is, under the penalty of 50l. to be furnished with a complete suit of sails of British manufacture. The amounts of these bounties mark the progress of the manufacture, which is also assisted by the fund on which the payment is assigned.

The assistances, however, are never bestowed but on mature deliberation, in virtue of strong proofs, and with a moral certainty of a national benefit. The great intention of bounties is to place the British trader on such ground as to render his commerce beneficial to his country. In order to this, some profit must accrue to himself, otherwise he would not embark therein; but this, whatever it be, must prove inconsiderable in comparison of what results to the public. For if, by the help of such a bounty, one or many traders export to the value of 1000, 10,000, or 100,000 pounds worth of commodities or manufactures, whatever his or their profit or loss (for the latter, through avidity and overloading the market, sometimes happens) may be, the nation gains the 1000l. 10,000l. or 100,000l.; which was the object of the legislature in granting the bounty. Upon this consideration, that the entire produce of what is exported accrues to the nation, the legislature, when an alteration of circumstances required it, have made no scruple of augmenting a bounty; as in the case of refined sugar exported, from three to nine shillings per hundred weight. In like manner, the original bounty of one pound per ton in favour of vessels employed in the whale-fishing hath been doubled, and many new regulations made, in order to render this fishery more advantageous to the public. As a bounty is given on malt when allowed to be exported, so an equivalent of 30 shillings per ton hath been granted on all British-made malt-spirits when exported, which is a common benefit to land, manufactures, and commerce.

It is indeed true, that on whatever account, or to whatever amount, this reward is given, the public seem to pay, and private persons seem to receive. But these private persons receive it as the hire from the public, for performing a service which otherwise they would not perform, the benefit of which accrues to the public, and who can therefore very well afford to pay that reward in reality, which, as we have stated it, she only

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Bounty. ly seems to do. For, looking a little closer, we cannot help observing, that the bounty is paid to individuals, who, as such, make a part of the public. But the commodities or manufactures exported are sold to foreigners, and the whole produce of them, be it what it will, comes into the purse of the public. By attending to this self-evident doctrine, every reasonable and public-spirited man will be easily reconciled to bounties; and the three following considerations will be sufficient to obviate the most common objections that have been made to the practice of giving them. 1. That no bounty can be desired but on the plea of national utility, which always deserves notice, and cannot be mistaken. It must likewise be alleged and proved, that this is the only means whereby the national benefit can be attained. 2. The sums issued on this account not only show the clear expence of the bounty, but also indicate the profit gained by the public; for as the one cannot exist without the other, that amount must be the incontestable index of both. 3. It must be remembered (and of this too some instances might be given), that if bounties should be improperly bestowed, they will of course prove ineffectual, and after a few fruitless trials will remain unclaimed, and consequently produce no expence. There is indeed another objection which hath been made against the giving of bounties. This is grounded on the frauds to which they are supposed to be liable; and particularly the relanding of the goods on which the bounty hath been paid, and thereby deceiving and cheating the public. But whoever peruses the laws made on this head, and attentively considers the numerous precautions taken to fix every circumstance relative to the obtaining the bounty, the checks on the shipping of goods, the securities taken for their due exportation, the certificates required to ascertain their being actually delivered and sold in a foreign market, must be convinced, that to discharge all those securities, in case of an intended fraud, is a thing very difficult, if not impossible.

To these remarks we may add, that bounties are usually granted only for a limited time, and then expire; are always liable to be suspended; and of course can never be the cause of any great national loss. There is no doubt that, exclusive of frauds, the immoderate thirst of gain may tempt interested men to aim at converting what was calculated for public benefit to its detriment, for their own private advantage. Thus, on a prospect of short crops in other countries, men may take measures within the letter, but directly against the spirit, of the law, to send so much of our corn abroad as to endanger a famine at home. For this the wisdom of parliament provides, not barely by suspending the bounty, but by prohibiting exportation and opening the ports for foreign supplies. We cannot with any shadow of justice ascribe scarcity to the bounty on the exportation. If this was the case, suspensions would be frequent, whereas there have been but five in a course of 70 years. If the bounty had any share, the larger the exportation, the greater would be the scarcity. In A. D. 1750 we exported more than one fifth of our growth of wheat, which was notwithstanding but at four shillings per bushel; whereas a century before, A. D. 1650, when we had neither bounty nor exportation, wheat was at nine shillings and sixpence per bushel. The causes of scarcity are unkindly seasons; which though human policy cannot prevent, yet their sad effects have been evidently lessened by our increased growth, since the taking place of bounty and exportation. Bounty, Bourbon.

Queen Anne's BOUNTY, for augmenting poor livings under 50l. per annum, consists of the produce of the first fruits and tenths, after the charges and pensions payable out of the same are defrayed. A corporation for management of the same was settled, &c. in 1704. See AUGMENTATION.

BOURBON, or MASCARENHAS, *Isle of*, an island in the Indian ocean, lying on the east of Madagascar, in E. Long. 58. 30. S. Lat. 21. 23. This island has no port, and is in some places inaccessible. Its length and breadth have not been well determined; but the circumference, according to the account of a person who resided there some time, is about 57 leagues. It is for the most part mountainous, but in some places there are very beautiful and fertile plains. In the south part of the island there is a burning mountain, which has thrown out vast quantities of bitumen, sulphur, and other combustible materials; neither does it cease throwing them out still, so that the country about it is useless, and is called by the inhabitants *pays brulé*, that is, burnt land. The shore is high and rocky all round; but though on this account it hath no ports, there are several good roads, particularly one on the west, and another on the north-east. As to its form, this island is irregular, so that it is difficult to judge from the maps whether it is round or long. The air is equally pleasant and wholesome, insomuch that the people live to a great age without feeling either infirmities or diseases. This is occasioned by the hurricanes, of which they have one or two every year. These purge and cleanse the air so as to render it highly salubrious; the certainty of which is thus distinguished, that when they fail of making their annual visits, as sometimes they do, diseases and death find an entrance into the island, which otherwise would soon be overstocked with inhabitants. The climate is hot, but not to such a degree as might be expected from its situation, the breezes from the mountains being constant and very refreshing. The tops of these mountains are in winter covered with snow; which, melting in the summer, furnishes abundance of rivers and rivulets, with which the country is plentifully watered: so that the soil, though not very deep, is wonderfully fruitful, producing Turkey corn and rice twice a-year, and the latter in great abundance. Most sorts of cattle are found here, good in their kind, and are very cheap; wild goats and wild hogs are found in the woods and on the tops of the mountains; here also are vast quantities of wild fowl of different kinds, fish, and land tortoises, affording at once the most delicate and wholesome food. As to fruits, they have bananas, oranges, citrons, tamarinds, and other kinds; neither does it want valuable commodities, particularly ebony, cotton, white pepper, gum benzoin, aloes, and tobacco; all excellent in their kind, when compared with those of other countries. This island is also happy in its deficiencies; for no animals that are venomous are to be found therein, and only two sorts that are disagreeable to the sight, viz. spiders of the size of a pigeon's egg, which weave nets of a surprising strength, reckoned by some capable of being treated so as to become as valuable

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Bourbon. luable as silk; and bats of a most enormous size, which are not only skinned and eaten, but esteemed also the greatest delicacy that they have.

The island of Bourbon was discovered by the Portuguese in 1545, as appears by a date inscribed by them upon a pillar when they first landed; but when the French settled in Madagascar, this island was totally desolate. Three Frenchmen being banished thither, and left there for three years, made such a report of it at their return as surprised their countrymen. They lived most of that time upon pork; and though they were in a manner naked, yet they affirmed that they never had the least pain or sickness whatever. This tempted one Anthony Taureau to go over thither in 1654, accompanied by seven French and six negroes, who carried with them the cattle from which the island has been stocked ever since. The first thing they did was to erect the arms of France, by order of M. Falcourt who was governor of Madagascar, and to bestow upon the island a new name. Then they set up huts, and laid out gardens, in which they cultivated melons, different sorts of roots, and tobacco; but just as the last became ripe, the whole plantation was destroyed by a hurricane. The French, however, went to work again; and by having some acquaintance with the climate, succeeded better, and added aloes to the rest of their plantations; but receiving no succour from Madagascar, and being tired of living by themselves in the isle of Bourbon, they very readily embraced the offer of an English captain, and in the year 1658 embarked for Madras. When the last great blow was given to the French at Madagascar by the natives, who surprised and cut them off in one night, there escaped as many men as, with their wives, who were natives, filled two canoes; and these being driven by the wind on the isle of Bourbon, were the next set of people who inhabited it. This last colony, for want of an opportunity to remove, were constrained to cultivate this new country of theirs, and to remain in it. It was not long before a further stock of inhabitants arrived. A pirate that had been committing depredations in the Indies, returning to Europe, ran ashore and was split to pieces on the rocks, so that the crew was forced to join themselves to the former inhabitants; and as they had on board their vessel a great many Indian women whom they had made prisoners, they lived with them, and in process of time had a numerous posterity. As East India ships touched frequently here, when too late to double the Cape, many of the sailors, for the sake of the women, deserted at the time of their departure, and staying behind became planters in the isle of Bourbon. As the place grew more populous, the people naturally became more civilized, and desirous of living in a more commodious manner; which induced them to build small vessels, that in these they might sometimes make a trip to Madagascar, in order to purchase slaves, whom they employed in their plantations to cultivate aloes, tobacco, and other things, with which they drove a small trade, when ships of any nation anchored in their roads for the sake of refreshments. In this situation they were, when the French East India Company put in their claim; and assuming the property of the island, sent thither five or six families and a governor. At first the inhabitants expected to reap some benefit from their new masters; but finding very little, and thinking the governor took too much upon him, they revolted at the instigation of a priest, seized their governor and put him into a dungeon, where he died of hunger and grief. For this some of the ringleaders were punished, a kind of fort was erected, some guns placed on it, and the French flag kept flying; but in other respects, so little care was taken, that, till within these 40 years, the island was in no state of defence. Bourbon.

The number of inhabitants in the year 1717 was computed at 2000; viz. 900 free, and 1100 slaves. Amongst these people the usual distinction of whites and blacks entirely fails: for even the free are of different colours; and a French writer assures us, that he saw in a church one family, consisting of five generations, of all complexions. The eldest was a female, 108 years of age, of a brown black, like the Indians of Madagascar; her daughter, a mulatto: her grand-daughter, a mestizo; her great grand-daughter, of a dusky yellow; her daughter again, of an olive colour; and the daughter of this last, as fair as an English girl of the same age. These people are, general speaking, of a gentle quiet disposition, very industrious, and submissive enough to authority, provided it is exercised with a tolerable degree of equity and decency; for otherwise the whole of them are apt to rise in rebellion at once; and the slaves have so little reason to complain of their masters, that they are always on the same side. The island is divided into four quarters. The first is that of St Paul, which is the largest and best peopled: their houses are built at the foot of a steep mountain, on both sides of a fresh water lake. As for the plantations, they are on the top of a mountain, which they ascend by a very rough and troublesome passage. On the summit there is a spacious plain, a great part of which is divided into plantations of rice, tobacco, corn, sugar, and fruits. The quarter of St Dennis lies seven leagues from that of St Paul, towards the east, and there the governor resides. It is not so well peopled as the former; but the country is more pleasant, and the situation better. At two leagues distance, proceeding along the sea-coast, is the quarter of St Mary's, which is but thinly peopled. The last and most fertile quarter is that of St Susannah, which is at the distance of four leagues from St Dennis. The road between these two quarters is tolerable, though part of it has been cut with much difficulty through a wood; but the passage from St Dennis to St Paul is only by sea.

When the present company of India became, by their perpetual establishment, possessed of the island of Bourbon, they began to improve it exceedingly; raising new forts and batteries, so as to render it in a manner inaccessible; and importing coffee-trees from Arabia; which have succeeded so well, that it is believed they produce an eighth, according to some a sixth, part as much coffee as is raised in the kingdom of Yemen in Arabia, and it is likewise held next in goodness to that. —In 1763, the population amounted to 4627 white people, and 15,149 blacks; the cattle consisted of 8702 beeves, 4084 sheep, 7405 goats, and 7619 hogs. Upon an extent of 125,909 acres of cultivated land, they gathered as much cassava as would feed their slaves, 1,135,000 pounds weight of corn, 844,190 pounds of rice,

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Bourbon ourbourg.

rice, 2,879,100 pounds of maize, and 2,535,100 pounds of coffee; which last the company bought up at about 3d. per pound. In 1811 the population was 16,400 Europeans, 3496 free negroes, and 60.450 slaves.

In 1748, Admiral Boscawen appeared before this island with a British fleet; but found it too strong to be attacked. See BOURBON, SUPPLEMENT.

BOURBON, *Nicholas*, a famous Latin poet in the 16th century, was a native of Vandeure near Langres, and the son of a wealthy man who was master of several forges. Margaret de Valois appointed him preceptor to her daughter Jane d'Albert of Navarre, the mother of King Henry IV. At length he retired to Conde, where he had a benefice, and died about the year 1550. He wrote eight books of Epigrams; and a poem on the forge, which he has entitled *Ferraria*. He had great knowledge of antiquity, and of the Greek language. Erasmus praises his Epigrams.

BOURBON, *Nicholas*, a celebrated Greek and Latin poet, was nephew of the preceding. He taught rhetoric in several colleges of Paris; and the cardinal de Perron caused him to be nominated professor of eloquence in the Royal College: he was also canon of Langres, and one of the 40 of the French academy. At length he retired to the fathers of the oratory, where he died in 1644, aged 70. He is esteemed one of the greatest Latin poets France has produced. His poems were printed at Paris in 1630.

BOURBON-Lancy, a town of France, in the department of Saone and Loire. It is remarkable for its castle and baths; and there is a large marble pavement, called the *great bath*, which is a work of the Romans. It is seated near the river Loire, in E. Long. 3. 46. N. Lat. 46. 37.

BOURBON L'Archambaud, a town of France, in the department of Allier, remarkable for its baths, which are exceedingly hot. E. Long. 3. 28. N. Lat. 46. 35.

Family of BOURBON, the present royal family of France. Henry IV. in 1589, though of the 10th generation, was the nearest heir, and succeeded Henry III. (the last of the Valois race), whose brother Francis II. married Mary queen of Scots, and both died without issue. Louis XVI. was the fifth king of this family in succession. This family also mounted the throne of Spain in 1700, by Philip V. grandson to Louis XIV. which was the occasion of the long and bloody war that ended in the peace of Utrecht. A branch of the Spanish family likewise mounted the throne of the two Sicilies in 1734. These three branches entered into a treaty offensive and defensive in 1761, which goes by the name of the *family-compact*.

BOURBONNE-LE-BAINS, a town of France, in Champagne, and in the Bassigni, famous for its hot baths. E. Long. 5. 45. N. Lat. 47. 54.

BOURBONNOIS, a province of France, with the title of a duchy; bounded on the north, by Nivernois and Berry; on the west, by Berry and a small part of Upper Marche; on the south, by Auvergne; and on the east, by Burgundy and Forez. It abounds in corn, fruits, pastures, wood, game, and wine. Its principal town is Moulins; and the rivers are the Loire, the Allier, and the Chur.

BOURBOURG, a town in French Flanders, whose fortifications are demolished. It is seated on a canal that goes to Dunkirk, in E. Long. 2. 15. N. Lat. 50. 55.

Bourbourg Bourdeaux.

BOURCHIER, JOHN, Lord Bemars, grandson and heir of a lord of the same name, who was descended from Thomas of Woodstock, duke of Gloucester, and had been knight of the Garter and constable of Windsor-castle. Under Edward IV. our Lord John was created a knight of the Bath, at the marriage of the duke of York second son of Edward IV. and was first known by quelling an insurrection in Cornwall and Devonshire, raised by Michael Joseph a blacksmith, in 1495, which recommended him to the favour of Henry VII. He was a captain of the pioneers at the siege of Therounne, under Henry VIII. by whom he was made chancellor of the exchequer for life, lieutenant of Calais and the Marches, appointed to conduct the lady Mary, the king's sister, into France on the marriage with Louis XII. and had the extraordinary happiness of continuing in favour with Henry VIII. for the space of 18 years. He died at Calais in 1532, aged 63. He translated, by King Henry's command, Froissart's Chronicle; which was printed in 1532, by Richard Pinson, the scholar of Caxton, and the fifth on the list of English printers. His other works were a whimsical medley of translations from French, Spanish, and Italian novels, which seem to have been the mode then, as they were afterwards in the reign of Charles II. These were, The life of Sir Arthur, an Armorican knight; The famous exploits of Sir Hugh Bourdeaux; Marcus Aurelius; and, The Castle of Love. He composed also a book of the duties of the inhabitants of Calais; and a comedy entitled *Ite in Vineam*, which is mentioned in none of our catalogues of English plays. Anthony Wood says it was usually acted at Calais after vespers.

BOURDALOUE, LEWIS, a celebrated preacher among the Jesuits, and one of the greatest orators France has produced, was born at Bourges on the 20th of August 1632. After having preached in Provence, he in 1699 went to Paris; and there met with such applause, that the king resolved to hear him; on which he was sent for to court, and frequently preached before Louis XIV. He assisted the sick, visited the prisoners and hospitals, and was very liberal in giving alms. He died at Paris on the 13th of May 1704. The best edition of his sermons is in octavo.

BOURDEAUX, an ancient, large, handsome, and rich town in France, in the department of Gironde, is the capital of Guienne, and an archbishop's see; has an university and an academy of arts and sciences. It is built in the form of a bow, of which the river Garonne is the string. This river is bordered by a large quay, and the water rises four yards at full tide, for which reason the largest vessels can come up to it very readily. The castle called the *Trumpet* is seated at the entrance of the quay, and the river runs round its walls. Most of the great streets lead to the quay. The town has 12 gates; and near another castle are fine walks under several rows of trees. The ancient city of Bourdeaux, though considerable in point of size, was ill built, badly paved, dangerous, without police or any of those municipal regulations indispensably requisite to render a city splendid or elegant. It has entirely changed its appearance within these last thirty years. The public edifices are very noble, and all the streets newly built are regular and handsome. The quays are four

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Bourdeaux. four miles in length, and the river itself is considerably broader than the Thames at London bridge. On the opposite side, a range of hills covered with woods, vineyards, churches, and villas, extends beyond the view. Almost in the centre of the town is a fine equestrian statue in bronze erected to Louis XV. in 1743, with the following inscription:

Ludovico quindecimo,
Sæpe victori, semper pacificatori;
Suos omnes, quam latè regnum patet,
Paterno pectore gerenti;
Suorum in animis penitus habitanti.

The beauty of the river Garonne, and the fertility of the adjoining country, were probably the causes which induced the Romans to lay the foundations of this city. The ruins of a very large amphitheatre yet remain, constructed under the emperor Gallienus; it is of brick, as are most of the edifices of that period, when the empire was verging to its fall, and the arts began rapidly to decline. During the irruptions of the barbarous nations, and particularly in those which the Normans repeatedly made, Bourdeaux was ravaged, burnt, and almost entirely destroyed. It only began to recover again under Henry II. of England, who having united it to the crown by his marriage with Eleanor of Aquitaine, rebuilt it, and made it a principal object of his policy to restore the city again to the lustre from which it had fallen. The Black Prince received all Guienne, Gascony, and many inferior provinces, in full sovereignty from his father Edward III. He brought his royal captive, John king of France, to this city, after the battle of Poictiers in 1356; and held his court and residence here during eleven years. His exalted character, his uninterrupted series of good fortune, his victories, his modesty, his affability, and his munificence, drew strangers to Bourdeaux from every part of Europe; but all this splendour soon disappeared. He lived to experience the ingratitude of Peter the Cruel, to whom he had restored the kingdom of Castile; he became a prey to distempers in the vigour of life; he saw his dominions reunited again in many of their branches to the crown of France, by Charles V.; he lost his eldest son Edward, a prince of the highest expectations; and at length, overcome with sorrow at this last affliction, he quitted Bourdeaux, and re-embarked for England, there to expire a memorable example of the hasty revolution of human greatness! In 1453, Charles VII. king of France, re-entered the city, and subjected the whole province of Guienne, which had been near three centuries under the English government. Conscious of the importance of such a conquest, he ordered the Chateau Trompette to be built to defend the passage of the river; and Louis XIV. afterwards employed the celebrated Vauban to erect a new fortress in the modern style of military architecture, on the same spot.—Madame de Maintenon, whom fortune seemed to have chosen as the object of her extremest rigour and extremest bounty, was removed from the prisons of Niort in Poictou, where she was born, with her father the Baron d'Aubigne, to this castle, where she used to play with the daughter of the turnkey, in the greatest indigence. Bourdeaux presents few remains of antiquity. The cathedral appears to be very old, and has suffered considerably from the effects of time. The unfortunate duke of Guienne, brother to Louis XI. who was poisoned in 1473, lies buried before the high altar. The adjacent country is exceedingly pleasant, and at the season of the vintage forms one of the most delicious landscapes in the world. The population in 1815 was 92,374. W. Long. 0. 39. N. Lat. 44. 50. Bourdeaux ‖ Bourges.

BOURDELOT, JOHN, a learned French critic, who lived at the close of the 16th and beginning of the 17th centuries. He distinguished himself by writing notes on Lucian, Petronius, and Heliodorus; by an Universal History; Commentaries on Juvenal; a Treatise on the Etymology of French words; and by some other works which were never published.—There was also an abbé Bourdelot, his sister's son, who changed his name from Peter Michon to oblige his uncle. He was a celebrated physician at Paris, who gained great reputation by a Treatise on the Viper, and other works. He died in 1685.

BOURDINES, a town of the Netherlands, in the province of Namur. E. Long. 5. 0. N. Lat. 50. 35.

BOURDON, SEBASTIAN, a famous painter, born at Montpelier, in 1619. He studied seven years at Rome; and acquired such a reputation, that at his return to France he had the honour of being the first who was made rector of the academy of painting at Paris. He succeeded better in his landscapes than in his history-painting. His pieces are seldom finished; and those that are so, are not always the finest. He once laid a wager with a friend, that he should paint twelve heads after the life, and as big as the life, in one day. He won it: and these are said not to be the worst things he ever did. His most considerable pieces are, The gallery of M. de Bretonvilliers, in the aisle of Notre Dame; and, The seven works of mercy, which he etched by himself. But the most esteemed of all his performances is, The martyrdom of St Peter, drawn for the church of Notre Dame: It is kept as one of the choicest rarities of that cathedral. Bourdon was a Calvinist; much valued and respected, however, in a Popish country, because his life and manners were good. We have also by this master a great number of etchings; which are executed in a bold masterly style, and much more finished than those we generally meet with from the point of the painter. They are justly held in the highest estimation by the generality of the collectors. He died in 1673, aged 54.

BOURDONNE'E, in *Heraldry*, the same with POMEE.

BOURG, the capital of the island of Cayenne, a French colony on the coast of Guiana, in South America, in W. Long. 52. 0. N. Lat. 5. 0.

Bourg-en-Bresse, a town in France, and capital of Bresse, in the province of Burgundy. It is seated on the river Resousse, almost in the centre of Bresse, in E. Long. 4. 19. N. Lat. 46. 13.

Bourg sur-Mer, a sea-port town of France in Guienne, and in the Bourdelois, with a tolerable good harbour: seated at the confluence of the rivers Dordogne and Garonne, in W. Long. 3. 35. N. Lat. 45. 0.

BOURGES, an ancient town of France, in the department of Cher, and formerly an archbishop's see, with a famous university. The archbishop assumes the title

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Bourges, Bouget.

title of *Patriarch of the Aquitains*, and enjoys the rights of primacy with regard to Albi. It is seated between two small rivers, the Every and the Orron, upon a hill that has a gentle descent down to these rivers, by which it is almost surrounded, for there is but one avenue to it by land, which is that of Port Bourbonnoux. It stands upon a great deal of ground; but one part of it is without houses; and the rest is but thinly peopled with gentlemen, students, and ecclesiastics, the whole number of souls amounting only to about 16,400. They have no manner of trade but for their own necessaries. It is divided into the old and new town. The walls of the old are almost entire, and the new town is almost as large as the old. There are several churches, convents, and nunneries. The parish-church, dedicated to St Stephen, is a fine old Gothic structure: it is seated in the highest part of the city, and on each side of the front are two handsome high towers. The new one, which is built in the room of one which fell down, is almost 200 feet high. Bourbon-square is the largest in the city, where there was formerly an amphitheatre, and now a market. There is a fine walk from St Michael's gate into the fields, and three alleys, formed by four ranks of trees, the middlemost of which is spacious; besides which, there is a very long mall. The university is famous for the study of the law. This city stands almost in the centre of France. E. Long. 2. 30. N. Lat. 47. 10.

BOUGET, Dom John, an ingenious French antiquary, was born at the village of Beaumains near Falaise, in the diocese of Seez, in 1724. He was educated at the grammar-school at Caen, whence he was removed to that university, and pursued his studies with great diligence and success till 1745, when he became a Benedictine monk of the abbey of St Martin de Seez. Some time after this, he was appointed prior claustral of the said abbey, and continued six years in that office, when he was nominated prior of Tiron en Perche: whence being translated to the abbey of St Stephen at Caen, in the capacity of sub-prior, he managed the temporalties of that religious house during two years, as he did their spiritualties for one year longer; after which, according to the custom of the house, he resigned his office. His superiors, sensible of his merit and learning, removed him thence to the abbey of Bec, where he resided till 1764. He was elected an honorary member of the Society of Antiquaries of London, Jan. 10. 1765; in which year he returned to the abbey of St Stephen at Caen, where he continued to the time of his death. These honourable offices, to which he was promoted on account of his great abilities, enabled him not only to pursue his favourite study of the history and antiquities of some of the principal Benedictine abbeys in Normandy, but likewise gave him access to all their charters, deeds, register-books, &c. &c. These he examined with great care, and left behind him in MS. large and accurate accounts of the abbeys of St Peter de Jumieges, St Stephen, and the Holy Trinity at Caen (founded by William the Conqueror and his queen Matilda), and a very particular history of the abbey of Bec. These were all written in French. The "History of the Royal Abbey of Bec" (which he presented to Dr Ducarel in 1764) is only an abstract of his larger work. This ancient abbey (which hath produced several archbishops of Canterbury and other illustrious prelates of this kingdom) is frequently mentioned by our old historians. The death of our worthy Benedictine (which happened on new-year's day 1776) was occasioned by his unfortunate neglect of a hurt he got in his leg by falling down two or three steps in going from the hall to the cloister of the abbey of St Stephen at Caen, being deceived by the ambiguous light of a glimmering lamp that was placed in the passage. He lived universally esteemed, and died sincerely regretted by all those who were acquainted with him; and was buried in the church of the said abbey, Jan. 3. 1776.

Bouget ‖ Bourguignons.

BOURGET, a town of Savoy, subject to the king of Sardinia, seated at the southern extremity of a lake of the same name. E. Long. 5. 55. N. Lat. 44. 45.

BOURGOGNE, or Burgundy, as it is called; a considerable province of France, with the title of a duchy. It is 130 miles in length, and 75 in breadth. It is bounded on the east, by the Franche Compte; on the west, by Bourbonnois and Nivernois; on the south, by Lyonnois; and on the north by Champagne. It is very fertile in corn and fruit, and produces excellent wine. It is watered by the rivers Seine, Dehune, Brebince, Armançon, Ouche, Souzon, Tille, and Saone. There are four mineral springs, at Apoigny, Primeau, Bourbon-Lancy, and St Reine. The first are obscure, and the two last in high reputation. In the canton of Bresse, there are two subterranean lakes which often overflow in times of the greatest drought, and lay a large tract of ground under water: one of them has no apparent spring or opening; and yet in a dry season, it throws out water enough to overflow the meadow-land near it. The grottoes or caves of Arcy are seated about 18 miles from Auxerre, and over them is soil about 10 feet deep. The entrance into these cavities is 200 paces long, but narrow. Twenty paces from the entrance is a lake, which seems to be formed by that part of the water that will not petrify. The highest of these vaults is not above eight feet. About 80 paces from the entrance there is a kind of hall, with a coffee-coloured ceiling, wherein there are a thousand odd figures, which have a very agreeable effect. Dijon is the capital town.

BOURGOING, J. F. de, an eminent French writer. See Supplement.

BOURGUIGNONS, or Burgundians, one of the northern nations who overran the Roman empire, and settled in Gaul. They were of a great stature, and very warlike; for which reason the emperor Valentinian the Great engaged them in his service against the Germans. They lived in tents which were close to each other, that they might the more readily unite in arms on any unforeseen attack. These conjunctions of tents they called *burgs*; and they were to them what towns are to us. Sidonius Apollinaris tells us that they wore long hair, took great pleasure in singing, and were fond of praise for their vocal talents. He adds, that they ate great quantities; and anointed their hair with butter, deeming that unction very ornamental. Their crown was at first elective, and the authority of their kings expired with their success. They were not only accountable for their own misconduct, but likewise for the calamities of nature, and the caprice of fortune. They

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Bourignons Bouro.

were deposed if they had lost a battle; if they succeeded ill in any enterprise; or if, in short, any great event had not corresponded with the hopes of the public. They were not more favourably treated in case of a bad harvest or vintage, or if any epidemical distemper had ravaged the state. At first they were governed by many kings, and *kenden* was the title of the royal dignity. But in latter times they were subject to one sovereign; and they grew humane and civilized, especially when Christianity was propagated in their country. Before that epocha their religion was much the same with that of the other northern nations. They had many priests, the chief of whom was distinguished by the name of *sinistrus*. He was perpetual, and they paid him great respect and veneration.

BOURIGNON, ANTONIETTA, a famous enthusiastic preacher and pretended prophetess, was born at Lisle in 1616. At her birth she was so deformed, that it was debated some days in the family whether it was not proper to stifle her as a monster: but her deformity diminishing, she was spared; and afterwards attained such a degree of beauty, that she had her admirers. From her childhood to her old age she had an extraordinary turn of mind. She set up for a reformer, and published a great number of books filled with very singular notions; the most remarkable of which are entitled *The light of the World*, and *The Testimony of Truth*. She was an enemy to reason and common sense, which she maintained ought to give place to the illumination of divine faith; and asserted, that whenever any one was born again by embracing her doctrine, she felt the pains and throws of a woman in labour. Of her pretended visions and revelations we shall give one instance as a sample. In one of her ecstacies she saw Adam in the same form in which he appeared before his fall, and the manner in which he was capable of procreating other men, since he himself possessed in himself the principles of both sexes *. Nay she pretended it was told her that he had carried this procreating faculty so far as to produce the human nature of Jesus Christ. "The first man (says she), whom Adam brought forth without any concurrent assistance in his glorified state, was chosen by God to be the throne of the Divinity; the organ and instrument by which God would communicate himself externally to men: This is Christ the first born united to human nature, both God and man." Besides these and such like extravagancies, she had other forbidding qualities: her temper was morose and peevish, and she was extremely avaricious and greedy of amassing riches. She dressed like a hermit, and travelled to France, Holland, England, and Scotland. In the last she made a strong party, and some thousand sectarists, known by the name of *Bourignonists*. She died at Franeker in the province of Frise, October 30. 1680. Her works have been printed in 18 vols. 8vo.

* See the article *Adam*.

BOURN, a town of Lincolnshire, in England, seated in E. Long. 1. 17. N. Lat. 52. 40. It is a pretty large place, has a good market for corn and provisions, and is noted for the coronation of King Edmund.

BOURNE, or BURN, an appellation anciently given to all little brooks or rivulets, and still used in the same sense in Scotland and in the north of England.

BOURO, an island in the East Indian ocean, between the Moluccas and Celebes. It is well cultivated; and is now subject to the Dutch, who have built a fortress here. Some mountains in it are exceeding high, and the sea on one side is uncommonly deep. It produces nutmegs and cloves, as well as cocoa and banana trees; besides many vegetables introduced by the Dutch. It is about 50 miles in circumference. E. Long. 129. S. Lat. 4. 30.

Bouro Bow.

BOUTANT, or ARCH-BOUTANT, in *Architecture*, an arch, or part of an arch, abutting against the reins of a vault to prevent its giving way.

A Pillar BOUTANT, is a large chain or pile of stone, made to support a wall, terrace, or vault.

BOUTÉ, in the manege. A horse is called *bouté*, when his legs are in a straight line from the kneé to the coronet: short-jointed horses are apt to be bouté, and on the other hand long-jointed horses are not.

BOUTS-RIMES, a popular term in the French poetry; signifying certain rhymes, disposed in order, and given to a poet together with a subject, to be filled up with verses ending in the same words, and the same order. The invention of the bouts-rimes is owing to one Du Lot, a poet, in the year 1649. In fixing the bouts, it is usual to choose such as seem the remotest, and have the least connexion.

Some good authors fancy that these rhymes are of all others the easiest, that they assist the invention, and furnish the most new thoughts of all others. Sarrasin has a poem on the defeat of the bouts-rimes. The academy of Lanternists at Thoulouse have contributed towards keeping in countenance the bouts-rimes, by proposing each year a set of fourteen, to be filled up on the glories of the grand monarque; the victorious sonnet to be rewarded with a fine medal. An instance hereof may be given in the following one, filled up by P. Commire.

Tout est grand dans le roi, l'aspect seul de son buste
Rend nos fiers ennemis plus froids que des glaçons.
Et Guillaume n'attend que le tems des moissons,
Pour se voir soccomber sous un bras si robuste.
Qu'on ne nous vante plus les miracles d' Auguste;
Louis de bien regner lui feroit des leçons:
Horace en vain l'egale aux dieux dans ses chansons:
Moins que mon heros il etoit sage et juste, &c.

BOUTON, an island in the East Indian ocean, about 12 miles distant from the south-east part of the island of Macassar, or Celebes. The inhabitants are small but well shaped, and of a dark olive complexion. The principal town is Callasujung, which is about a mile from the sea, on the top of a small hill, and round it a stone wall. The houses are not built upon the ground, but on posts. The religion of the inhabitants is Mahometanism. E. Long. 122. 30. S. Lat. 4. 30.

BOUVILLON, a city of Luxemburg in the kingdom of the Netherlands, situated in E. Long. 5. 0. N. Lat. 49. 55.

BOW, (*arcus*), a weapon of offence made of wood, horn, or other elastic matter, which, after being strongly bent, by means of a string fastened to its two ends, in returning to its natural state throws out an arrow with great force. It is also called the *long-bow*, by way of distinction from the cross-bow or arbalest.

The bow is the most ancient, and the most universal of

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Bow. of all weapons. It has been found to obtain among the most barbarous and remote people, and who had the least communication with the rest of mankind.

The use of the bow and arrow was first abolished in France under Louis XI. in 1481, and in their place were introduced the Swiss arms, that is, the halberd, pike, and broad-sword. The long-bow was formerly in great vogue in England; most of our victories in France were acquired by it; and many laws were made to regulate and encourage its use. The parliament under Henry VIII. complain "of the disuse of the long-bow, heretofore the safeguard and defence of this kingdom, and the dread and terror of its enemies." 33 Hen. VIII. cap. 6.

The art of using bows is called *archery*, and those practised therein, *archers* or *bowmen*. See ARCHERY.

The strength of a bow may be calculated on this principle, that its spring, i. e. the power whereby it restores itself to its natural position, is always proportionate to the distance or space it is removed therefrom.

The most barbarous nations often excel in the fabric of the particular things which they have the greatest necessity for in the common offices of life. The Laplanders, who support themselves almost entirely by hunting, have an art of making bows, which we, in these improved parts of the world, have never arrived at. Their bow is made of two pieces of tough and strong wood, shaved down to the same size, and flatted on each side; the two flat sides of the pieces are brought closely and evenly together, and then joined by means of a glue made of the skins of perch, which they have in great plenty, and of which they make a glue superior in strength to any which we have. The two pieces, when once united in this manner, will never separate, and the bow is of much more force to expel the arrow, than it could possibly have been under the same dimensions if made only of one piece.

Among the ancients, the bow-string, called τειχανις, was made of horses hair, and hence also called ἱππειος; though Homer's bow-strings are frequently made of hides cut into small thongs: whence τετμηκτα βοεια. The uppermost part of the bow, to which the string was fastened, was called κερων, being commonly made of gold, and the last thing towards finishing the bow. The Grecian bows were frequently beautified with gold or silver; whence we have mention of *aurei arcus*; and Apollo is called Αργυροτοξος. But the matter of which they were ordinarily composed, seems to have been wood: though they were anciently, Scythian-like, made of horn, as appears from that of Pandarus in Homer, Iliad. δ. v. 105.

The invention of the bow is usually ascribed to Apollo, and was communicated to the primitive inhabitants of Crete, who are said to have been the first of mortals who understood the use of bows and arrows. And hence, even in later ages, the Cretan bows were famous, and preferred by the Greeks to all others. Some, however, rather choose to honour Perses, the son of Perseus, with the invention of the bow; while others ascribe it to Scythus, son of Jupiter, and progenitor to the Scythians, who were excellent at this art, and by many reputed the first masters of it. From them it was derived to the Grecians, some of whose ancient nobility were instructed by the Scythians in the use of the bow, which in those days passed for a most princely education. It was first introduced into the Roman army in the second Punic war. Bow.

The Indians still retain the bow. In the repository of the Royal Society we see a West Indian bow two yards long.

The Scythian bow was famous for its incurvation, which distinguished it from the bows of Greece and other nations; being so great as to form a half moon or semicircle: whence the shepherd in Athenæus, being to describe the letters in Theseus's name, and expressing each of them by some apposite resemblance, compares the third to the Scythian bow; meaning not the more modern character Σ, but the ancient C, which is semicircular, and bears the third place in ΘΗCΕVC.

Cross-Bow, is also called *arbalest* or *arbalet*; which word is derived from *arbalista*, i. e. *arcubalista*, "a bow with a sling." The arbalet consists of a steel bow set in a shaft of wood, furnished with a string and a trigger; and is bent with a piece of iron fitted for that purpose. It serves to throw bullets, large arrows, darts, &c. The ancients had large machines for throwing many arrows at once, called *arbalets* or *balistæ*.

Bow, is also an instrument used at sea, for taking the sun's altitude; consisting of a large arch of 90° graduated, a shank or staff, a side vane, a sight vane, and a horizon vane. It is now out of use.

Bow, among builders, a beam of wood or brass, with three long screws that direct a lathe of wood or steel to any arch; chiefly used in drawing draughts of ships and projections of the sphere, or wherever it is requisite to draw large arches.

Bow, in *Music*, a small machine, which being drawn over the strings of a musical instrument, makes it resound. It is composed of a small stick, to which are fastened 80 or 100 horse hairs, and a screw which serves to give these hairs a proper tension. In order that the bow may touch the strings briskly, it is usual to rub the hairs with rosin. The ancients do not appear to have been acquainted with bows of hair: in lieu hereof they touched their instruments with a plectrum; over which our bows have great advantage, for giving long and short sounds, and other modifications which a plectrum cannot produce.

Bow, among artificers, an instrument so called from its figure; in use among gunsmiths, locksmiths, watchmakers, &c. for making a drill go. Among turners it is the name of that pole fixed to the ceiling, to which they fasten the cord that whirls round the piece to be turned.

Bow, a town of Devonshire in England, 188 miles west from London, and a little to the west of Crediton, has a weekly market, and two fairs in the year. The court of the duchy of Lancaster is commonly kept here.

Bows of a Saddle, are two pieces of wood laid archwise to receive the upper part of a horse's back, to give the saddle its due form, and to keep it tight.

The fore-bow which sustains the pommel, is composed of the withers, the breasts, the points or toes, and the corking.

The hind-bow bears the torsequin or quilted roll. The bows are covered with sinews, that is, with bulls pizzles beaten, and so run all over the bows to make them stronger. Then they are strengthened with bands

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Bow. of iron to keep them tight; and on the lower side are nailed on the saddle-straps, with which they make fast the girths.

Bow (*Epaule*), in *Ship-Building*, the rounding part of a ship's side forward, beginning at the place where the planks arch inwards; and terminated where they close, at the stem or prow. It is proved by a variety of experiments, that a ship with a narrow bow is much better calculated for sailing swiftly, than one with a broad bow; but is not so well fitted for a high sea, into which she always *pitches* or plunges her fore part very deep, for want of sufficient breadth to repel the volume of water which she so easily divides in her fall. The former of these is called by seamen a *lean*, and the other a *bluff*, bow. "The bow which meets with the least resistance in a direct course, not only meets with the least resistance in oblique courses, but also has the additional property of driving the least to leeward; which is a double advantage gained by forming the bow so as to give it that figure which will be least resisted in moving through any medium *."

Bougier's Traité de Navire.

On the Bow, in *Navigation*, an arch of the horizon comprehended between some distant object and that point of the compass which is right a-head, or to which the ship's stem is directed. The phrase is equally applicable when the object is beheld from the ship, or discovered by trigonometrical calculation: As, We saw a fleet at day-break bearing three points *on the starboard bow*: that is, three points from that part of the horizon which is right a-head, towards the right hand. See the article BEARING.

Bow-dye, a kind of scarlet red, superior to madder; but inferior to the true scarlet grain for fixedness and duration. It was brought into England, and first practised at the village of Bow, near London, by Kephler, a Dutchman, in the year 1643.

Bow-grace, in the sea-language, a frame or composition of old ropes or junks of cables, used to be laid out at the bows, stems, and sides of ships, to preserve them from great flakes of ice, chiefly when they sail in high north or south latitudes.

Bow-net, or *Bow-wheel*, an engine for catching fish, chiefly lobsters and craw-fish, made of two round wicker baskets, pointed at the end, one of which is thrust into the other; at the mouth is a little rim, four or five inches broad, somewhat bent inwards. It is also used for catching sparrows.

Bow-legged or *Bandy-legged*. Some children are bow-legged from their birth: others become so from setting them on their feet too early. The tibia of some is crooked; the knees of others are distorted; from a fault in the ankle, the feet of some are turned inwards. These are called *vari*; and in others, who are called *valgi*, they are turned outwards. The best method of preventing these disorders in weakly children is to exercise them duly, but not violently, by dancing or tossing them about in one's arms; and not setting them much upon their feet, at least not without properly supporting them: if the disorder attends at the birth, or increases after it is begun, apply emollients, then apply boots of strong leather, wood, &c. so as gradually to dispose the crooked legs to a proper form; or other instruments may be used instead of boots, which, when not too costly, are usually to be preferred. Slighter instances of these disorders yield to careful nursing, without instruments.

Bow Bowling.

Bow-line, or *Bowling*, a rope fastened near the middle of the leech, or perpendicular edge of the square sails, by three or four subordinate parts called *bridles*. It is only used when the wind is so unfavourable that the sails must be all braced sideways, or close hauled to the wind: in this situation the bow-lines are employed to keep the weather or windward edges of the principal sails tight, forward, and steady, without which, they would always be shivering, and rendered incapable of service. To *check* the bow-line is to slacken it, when the wind becomes large.

Bow-Pieces, are the pieces of ordnance at the bow of a ship.

Rain-Bow. See *RAIN-BOW*.

Bow-Bearer, an inferior officer of the forest, who is sworn to make inquisition of all trespasses against vert or venison, and to attach offenders.

BOWELS, in *Anatomy*, the same with intestines. See ANATOMY *Index*.

BOWER, in *Gardening*, a place under covert of trees, differing only from an arbour, as being round or square, and made with a kind of dome or ceiling at top; whereas the arbour is always built long and arched.

BOWER, in the sea-language, the name of an anchor carried at the bow of a ship. There are generally two bowers, called *first* and *second*, *great* and *little*, or *best* and *small* bower. See ANCHOR.

BOWESS, or BOWET, in *Falconry*, a young hawk, when she draws any thing out of her nest, and covets to clamber on the boughs.

BOWL, denotes either a ball of wood, for the use of bowling: or a vessel of capacity, wherein to hold liquors.

BOWLDER STONES, small stones of a roundish figure, and no determinate size, found on the sea-shore, and on banks or rather channels of rivers.

BOWLING, the art of playing at bowls.—This game is practised either in open places, as bares and bowling-greens, or in close-bowling-alleys.

The skill of bowling depends much on a knowledge of the ground, and the right choice of a bowl suitable to it: for close alleys, the flat bowl; for green swards, plain and level, the bowl as round as a ball is preferred.

The terms used in bowling are, to *bowl wide*, which is when the bias does not hold, or is not strong enough; *narrow*, when it is too strong, or holds too much; *finely bowled*, is when the ground is well chosen, and the bowl passes near the block, even though it goes much beyond it; *bowling through*, or a *yard over*, is done in order to move the block; an *over-bowl*, that which goes beyond it; a *bowl laid at hand*, is that put down within the gamester's reach, to be in the way of the next bowler, and hinder his having the advantage of the best ground; *bowling at length*, neither bowling through nor short; a *dead length*, a just or exact one; *throwing* or *flinging*, is discharging a bowl with a strength purposely too great for a length, in order to carry off either the block or some near bowl; *bowl-room*, or *missing-wood*, is when a bowl has free passage without striking on any other; *get off*, is when a bowl being

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Bowling || Bowyer.

being narrow, is wanted to be wider; *bowl best at block*, that nearest the block: *drawing a cast or bowl*, is to win it by bowling nearer, without stirring either the bowl or block; a bowl is said to *rub*, when it meets with some obstacle in the ground, which retards its motion, and weakens its force; *it is gone*, when far beyond the block. *Block* signifies a little bowl laid for a mark, also called a *jack*. *Mark*, is a proper bowling distance, not under so many yards; and being at least a yard and a half from the edge of the green. *Ground*, a bag or handkerchief laid down to mark where a bowl is to go. *Lead*, the advantage of throwing the block, and bowling first. *Cast*, is one best bowl at an end. *End*, a hit, or when all the bowls are out. The *game*, or *up*, is five casts or best bowls.

Bowling-Green, in *Gardening*, a kind of parterre in a grove, laid with fine turf, requiring to be frequently mowed, laid out in compartments of divers figures, with dwarf-trees and other decorations. Bowling-greens are of English origin, but have been adopted by the French and Italians, who have them only for ornament; being unacquainted with or not fancying the exercise, on account of which they were first made in England.

Bowling-Bridles, are the ropes by which the bowline is fastened to the leech of the sail.

BOWSE, in the sea-language, signifies as much as to *hale* or *pull*. Thus *bowsing upon a tack*, is hauling upon a tack. *Bowse away*, that is, Pull away all together.

BOWSPRIT, or BOLTSPRIT, a kind of mast, resting slopewise on the head of the main stern, and having its lower end fastened to the partners of the fore-mast, and farther supported by the fore stay. It carries the sprit-sail, sprit-top-sail, and jack-staff; and its length is usually the same with that of the fore-mast.

BOWYER, WILLIAM, the most learned printer of his age, was born at White Friars in London, December 17. 1699. His father, whose name also was William, had been eminent in the same profession; and his maternal grandfather (Icabod Dawks) was employed in printing the celebrated Polyglott bible of Bishop Walton. At a proper age, he was placed for grammatical education under the care of Mr Ambrose Bonwicke, a nonjuring clergyman of known piety and learning, who then lived at Headly, near Leatherhead in Surry. Here Mr Bowyer made great advances in literature, and a firm attachment commenced betwixt him and his master. On the 30th of January 1713, the whole property of the elder Mr Bowyer was destroyed by fire; on which occasion Mr Bonwicke generously undertook the education of his pupil for one year. In 1716, young Mr Bowyer was admitted a sizar at St John's college, Cambridge, where Dr Robert Jenkin was at that time master. He continued at the college of Cambridge under the tuition of the reverend Dr John Newcombe till June 1722, during which period he probably took his degree of bachelor of arts; and it appears that he was desirous of obtaining a fellowship, though it is not certain that he ever stood a candidate for that honour. Soon after this he had an opportunity of repaying the kindness which Mr Bonwicke had shown him, by officiating some time after his death in the capacity of a schoolmaster for the benefit of his family.

Bowyer.

Mr Bowyer now entered into the printing-business along with his father. One of the first books which received the benefit of his correction was the complete edition of Selden, in three volumes folio, by Dr David Wilkins. This edition was begun in 1722, and finished in 1726; and Mr Bowyer's great attention to it appeared in his drawing up an epitome of Selden *de Synedriis*, as he read the proof sheets. In 1727, he drew up an excellent sketch of William Baxter's Glossary of the Roman Antiquities. This was called "A view of a book entitled *Reliquiæ Baxterianæ*. In a letter to a friend." A single sheet 8vo. By this first public proof of Mr Bowyer's abilities, Dr Wotton and Mr Clarke were highly pleased; but as it was never published, and a very few copies printed, it is seldom found with the glossary. In 1727 Mr Bowyer lost his mother; on which occasion he received a letter of consolation from Mr Chishull the learned editor of the *Antiquitates Asiaticæ*. In October 1728 he married Miss Ann Prudom, his mother's niece, a very accomplished lady, by whom he had two sons, William and Thomas: the former of whom died an infant, and the latter survived his father. In 1729 Mr Bowyer published a curious treatise, entitled, "A Pattern for young Students in the University; set forth in the Life of Ambrose Bonwicke, some time scholar of St John's College, Cambridge:" but though this treatise was generally ascribed to Mr Bowyer, it was in reality the production of Mr Ambrose Bonwicke the elder. About this time it appears, that Mr Bowyer had written a pamphlet against the Separatists, though neither the title nor the occasion of it are now remembered. The same year, through the friendship of the Right Hon. Arthur Onslow, he was appointed printer of the votes of the house of commons; which office he held, under three successive speakers, for near fifty years. In 1731 Mr Bowyer published, and, it is believed, *translated*, Voltaire's Life of Charles XII. This year also his wife died; on which occasion his friends Mr Clarke and Mr Chishull wrote him very affectionate and Christian letters. He remained a widower till 1747, when he married a very benevolent and worthy woman, Mrs Elizabeth Bill, by whom he had no children. In 1733 he published a piece in two sheets 4to, entitled, "The Beau and the Academic:" being a translation from a Latin poem recited that year at the Sheldonian theatre: and in 1736 he was admitted into the Society of Antiquarians, where he became an active and useful member. In 1737 Mr Bowyer lost his father; and on this occasion Mr Clarke again addressed to him a letter of consolation. In 1742 our author published a translation of Trapp's Latin Lectures on Poetry, in which he was assisted by Mr Clarke, though the latter had a contemptible opinion of the performance.

In 1749, Mr Bowyer, along with Dr Burton, was virulently attacked by Dr King in a piece entitled *Elogium famæ inserviens Jacci Etonensis sive Gigantis:* or "The praises of Jack Eaton, commonly called *Jack the Giant*."—This abuse was probably occasioned by Mr Bowyer's having hinted in conversation some doubts concerning the Doctor's skill in Latin. Our author drew up some strictures in his own defence, which he intended to insert at the conclusion of a preface to Montesquieu's Reflections; but by Dr Clarke's advice they

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Bowyer. they were omitted. In 1750, a prefatory critical dissertation and some notes were annexed by our author to Kuster's Treatise *De usu verborum mediorum*; a new edition of which, with farther improvements, appeared in 1773. He wrote likewise about the same time a Latin preface to Leedes's *Veteres poetæ citati*, &c.—Being soon after employed to print an edition of Col. Bladen's translation of Cæsar's Commentaries, that work received considerable improvements from Mr Bowyer's hands, with the addition of such notes in it as are signed TYPOGR. In the subsequent editions of this work, though printed by another person during our author's lifetime, the same signature, though contrary to decorum, and even to justice, was still retained. In 1751, he wrote a long preface to Montesquieu's "Reflections on the rise and fall of the Roman Empire;" translated the dialogue between Sylla and Socrates; made several corrections to the work from the Baron's "Spirit of Laws;" and improved it with his own notes. A new edition, with many new notes, was printed in 1759. In 1751 he also published the first translation that ever was made of Rousseau's paradoxical oration, which gained the prize at the academy of Dijon in 1750; and which first announced that singular genius to the attention and admiration of Europe. On the publication of the third edition of Lord Orrery's "Remarks on the Life and Writings of Dr Swift," in 1752, Mr Bowyer wrote and printed, but never published, "Two Letters from Dr Bentley in the Shades below, to Lord Orrery in a Land of thick darkness." The notes signed B, in the ninth quarto volume of Swift's works, are extracted from these Letters. In 1753, he endeavoured to allay the ferment occasioned by the Jew bill; with which view he published, in quarto, "Remarks on the speech made in common-council, on the bill for permitting persons professing the Jewish religion to be naturalized, so far as prophecies are supposed to be affected by it." This little tract was written with spirit, and well received by those who were superior to narrow prejudices. Its design was to show that whatever political reasons might be alleged against the bill, Christianity was in no danger of being prejudiced by the intended protection promised to the Jews. The same year some of Mr Bowyer's notes were annexed to Bishop Clayton's translation of "A Journal from Grand Cairo to Mount Sinai and back again."—In 1754, Mr Bower, with a view of lessening his fatigue, entered into partnership with a relation; but some disagreement arising, the connection was dissolved in three years. On the death of Mr Richardson in 1761, Mr Bowyer succeeded him as printer to the Royal Society, through the favour of the late Earl of Macclesfield; and, under the friendship of five successive presidents, enjoyed that office till his death.

In 1763, Mr Bowyer published an excellent edition of the Greek Testament, in two vols 12mo. It appeared under the following title: *Novum Testamentum Græcum; ad fidem Græcorum solum Codicum MSS. nunc primum impressum, adstipulante Joanne Jacobo Wetstenio, juxta Sectiones Jo. Alberti Bengelii divisum; et nova interpretatione sæpius illustratum. Accessere in altero volumine, Emendationes conjecturales virorum doctorum undecunque collectæ.* This sold with great rapidity: the Conjectural Emendations were well received by the learned, and are thought to be a valuable work. Bowyer. The president and fellows of Havard college in Cambridge expressed their approbation of this edition in very high terms, in a letter to Mr Bowyer, written in the year 1767. "This work (say they), though small in bulk, we esteem as a rich treasure of sacred learning, and of more value than many large volumes of the commentators." A second edition of the Conjectures on the New Testament, with very considerable enlargements, was separately published, in one vol. 8vo, in 1772. Bishop Warburton having censured a passage in the former edition, Mr Bowyer sent him a copy of this book, with a conciliatory letter. Dr Warburton's Divine Legation had received very considerable advantage from Mr Bowyer's corrections; and this even in an edition which was necessarily given to another press. In 1761 he was employed to print his Lordship's Doctrine of Grace. A second edition being soon wanted, and Mr Bowyer not having been intrusted with the care of it, he prepared a series of letters to the bishop in his own defence; of which, together with a few he had formerly received from that great writer, he afterwards printed *twelve copies*, of which *ten* have since been destroyed. However, there is the best authority for asserting, that notwithstanding any little altercations which happened, Dr Warburton always retained a sincere regard for our author. In 1765, at the request of Thomas Hollis, Esq. Mr Bowyer wrote a short Latin preface to Dr Wallis's *Grammaticæ Linguæ Anglicanæ*. He wrote also a large English preface for the same work, which, however, still remains unprinted. In 1766 he entered into partnership with Mr Nichols, who had been trained by him to the profession, and had for several years assisted him in the management of his business. The same year, Mr Bowyer wrote an excellent Latin preface to *Joannis Harduini, Jesuitæ, ad Censuram Scriptorum veterum Prolegomena. Juxta Autographum.* In 1767 he was appointed to print the journals of the house of lords and the rolls of parliament. This year he printed Mr Clarke's excellent and learned work on "The Connection of the Roman, Saxon, and English Coins;" and wrote some notes upon it, which are interspersed throughout the volume with those of the author. Part of the Dissertation on the Roman sesterce was likewise Mr Bowyer's production; and the index, which is an uncommonly good one, was drawn up by him entirely.

In January 1771 Mr Bowyer lost his second wife, and again received a letter of consolation from his old friend Mr Clarke, who had sent him one almost forty years before on a similar occasion. In the Philosophical Transactions for this year was printed a very ingenious "Inquiry into the Value of the ancient Greek and Roman Money," by the late Matthew Raper, Esq. But his opinions not coinciding with those of Mr Bowyer, he printed a small pamphlet, entitled, "Remarks, occasioned by a late Dissertation on the Greek and Roman Money." In 1773 three little tracts were published by him, under the title of "Select Discourses. 1. Of the correspondence of the Hebrew months with the Julian, from the Latin of Professor Michaelis. 2. Of the Sabbatical years, from the same. 3. Of the years of Jubilee, from an anonymous writer in Masson's Histoire Critique de la Republique des

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Bowyer, Box.

des Lettres." In 1774 he corrected a new edition of Schrevelius's Greek Lexicon; to which he has added a number of words, distinguished by an asterisk, which he himself had collected in the course of his studies. Considerable additions, still in manuscript, were made by him to the lexicons of Hederic and Buxtorf, the Latin ones of Faber and Littleton, and the English Dictionary of Bailey; and he left behind him many other proofs of his critical skill in the learned languages. In 1774 was published, "The origin of printing, in two essays. 1. The substance of Dr Middleton's Dissertation on the Origin of Printing in England. 2. Mr Meerman's Account of the Invention of the art at Haarlem, and its progress to Mentz, with occasional Remarks, and an appendix." The original idea of this valuable tract was Mr Bowyer's, but it was completed by Mr Nichols.

Although our author, during the last ten years of his life, had been afflicted with the palsy and stone, he not only preserved a remarkable cheerfulness of temper, but was enabled to support the labour of almost incessant reading; and he regularly corrected the learned works, especially the Greek books, which came from his press. This he continued to do till within a few weeks of his death, which happened in November 1777, when he had nearly completed his 78th year. For more than half a century Mr Bowyer was unrivalled as a learned printer; and many of the most masterly productions of this kingdom have come from his press. To his literary and professional abilities he added an excellent moral character; and he was particularly distinguished by his inflexible probity, and an uncommon alacrity in relieving the necessitous.

BOWYERS, artificers whose business is to make bows: in which sense, bowers stand distinguished from fletchers, who made arrows.

The bowyers company in London was incorporated in 1620: and consists of a master, two wardens, twelve assistants, and 30 on the livery. See ARCHERY.

BOX, in its most common acceptation, denotes a small chest or coffer for holding things.

Dice-Box, a narrow deep cornet, channelled within, wherein the dice are shaken and thrown. This answers to what the Romans called *fritillus*; whence, *crepitantes fritilli*; and, in Seneca, *resonante fritillo*. The same author uses also *concutere fritillum*, figuratively, for playing. Besides the fritillus, the Romans, for greater security, had another kind of dice-box called *pyrgus*, πυργος, and sometimes *turricula*. It was placed immoveable in the middle of the table, being perforated or open at both ends, and likewise channelled within; over the top was placed a kind of funnel, into which the dice were cast out upon the fritillus; whence descending, they fell through the bottom on the table; by which all practising on them with the fingers was effectually prevented. For want of some contrivance of this kind, our sharpers have opportunities of playing divers tricks with the box, as palming, topping, slabbing, &c.

Box, is also used for an uncertain quantity or measure: Thus a box of quicksilver contains from one to two hundred weight; a box of prunellas only 14 pounds; a box of rings for keys, two gross, &c.

Box-Tree. See BUXUS, BOTANY *Index*.

African Box. See MYRSINE, BOTANY *Index*.

Boxers Boxing.

BOXERS, a kind of *athletæ*, who combat or contend for victory with their fists. Boxers amount to the same with what among the Romans was called *pugiles*. The ancient boxers battled with great force and fury, insomuch as to dash out each others teeth, break bones, and often kill each other. The strange disfigurements the boxers underwent were such that they frequently could not be known, and rendered them the subject of many railleries. In the Greek anthology there are four epigrams of the poet Lucilius, and one of Lucian, wherein their disfigurements are pleasantly enough exposed. See BOXING.

BOXHORNIUS, MARC ZUERIUS, a learned critic, born at Bergen-op-Zoom in 1612, was professor of eloquence at Leyden, and at length of politics and history in the room of Heinsius. He published, 1. *Theatrum urbium Hollandiæ*. 2. *Scriptores historiæ Augustæ, cum notis*. 3. *Poetæ satyrici minores, cum comment*. 4. Notes on Justin, Tacitus; and a great number of other works. He died in 1653, aged 41.

BOXING, the exercise of fighting with the fists, either naked or with a stone or leaden ball grasped in them: in which sense, boxing coincides with the *pugillatus* of the Romans, and what in our amphitheatres is sometimes called trial of manhood. When the champions had σφαιραι, or balls, whether of lead or stone, it was properly denominated σφαιρομαχια. The ancient boxing differed from the *pugna cæstuum*, in which the combatants had leathern thongs on their hands, and balls to offend their antagonists; though this distinction is frequently overlooked, and fighting with the *cæstus* ranked as a part of the business of *pugiles*. We may distinguish three species of boxing; viz. where both the head and hands were naked; where the hands were armed and the head naked; and where the head was covered with a kind of cap, called *amphotides*, and the hands also furnished with the *cæstus*.

Boxing is an ancient exercise, having been in use in the heroic ages. Those who prepared themselves for it, used all the means that could be contrived to render themselves fat and fleshy, that they might be better able to endure blows: whence corpulent men or women were usually called *pugiles*, according to Terence: *Siqua est habilior paulo, pugilem esse aiunt*.

In modern times this art has been in a manner appropriated by the English. About half a century ago it formed as regular an exhibition as we now see at any of the places of public amusements, the theatres alone excepted. It was encouraged by the first ranks of the nobility, patronized by the first subjects in the realm, and tolerated by the magistrates. Before the establishment of Broughton's amphitheatre, a booth was erected at Tottenham Court, in which the proprietor, Mr George Taylor, invited the professors of the art to display their skill, and the public to be present at its exhibition. The bruisers then had the reward due to their prowess, in a division of the entrance money, which sometimes was 100l. or 150l. The general mode of sharing was for two-thirds to go to the winning champion, while the remaining third was the right of the loser; though sometimes by an express agreement of the parties, the conqueror and the vanquished shared alike. The nobility and gentry having complained of the inconveniences sustained at Taylor's Booth, prevailed on Mr Broughton, who was then

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Boxing || Boyd.

then rising into note, as the first bruiser in London, to build a place better adapted for such exhibitions. This was accordingly done in 1742, principally by subscription, behind Oxford-road. The building was called Broughton's New Amphitheatre; and, besides the stage for the combatants, had seats corresponding to the boxes, pit, and galleries, much in the same manner with those at Astley's. After a course of years, however, these exhibitions became gradually less patronized and frequented, owing probably to the refinement of our manners. Some time ago, indeed, they seemed to be revived, and very considerably engaged the attention of the public; but a fatal issue which attended one of them, brought the practice again into disrepute. One of the combatants was killed on the spot. His royal highness the prince of Wales was present, and declared that he would have some settlement made on the nearest relation of the deceased, but that, on account of the dreadful example he had then witnessed, he would never more either see or patronize another stage-fight.

BOXING, among sailors, is used to denote the rehearsing the several points of the compass in their proper order.

BOXING is also used for the tapping of a tree, to make it yield its juice. The boxing of maple is performed by making a hole with an axe or chissel into the side of the tree, about a foot from the ground; out of it flows a liquor of which sugar is made.

BOXTEHUDE, a town of Germany, in the circle of Lower Saxony, subject to the Danes. It is seated on the rivulet Esse, which falls into the Elbe, in E. Long. 9. 35. N. Lat. 53. 40.

BOXTEL, a town in Dutch Brabant, with sluices, seated on the river Bommel. E. Long. 5. 15. N. Lat. 51. 30.

BOYAR, a term used for a grandee of Russia and Transylvania. Becman says that the boyars are the upper nobility; and adds, that the Czar of Muscovy, in his diplomas, names the boyars before the waywodes. See WAYWODE.

BOYAU, in *Fortification*, a ditch covered with a parapet, which serves as a communication between two trenches. It runs parallel to the works of the body of the place; and serves as a line of contravallation, not only to hinder the sallies of the besieged, but also to secure the miners. But when it is a particular cut that runs from the trenches to cover some spot of ground, it is drawn so as not to be enfiladed or scoured by the shot from the town.

BOYD, MARK ALEXANDER, an extraordinary genius, was son of Robert Boyd, who was eldest son of Adam Boyd of Pinkhill, brother to Lord Boyd. He was born in Galloway on the 13th of January 1562; and came into the world with teeth. He learned the rudiments of the Latin and Greek languages at Glasgow, under two grammarians; but was of so high and untractable a spirit, that they despaired of ever making him a scholar. Having quarrelled with his masters, he beat them both, burnt his books, and forswore learning. While he was yet a youth, he followed the court, and did his utmost to push his interest there; but the fervour of his temper soon precipitated him into quarrels, from which he came off with honour and safety, though frequently at the hazard of his life. He, with the approbation of his friends, went to serve in the French army, and carried his little patrimony with him, which he soon dissipated at play. He was shortly after roused by that emulation which is natural to great minds, and applied himself to letters with unremitted ardour, till he became one of the most consummate scholars of his age. He is said to have translated Cæsar's Commentaries into Greek in the style of Herodotus, and to have written many Latin poems which were little inferior to the first productions of the Augustan age. He also left several manuscripts on philological, political, and historical subjects, in Latin and French, which languages were as familiar to him as his native tongue. He could with facility dictate to three amanuenses at the same time, in different languages, and on different subjects. He was also one of the best Scottish poets of the age. To all this we must add, that his personal beauty and accomplishments were equal to his mental superiority. He died at Pinkhill in Scotland, in 1601. The following works, which are all that have been printed, were published in the *Deliciæ Poetarum Scotorum;* Amstel. 1637, 12mo. 1. *Epigrammata*, lib. ii. 2. *Heroidum Epistolæ* XIV. lib. ii. 3. *Hymni* XIV.

Boyd, Boyer.

BOYER, ABEL, a well-known glossographer and historiographer, born at Castres in France, in 1664. Upon the revocation of the edict of Nantz, he went first to Geneva, then to Franeker, where he finished his studies; and came finally to England, where he applied himself so assiduously to the study of the English language, and made so great a proficiency therein, that he became an author of considerable note in it, being employed in the writing of several periodical and political works. He was for many years concerned in a newspaper called the *Post-boy*, of which he had the principal management. He likewise published a monthly work entitled the *Political State of Great Britain*. He wrote a life of Queen Anne in folio, which is esteemed a very good chronicle of that period of the English history. But what has rendered him the most known, and has most firmly established his reputation, are the excellent Dictionary and Grammar of the French language, which he compiled, and which are still reckoned the best in their kind. He also wrote, or rather translated from the French of M. de Racine, the tragedy of Iphigenia, which he published under the title of *The Victim*. It was performed with success at the theatre of Drury-Lane, and is far from being a bad play. Nor can there perhaps be a stronger instance of the abilities of its author, than success in such an attempt; since writing with any degree of correctness or elegance, even in prose, in a foreign language, is an excellence not very frequently attained; but to proceed so far in the perfection of it as to be even tolerable in poetry, and more especially in that of the drama, in which the diction and manner of expression require a peculiar dignity and force, and in a language so difficult to attain the perfect command of as the English, is what has been very seldom accomplished. He died in 1729.

BOYER, in *Navigation*, a kind of Flemish sloop, or small vessel of burden, having a bolteprit, a castle at each end, and a tall mast; chiefly fit for the navigation of rivers, and in many of its parts resembling a smack.

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Boyes, Boyle.

BOYES, idolatrous priests among the savages of Florida. Every priest attends a particular idol, and the nativss address themselves to the priest of that idol to which they intend to pay their devotion. The idol is invoked in hymns, and his usual offering is the smoke of tobacco.

BOYLE, RICHARD, one of the greatest statesmen of the 17th century, and generally styled the *Great earl of Cork*, was the youngest son of Mr Roger Boyle, and was born at Canterbury, on the 3d of October 1566. He studied at Bennet college, Cambridge, and afterwards became a student in the Middle Temple. Having lost his father and mother, and being unable to support himself in the prosecution of his studies, he became clerk to Sir Richard Manhood, one of the chief barons of the exchequer; but finding that by his employment he could not improve his fortune, he went to Ireland in 1588, with fewer pounds in his pocket than he afterwards acquired thousands a-year. He was then about 22, had a graceful person, and many accomplishments, which enabled him to render himself useful to several of the principal persons employed in the government, by drawing up for them memorials, cases, and answers. In 1595, he married Jean the daughter and co-heiress of William Ansley, who had fallen in love with him; and she dying in 1599 in labour of her first child, which was stillborn, left him an estate of 500l. a-year in land. In consequence of various services, and the great abilities he displayed, he gradually rose to the highest offices, and even to the dignity of the peerage of Ireland; to which he was raised by King James I. on the 29th of September 1616, by the style and title of *baron of Youghall*, in the county of Cork: four years after, he was created Viscount Dungarvan and earl of Cork; and in 1631 was made lord treasurer of Ireland, an honour that was made hereditary to his family. He particularly distinguished himself by the noble stand he made, when the fatal rebellion broke out in that kingdom, in the reign of Charles I.; and in his old age acted with as much bravery and military skill, as if he had been trained from his infancy to the profession of arms. He turned the castle of Lismore, his capital seat, into a fortress capable of demanding respect from the Irish. He immediately armed and disciplined his servants and Protestant tenants; and by their assistance, and a small army raised and maintained at his own expence, which he put under the command of his four sons, defended the province of Munster, and in the space of a year took several strong castles, and killed upwards of 3000 of the enemy: during which time he paid his forces regularly; and when all his money was gone, like a true patriot converted his plate into coin. This great man died on the 15th of September 1634.

BOYLE, *Richard*, earl of Burlington and Cork, son to the former, was a nobleman of unblemished loyalty in rebellious times, and of untainted integrity in times of the greatest corruption. He was born at Youghall, October 20. 1612, while his father was in the beginning of his prosperity, and only Sir Richard Boyle. He distinguished himself by his loyalty to King Charles I. He not only commanded troops, but raised and for a long time paid them, and continued to wait upon the king as long as any one place held out for him in England, and then was forced to compound for his estate. He contributed all in his power to the Restoration; on which King Charles II. raised him to the dignity of earl of Burlington, or Bridlington, in the county of York, in the year 1663. He died Jan. 15. 1697-8, in the 86th year of his age. Boyle.

BOYLE, *Roger*, earl of Orrery, younger brother of the former, and the fifth son of Richard, styled the *Great earl of Cork*, was born April 25. 1621; and by the credit of his father with the lord deputy Faulkland, raised to the dignity and title of *Baron Broghill*, when only seven years old. He was educated at the college of Dublin, where he soon distinguished himself as an early and promising genius. He afterwards made the tour of France and Italy; and at his return assisted his father in opposing the rebellious Irish, in which he behaved with all the spirit of a young, and all the discretion of an old, officer. Upon the murder of the king, he retired to Marston in Somersetshire, and hid himself in the privacy of a close retirement; but being at length ashamed to sit the tame spectator of all the mischief that appeared round him, he resolved to attempt something in favour of the king; and under the pretence of going to the Spa for the recovery of his health, he determined to cross the seas, and apply himself to King Charles II. for a commission to raise what forces he could in Ireland, in order to restore his majesty, and recover his own estate. To this purpose, he prevailed on the earl of Warwick to procure a license for his going to the Spa; and having raised a considerable sum of money, came up to London to prosecute his voyage; but he had not been long in town when he received a message from Cromwell, who was then general of the parliament's forces, that he intended to wait upon him. The lord Broghill was surprised at this message, having never had the least acquaintance with Cromwell; and desired the gentleman to let the general know, that he would wait upon his excellency. But while he was waiting the return of the messenger, Cromwell entered the room; and after mutual civilities had passed between them, told him in few words, that the committee of state were apprised of his design of going over and applying to Charles Stuart for a commission to raise forces in Ireland; and that they were determined to make an example of him, if he himself had not diverted them from that resolution. The lord Broghill interrupted him, by assuring him that the intelligence which the committee had received was false, and that he neither was in a capacity nor had any inclination to raise disturbances in Ireland: but Cromwell, instead of making any reply, drew some papers out of his pocket, which were the copies of several letters which the lord Broghill had sent to those persons in whom he most confided, and put them into his hands. The lord Broghill, upon the perusal of these papers, finding it to no purpose to dissemble any longer, asked his excellency's pardon for what he had said, returned him his humble thanks for his protection against the committee, and intreated his direction how to behave in such a delicate conjecture. Cromwell told him, that though till this time he had been a stranger to his person, he was not so to his merit and character: he had heard how gallantly his lordship had behaved in the Irish wars; and therefore, since he was named *lord lieutenant of Ireland*, and the reducing that kingdom was now become his province, he had

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Boyle. obtained leave of the committee to offer his lordship the command of a general officer, if he would serve in that war; and he should have no oaths or engagements imposed upon him, nor be obliged to draw his sword against any but the Irish rebels. Boyle.

The lord Broghill was infinitely surprised at so generous and unexpected an offer. He saw himself at liberty, by all the rules of honour, to serve against the Irish, whose rebellion and barbarities were equally detested by the royal party and the parliament. He desired, however, some time to consider of what had been proposed to him. But Cromwell briskly told him, that he must come to some resolution that very instant: that he himself was returning to the committee, who were still sitting; and if his lordship rejected their offer, they had determined to send him to the Tower. Upon this, the lord Broghill, finding that his liberty and life were in the utmost danger, gave his word and honour that he would faithfully serve him against the Irish rebels: on which Cromwell once more assured him, that the conditions which he had made with him should be punctually observed; and then ordered him to repair to Bristol, adding, that he himself would soon follow him into Ireland. Lord Broghill, therefore, having settled the business of his command, went over into that country; where, by his conduct and intrepidity, he performed many important services, and fully justified the opinion Cromwell had conceived of him. By his own interest he now raised a gallant troop of horse, consisting chiefly of gentlemen attached to him by personal friendship; which corps was soon increased to a complete regiment of 1500 men. These he led into the field against the Irish rebels; and was speedily joined by Cromwell, who placed the highest confidence in his new ally, and found him of the greatest consequence to the interest of the commonwealth.

Among other considerable exploits performed by Lord Broghill, the following deserves to be particularly mentioned. Whilst Cromwell laid siege to Clonmell, Broghill being detached to disperse a body of 5000 men who had assembled to relieve the place, he with 2000 horse and dragoons, came up with the enemy at Maccrooms on the 10th of May 1656; and, without waiting for the arrival of his foot, immediately attacked and routed them, making their general prisoner. Then proceeding to the castle of Carrigdrohid, he sent a summons to the garrison to surrender before the arrival of his battering cannon, otherwise they were to expect no quarter. His own army was surprised at this summons, as knowing he had not one piece of heavy cannon: but Broghill had ordered the trunks of several large trees to be drawn at a distance by his baggage horses; which the besieged perceiving, and judging from the slowness of the motion that the guns must be of a vast bore, immediately capitulated. He afterwards relieved Cromwell himself at Clonmell, where that great commander happened to be so dangerously situated, that he confessed, nothing but the seasonable relief afforded him by Lord Broghill could have saved him from destruction. When Ireton sat down before Limerick, he gave Broghill 600 foot and 400 horse, with orders to prevent Lord Muskerry's joining the pope's nuncio, who had got together a body of 8000 men, and was determined to attempt the relief of Limerick. Muskerry was at the head of 1000 horse and dragoons, and about 2000 foot: notwithstanding which, Lord Broghill fell resolutely upon him. The Irish, having the advantage of the ground and numbers, would have conquered, but for a stratagem of Lord Broghill. In the heat of the action he desired those about him to repeat what he said; and then cried out as loud as he could, "They run, they run." The first line of the Irish looked round to see if their rear broke; and the rear seeing the faces of their friends, and hearing the shouts of the enemy, imagined that the first line was routed, and fled. The taking of Limerick, which put an end to the war in Ireland, was the consequence of this defeat.

When Cromwell became protector, he sent for Lord Broghill, merely to take his advice occasionally. And we are told, that, not long after his coming to England, he formed a project for engaging Cromwell to restore the old constitution. The basis of the scheme was to be a match between the king (Charles II.) and the protector's daughter. As his lordship maintained a secret correspondence with the exiled monarch and his friends, it was imagined that he was beforehand pretty sure that Charles was not averse to the scheme, or he would not have ventured to have proposed it seriously to Cromwell; who at first seemed to think it not unfeasible. He soon changed his mind, however, and told Broghill that he thought his project impracticable: "For (said he) Charles can never forgive me the death of his father." In fine, the business came to nothing, although his lordship had engaged Cromwell's wife and daughter in the scheme; but he never durst let the protector know that he had previously treated with Charles about it.

On the death of the protector, Lord Broghill continued attached to his son Richard, till, when he saw that the honesty and good-nature of that worthy man would infallibly render him a prey to his many enemies, he did not think it advisable to sink with a man that he could not save. The dark clouds of anarchy seemed now to be hovering over the British island. Lord Broghill saw the storm gathering, and he deemed it prudent to retire to his command in Ireland, where he shortly after had the satisfaction of seeing things take a turn extremely favourable to the design that he had long been a wellwisher to, viz. that of the king's restoration. In this great event Lord Broghill was not a little instrumental; and, in consideration of his eminent services in this respect, Charles created him earl of Orrery by letters-patent bearing date September 5. 1660. He was soon after made one of the lords justices of Ireland; and his conduct, while at the head of affairs in that kingdom, was such as greatly added to the general esteem in which his character was held before.

His lordship's active and toilsome course of life at length brought upon him some diseases and infirmities which gave him much pain and uneasiness; and a fever which fell into his feet, joined to the gout with which he was often afflicted, abated much of that vigour which he had shown in the early part of his life: but his industry and application were still the same, and bent to the same purposes; as appears from his letters, which show at once a capacity, and an attention to business, which do honour to that age, and may serve as an example to this.

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Notwithstanding

Boyle.

Notwithstanding his infirmities, on the king's desiring to see his lordship in England, he went over in 1665. He found the court in some disorder; where his majesty was on the point of removing the great earl of Clarendon, lord high chancellor; and there was also a great misunderstanding between the two royal brothers. Lord Orrery undertook to reconcile the king with the duke of York; which he effected by prevailing on the latter to ask his majesty's pardon for some steps he had taken in support of the lord chancellor.

On his return to Ireland, he found himself called to a new scene of action. The Dutch war was then at its height; and the French, in confederacy with the Hollanders, were endeavouring to stir up the ashes of rebellion in Ireland. The duke de Beaufort, admiral of France, had formed a scheme for a descent upon Ireland; but this was rendered abortive by the extraordinary diligence, military skill, and prudent measures, of Lord Orrery.

But, in midst of all his labours, a dispute arose, founded on a mutual jealousy of each other's greatness, betwixt him and his old friend the duke of Ormond, then lord lieutenant; the bad effects of which were soon felt by both disputants, who resorted to England to defend their respective interests and pretensions, both having been attacked by secret enemies who suggested many things to their prejudice. This quarrel, though of a private beginning, became at last of a public nature; and producing first an attempt to frame an impeachment against the duke of Ormond, occasioned in the end, by the way of revenge, an actual impeachment against the earl of Orrery. He defended himself, however, so well against a charge of high crimes, and even of treason itself, that the prosecution came to nothing. He nevertheless lost his public employments; but not the king's favour: he still came frequently to court, and sometimes to council. After this revolution in his affairs, he made several voyages to and from Ireland; was often consulted by his majesty on affairs of the utmost consequence; and on all occasions gave his opinion and advice with the freedom of an honest plain-dealing man and a sincere friend; which the king always found him, and respected him accordingly.

In 1678, being attacked more cruelly than ever by his old enemy the gout, he made his last voyage to England for advice in the medical way. But his disorder was beyond the power of medicine; and having in his last illness given the strongest proofs of Christian patience, manly courage, and rational fortitude, he breathed his last on the 16th of October 1679, in the 59th year of his age. His lordship wrote, 1. A work entitled "The Art of War." 2. Parthenissa, a romance, in one volume folio. 3. Several poems. 4. Dramatic pieces, two volumes. 5. State-tracts, in one volume folio, &c. Mr Walpole, speaking of this nobleman, says, he never made a bad figure but as a poet. As a soldier, his bravery was distinguished, his stratagems remarkable. As a statesman, it is sufficient to say, that he had the confidence of Cromwell. As a man, he was grateful, and would have supported the son of his friend: but, like Cicero and Richelieu, he could not be content without being a poet; though he was ill qualified, his writings of that kind being flat and trivial.

Boyle.

BOYLE, *Robert*, one of the greatest philosophers as well as best men that our own or indeed any other nation has produced, was the seventh son and the 14th child of Richard earl of Cork, and born at Lismore in the province of Munster in Ireland, January 25. 1626-7. Before he went to school, he was taught to write a very fair hand, and to speak French and Latin, by one of the earl's chaplains, and a Frenchman that he kept in the house. In the year 1635, his father sent him over to England, in order to be educated at Eton school, under Sir Henry Wotton, who was the earl of Cork's old friend and acquaintance. Here he soon discovered a force of understanding which promised great things, and a disposition to cultivate and improve it to the utmost. While he remained at Eton, there were several very extraordinary accidents that befel him, of which he has given us an account; and three of which were very near proving fatal to him. The first was, the sudden fall of the chamber where he was lodged, when himself was in bed; when, besides the danger he run of being crushed to pieces, he had certainly been choked with the dust during the time he lay under the rubbish, if he had not had presence of mind enough to wrap his head up in the sheet, which gave him an opportunity of breathing without hazard. A little after this, he had been crushed to pieces by a starting horse that rose up suddenly, and threw himself backwards, if he had not happily disengaged his feet from the stirrups, and cast himself from his back before he fell. A third accident proceeded from the carelessness of an apothecary's servant, who, by mistaking the phials, brought him a strong vomit instead of a cooling julep.

He remained at Eton upon the whole, between three and four years; and then his father carried him to his own seat at Stalbridge in Dorsetshire, where he remained for some time under the care of one of his chaplains who was the parson of the place. In 1638, he attended his father to London; and remained with him at the Savoy, till his brother Mr Francis Boyle espoused Mrs Elizabeth Killigrew; and then, towards the end of October, within four days after the marriage, the two brothers, Francis and Robert, were sent abroad upon their travels, under the care of Mr Marcombes. They embarked at Rye in Sussex, and from thence proceeded to Dieppe in Normandy: then they travelled by land to Rouen, so to Paris, and from thence to Lyons; from which city they continued their journey to Geneva, where his governor had a family; and there the two gentlemen pursued their studies without interruption. Mr Boyle, during his stay here, resumed his acquaintance with the mathematics, or at least with the elements of that science, of which he had before gained some knowledge. For he tells us, in his own memoirs, that while he was at Eton, and afflicted with an ague, before he was ten years old, by way of diverting his melancholy, they made him read Amadis de Gaul, and other romantic books, which produced such a restlessness in him, that he was obliged to apply himself to the extraction of the square and cube roots, and to the more laborious operations of algebra, in order to fix and settle the volatile operations of his fancy.

In September 1641, he quitted Geneva, after having spent 12 months in that city; and passing through

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Boyle. Switzerland and the country of the Grisons, entered Lombardy. Then, taking his route through Bergamo, Brescia, and Verona, he arrived at Venice; where, having made a short stay, he returned to the continent, and spent the winter at Florence. Here he employed his spare hours in reading the modern history in Italian, and the works of the celebrated astronomer Galileo, who died in a village near this city during Mr Boyle's residence in it. It was at Florence that he acquired the Italian language; which he understood perfectly, though he never spoke it so fluently as the French. Of this indeed he was such a master, that as occasion required he passed for a native of that country in more places than one during his travels.

About the end of March 1642, he began his journey from Florence to Rome, which took up but five days. He surveyed the numerous curiosities of that city; among which, he tells us, "he had the fortune to see Pope Urban VIII. at chapel, with the cardinals, who, severally appearing mighty princes, in that assembly looked like a company of common friars." He visited the adjacent villages which had any thing curious or antique belonging to them; and had probably made a longer stay, had not the heats disagreed with his brother. He returned to Florence; from thence to Leghorn; and so by sea to Genoa: then passing through the county of Nice, he crossed the sea to Antibes, where he fell into danger from refusing to honour the crucifix: from thence he went to Marseilles by land. He was in that city, in May 1642, when he received his father's letters, which informed him that the rebellion had broken out in Ireland, and how difficultly he had procured the 250l. then remitted to them in order to help them home. They never received this money; and were obliged to go to Geneva with their governor Marcombes, who supplied them with as much at least as carried them thither. They continued there a considerable time without either advice or supplies from England; upon which Marcombes was obliged to take up some jewels upon his own credit, which were afterwards disposed of with as little loss as might be; and with the money thus raised, they continued their journey for England, where they arrived in the year 1644. On their arrival, Mr Boyle found his father dead; and though the earl had made an ample provision for him, by leaving him his manor of Stalbridge in England, as well as other considerable estates in Ireland, yet it was some time before he could receive any money. However, he procured protections for his estates in both kingdoms from the powers then in being; from which he also obtained leave to go over to France for a short space, probably to settle accounts with his governor Mr Marcombes.

In March 1646, he retired to his manor at Stalbridge, where he resided for the most part till May 1650. He made excursions sometimes to London, sometimes to Oxford; and in February 1647, he went over to Holland: but he made no considerable stay anywhere. During his retirement at Stalbridge, he applied himself with incredible industry to studies of various kinds, to those of natural philosophy and chemistry in particular. He omitted no opportunity of obtaining the acquaintance of persons distinguished for parts and learning; to whom he was in every respect a ready, useful, generous assistant, and with whom he held a constant correspondence. He was also one of the first members of that small but learned body of men which, when all academical studies were interrupted by the civil wars, secreted themselves about the year 1645; and held private meetings, first in London, afterwards at Oxford, for the sake of canvassing subjects of natural knowledge upon that plan of experiment which Lord Bacon had delineated. They styled themselves then *The philosophic college;* and, after the Restoration, when they were incorporated, and distinguished openly, they took the name of the *Royal Society.* Boyle.

In the summer of 1654, he put in execution a design he had formed for some time of residing at Oxford, where he chose to live in the house of one Mr Crosse, an apothecary, rather than in a college, for the sake of his health, and because he had more room to make experiments. Oxford was indeed the only place at that time in England where Mr Boyle could have lived with much satisfaction; for here he found himself surrounded with a number of learned friends, such as Wilkins, Wallis, Ward, Willis, Wren, &c. suited exactly to his taste, and who had resorted thither for the same reasons that he had done, the philosophical society being now removed from London to Oxford. It was during his residence here that he improved that admirable engine the air-pump; and by numerous experiments was enabled to discover several qualities of the air, so as to lay a foundation for a complete theory. He was not, however, satisfied with this; but laboured incessantly in collecting and digesting, chiefly from his own experiments, the materials requisite for this purpose. He declared against the philosophy of Aristotle, as having in it more words than things; promising much, and performing little; and giving the inventions of men for indubitable proofs, instead of building upon observation and experiment. He was so zealous for, and so careful about, this true method of learning by experiment, that though the Cartesian philosophy then made a great noise in the world, yet he would never be persuaded to read the works of Des Cartes, for fear he should be amused and led away by plausible accounts of things founded on conjecture, and merely hypothetical. But philosophy, and inquiries into nature, though they engaged his attention deeply, did not occupy it entirely; since we find that he still continued to pursue critical and theological studies. In these he had the assistance of some great men, particularly Dr Edward Pocock, Mr Thomas Hyde, and Mr Samuel Clarke, all of great eminence for their skill in the oriental languages. He had also a strict intimacy with Dr Thomas Barlow, at that time head keeper of the Bodleian library, and afterwards bishop of Lincoln, a man of various and extensive learning. In the year 1659, Mr Boyle, being acquainted with the unhappy circumstances of the learned Sanderson, afterwards bishop of Lincoln, who had lost all his preferments on account of his attachment to the royal party, conferred upon him an honorary stipend of 50l. a-year. This stipend was given as an encouragement to that excellent master of reasoning to apply himself to the writing of "Cases of Conscience;" and accordingly

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Boyle. ingly he printed his lectures *De obligatione conscientiæ*, which he read at Oxford in 1647, and dedicated them to his friend and patron.

Upon the restoration of Charles II. Mr Boyle was treated with great civility and respect by the king, as well as by the two great ministers the lord treasurer Southampton and the lord chancellor Clarendon. He was solicited by the latter to enter into holy orders, not only out of regard to him and his family, but chiefly with a view to serve the church itself; for Mr Boyle's noble family, his distinguished learning, and, above all, his unblemished reputation, induced Lord Clarendon to think that any ecclesiastical preferments he might attain would be worthily discharged, so as to do honour to the clergy, and service to the established communion. Mr Boyle considered all this with due attention: but, to balance these, he reflected, that, in the situation of life in which he was, whatever he wrote with respect to religion would have so much the greater weight as coming from a layman: since he well knew that the irreligious fortified themselves against all that the clergy could offer, by supposing, and saying, that it was their trade, and that they were paid for it. He considered likewise, that, in point of fortune and character, he needed no accessions; and indeed he never had any appetite for either. He chose, therefore, to pursue his philosophical studies in such a manner as might be most effectual for the support of religion; and began to communicate to the world the fruit of these studies.

The first of these was printed at Oxford in 1660, in 8vo, under the title of, 1. New experiments, physico-mechanical, touching the spring of the air and its effects. 2. Seraphic love; or some motives and incentives to the love of God, pathetically discoursed of in a letter to a friend. 3. Certain physiological essays and other tracts, 1661, 4to. 4. Sceptical chemist, 1662, 8vo; a very curious and excellent work, reprinted about the year 1679, 8vo, with the addition of divers experiments and notes about the producibleness of chemical principles.

In the year 1663, the Royal Society being incorporated by King Charles II. Mr Boyle was appointed one of the council; and as he might be justly reckoned among the founders of that learned body, so he continued one of the most useful and industrious of its members during the whole course of his life. In June 1663, he published, 5. Considerations touching the usefulness of Experimental Natural Philosophy, 4to. 6. Experiments and considerations upon Colours; to which was added a letter, containing Observations on a Diamond that shines in the dark, 1663, 8vo. This treatise is full of curious and useful remarks on the hitherto unexplained doctrine of light and colours; in which he shows great judgment, accuracy, and penetration; and may be said to have led the way to that mighty genius, the great Sir Isaac Newton, who has since set that point in the clearest and most convincing light. 7. Considerations on the style of the Holy Scriptures, 1663, 8vo. It was an extract from a larger work, entitled, "An Essay on Scripture;" which was afterwards published by Sir Peter Pett, a friend of Mr Boyle's.

In 1664, he was elected into the company of the royal mines; and was all this year taken up in the prosecution of various good designs, which probably was the reason why he did not send abroad any treatises either of religion or philosophy. The year following, came forth, 8. Occasional reflections upon several subjects; whereto is prefixed a discourse about such kinds of thoughts, 1665, 8vo. This piece is addressed to *Sophronia*, under which name he concealed that of his beloved sister the viscountess of Ranelagh. The thoughts themselves are on a vast variety of subjects, written many years before; some indeed upon trivial occasions, but all with great accuracy of language, much wit, more learning, and in a wonderful strain of moral and pious reflection. Yet this exposed him to the only severe censure that ever was passed upon him; and that too from no less a man than the celebrated Dean Swift, who, to ridicule these discourses, wrote *A pious meditation upon a broomstick, in the style of the honourable Mr Boyle*. But as his noble relation, the late Lord Orrery has said, "To what a height must the spirit of sarcasm arise in an author, who could prevail on himself to ridicule so good a man as Mr Boyle? The sword of wit, like the scythe of time, cuts down friend and foe, and attacks every object that lies in its way. But, sharp and irresistible as the edge of it may be, Mr Boyle will always remain invulnerable." Boyle.

The same year, he published an important work, entitled, 9. New experiments and observations upon cold, 1665, 8vo. In the year 1666, he published, 10. Hydrostatical paradoxes made out by new experiments, for the most part physical and easy, in 8vo. 11. The origin of forms and qualities, according to the corpuscular philosophy, illustrated by considerations and experiments. This treatise did great honour to Mr Boyle, whether we consider the quickness of his wit, the depth of his judgment, or his indefatigable pains in searching after truth. We must not forget to observe, that, both in this and the former year, he communicated to his friend Mr Oldenburg, who was secretary to the Royal Society, several curious and excellent short treatises of his own, upon a great variety of subjects, and others transmitted to him by his learned friends both at home and abroad, which are printed and preserved in the Philosophical Transactions.

In the year 1668, Mr Boyle resolved to settle in London for life: and removed for that purpose to the house of his sister, the lady Ranelagh, in Pall-Mall. This was to the infinite benefit of the learned in general, and particularly to the advantage of the Royal Society, to whom he gave great and continual assistance, as the several pieces communicated to them from time to time, and printed in their Transactions, do abundantly testify. Those who applied to him, either to desire his help, or to communicate to him any new discoveries in science, he had his set hours for receiving; otherwise it is easy to conceive that he would have had very little of his time for himself. But, besides these, he kept a very extensive correspondence with persons of the greatest figure, and most famous for learning, in all parts of Europe. In the year 1669, he published, 12. A continuation of new experiments touching the weight and spring of the air; to which is added, A discourse of the atmospheres of consistent bodies: and the same year he revised and made many additions to several of his former tracts, some of which

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Boyle. which were now translated into Latin, in order to gratify the curious abroad. 13. Tracts about the cosmical qualities of things; cosmical suspicions: the temperature of the subterraneous regions; the bottom of the sea: to which is prefixed an introduction to the history of particular qualities. This book occasioned much speculation, as it seemed to contain a vast treasure of knowledge which had never been communicated to the world before; and this too grounded upon actual experiments, and arguments justly drawn from them, instead of that notional and conjectural philosophy which in the beginning of the 17th century had been so much in fashion.

In the year 1671, he published, 14 Considerations on the usefulness of experimental and natural philosophy; the second part, 4to. And, 15. A collection of tracts upon several useful and important points of practical philosophy, 4to. Both of which works were received as new and valuable gifts to the learned world. 16. An essay about the origin and virtues of gems, 1672, 8vo. 17. A collection of tracts upon the relation between flame and air; and several other useful and curious subjects: besides furnishing, in this and the former year, a great number of short dissertations upon a vast variety of topics, addressed to the Royal Society, and inserted in their Transactions. 18. Essays on the strange subtility, great efficacy, and determinate nature of effluvia; to which were added a variety of experiments on other subjects; 1673, 8vo. 19. A collection of tracts upon the saltness of the sea, the moisture of the air, the natural and preternatural state of bodies; to which is prefixed a dialogue concerning cold; 1674, 8vo. 20. The excellency of theology, compared with philosophy, 1673, 8vo. This discourse was written in the year 1665, while Mr Boyle, to avoid the great plague which then raged in London, was forced to go from place to place in the country, and had little or no opportunity of consulting his books. It contains a great number of curious and useful, as well as just and natural observations. 21. A collection of tracts containing suspicions about hidden qualities of the air; with an appendix touching celestial magnets; animadversions upon Mr Hobbes's problem about a vacuum; a discourse of the cause of attraction and suction; 1674, 8vo. 22. Some considerations about the reconcileableness of reason and religion. By T. E. a layman. To which is annexed a discourse about the possibility of the resurrection. By Mr Boyle, 1675, 8vo. The reader must be informed, that both these pieces were of his writing; only he thought fit to mark the former with the final letters of his name. Among other papers that he communicated this year to the Royal Society, there were two connected into one discourse; the first was entitled, An experimental discourse of quicksilver growing hot with gold; the other related to the same subject; and both of them contained discoveries of the utmost importance.

In the year 1676, he published, 23. Experiments and notes about the mechanical origin or production of particular qualities; in several discourses on a great variety of subjects, and among the rest on electricity. In 1678, he communicated to Mr Hooke a short memorial of some observations made upon an artificial substance that shines without any preceding illustration; which that gentleman thought fit to publish in his *Lectiones Cutlerianæ*. 24. Historical account of a degradation of gold made by an anti-elixir. This made a great noise both at home and abroad, and is looked upon as one of the most remarkable pieces that ever fell from his pen; since the facts contained in it would have been esteemed incredible, if they had been related by a man of less integrity and piety than Mr Boyle. The regard which the great Newton had for Mr Boyle, appears from a very curious letter, which the former wrote to him, at the latter end of this year, for the sake of laying before him his sentiments of that etherial medium, which he afterwards considered in his Optics as the cause of gravitation. This letter is to be found in the life of our author by the reverend Dr Birch. Boyle.

In the year 1680, Mr Boyle published, 25. The aerial noctiluca; or some new phenomena, and a process of a factitious self-shining substance, 8vo. This year the Royal Society, as a proof of the just sense of his great worth, and of the constant and particular services which through a course of many years he had done them, made choice of him for their president; but he being extremely, and, as he says, peculiarly tender in point of oaths, declined the honour done him, by a letter addressed to "his much respected friend Mr Robert Hooke, professor of mathematics at Gresham college." 26. Discourse of things above reason; inquiring, whether a philosopher should admit any such; 1681, 8vo. 27. New experiments and observations upon the icy noctiluca: to which is added a chemical paradox, grounded upon new experiments, making it probable that chemical principles are transmutable, so that out of one of them others may be produced; 1682, 8vo. 28. A continuation of new experiments, physico-mechanical, touching the spring and weight of the air, and their effects; 1682, 8vo. In 1683, he published nothing but a short letter to Dr Beale, in relation to the making of fresh water out of salt. In 1684, he published two very considerable works; viz. 29. Memoirs for the natural history of human blood, especially the spirit of that liquor, 8vo; and, 30. Experiments and considerations about the porosity of bodies, &c.

In 1685, Mr Boyle obliged the world with, 31. Short Memoirs for the natural experimental history of mineral waters, with directions as to the several methods of trying them; including abundance of new and useful remarks, as well as several curious experiments. 32. An essay on the great effects of even languid and unheeded motion; whereunto is annexed an experimental discourse of some hitherto little regarded causes of the salubrity and insalubrity of the air and its effects. None of his treatises, it is said, were ever received with greater or more general applause than this. 33. Of the reconcileableness of specific medicines to the corpuscular philosophy; to which is annexed a discourse about the advantages of the use of simple medicines, 8vo. Besides these philosophical tracts, he gave the world, the same year, an excellent theological one, 34. Of the high veneration man's intellect owes to God, peculiarly for his wisdom and power, 8vo.

At the entrance of the succeeding year, came abroad his, 35. Free inquiry into the vulgarly received notion

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of

Boyle. of nature; a piece which was then, and will always be, greatly admired by those who have a true zeal and relish for pure religion and philosophy. In 1687, he published, 36. The martyrdom of Theodora and Didymia; a work he had drawn up in his youth. 37. A disquisition about the final causes of natural things; wherein it is inquired, whether, and (if at all) with what caution, a naturalist should admit them; with an appendix about vitiated light; 1688, 8vo. In the month of May this year, our author, though very unwilling, was constrained to make his complaint to the public, of some inconveniences under which he had long laboured; and this he did by an advertisement, about "the loss of many of his writings addressed to J. W. to be communicated to those of his friends that are virtuosi; which may serve as a kind of preface to most of his mutilated and unfinished writings." He complains in this advertisement of the treatment he had met with from plagiaries both at home and abroad; and though it might have been difficult in any other man to have done so without incurring the imputation of self-conceit and vanity, yet Mr Boyle's manner is such as only to raise in us a higher esteem and admiration of him. This advertisement is inserted at length in his life by Birch.

He began now to find that his health and strength, notwithstanding all his care and caution, gradually declined, as he observes in a letter to M. le Clerc, dated May 30. 1689; which put him upon using every possible method of husbanding his remaining time for the benefit of the learned. It was with this view that he no longer communicated particular discourses, or new discoveries to the Royal Society; because this could not be done without withdrawing his thoughts from tasks which he thought of still greater importance. It was the more steadily to attend to these, that he resigned his post of governor of the corporation for propagating the gospel in New England; nay, he went so far as to signify to the world that he could no longer receive visits as usual, in an advertisement which begins in the following manner: "Mr Boyle finds himself obliged to intimate to those of his friends and acquaintance, that are wont to do him the honour and favour of visiting him, 1. That he has by some unlucky accidents, namely, by his servant's breaking a bottle of oil of vitriol over a chest which contained his papers, had many of his writings corroded here and there, or otherwise so maimed, that, without he himself fill up the lacunæ out of his memory or invention, they will not be intelligible. 2. That his age and sickliness have for a good while admonished him to put his scattered and partly defaced writings into some kind of order, that they may not remain quite useless. And, 3. That his skilful and friendly physician, Sir Edmund King, seconded by Mr Boyle's best friends, has pressingly advised him against speaking daily with so many persons as are wont to visit him, representing it as what cannot but waste his spirits, &c. He ordered likewise a board to be placed over his door, with an inscription signifying when he did, and when he did not, receive visits."

Among the other great works, which by this means he gained time to finish, there is great reason to believe, that one was a collection of elaborate processes in chemistry; concerning which he wrote a letter to a friend, which is still extant; wherein we read, that "he left it as a kind of hermetic legacy to the studious disciples of that art." Besides these papers committed to the care of one whom he esteemed his friend, he left very many behind him at his death, relating to chemistry: which, as appears by a letter directed to one of his executors, he desired might be inspected by three physicians whom he named, and that some of the most valuable might be preserved. Boyle.

In the mean time, Mr Boyle published some other works before his death; as, 38. *Medicina Hydrostatica*; or, Hydrostatics applied to the materia medica, showing how, by the weight that divers bodies used in physic have in water, one may discover whether they be genuine or adulterated. To which is subjoined a previous hydrostatical way of estimating ores, 1690, 8vo. 39. The Christian virtuoso; showing, that, by being addicted to experimental philosophy, a man is rather assisted than indisposed to be a good Christian. To which are subjoined, 1. A discourse about the distinction that represents some things as above reason, but not contrary to reason. 2. The first chapters of a discourse entitled *Greatness of mind promoted by Christianity*. The last work which he published himself, was in the spring of 1691; and is entitled, 40. *Experimenta et Observationes Physicæ*: wherein are briefly treated of several subjects relating to natural philosophy in an experimental way. To which is added a small collection of strange reports, 8vo.

About the entrance of the summer, he began to feel such an alteration in his health as induced him to think of settling his affairs; and accordingly, on the 18th of July, he signed and sealed his last will, to which he afterwards added several codicils. In October, his distempers increased; and on the last day of December 1691, he departed this life, in the 65th year of his age. He was buried in St Martin's church in the Fields, Westminster, on the 7th of January following; and his funeral sermon was preached by Dr Gilbert Burnet, bishop of Salisbury. The bishop made choice upon this occasion of a text very apposite to the subject; namely, "For God giveth to a man that is good in his sight, wisdom, knowledge, and joy *." After explaining the meaning of the words, he applied the doctrine to the honourable person deceased; of whom, he tells us, he was the better able to give a character, from the many happy hours he had spent in conversation with him, in the course of 29 years. He gives a large account of Mr Boyle's sincere and unaffected piety; and more especially of his zeal for the Christian religion, without having any narrow notions concerning it, or mistaking, as so many do, a bigotted heat in favour of a particular sect, for that zeal which is an ornament of a true Christian. He mentions as a proof of this, his noble foundation for lectures in defence of the gospel against infidels of all sorts; the effects of which have been so conspicuous in the many volumes of excellent discourses which have been published in consequence of that noble and pious foundation. He was at the charge of the translation and impression of the New Testament into the Malayan tongue, which he sent over all the East Indies. He gave a noble reward to him that translated Grotius's incomparable book "Of the truth of the Christian religion" into Arabic; and was at the charge of a whole impression, which he took care

* Eccles. iii. 26.

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Boyle. should be dispersed in all the countries where that language was understood. He was resolved to have carried on the impression of the New Testament in the Turkish language; but the company thought it became them to be the doers of it, and so suffered him only to give a large share towards it. He was at 700l. charge in the edition of the Irish bible, which he ordered to be distributed in Ireland; and he contributed liberally to the impression of the Welsh bible. He gave, during his life, 300l. to advance the design of propagating the Christian religion in America; and as soon as he heard that the East India Company were entertaining propositions for the like design in the east, he sent 100l. for a beginning, as an example, but intended to carry it much farther when it should be set on foot to purpose.

In other respects his charities were so bountiful and extensive, that they amounted, as this prelate tells us, from his own knowledge, to upwards of 1000l. a-year. But as our limits will not allow us to follow the bishop in the copious and eloquent account he has given of this great man's abilities, we must therefore content ourselves with adding the short eulogium by the celebrated physician, philosopher, and chemist, Dr Herman Boerhaave; who, after having declared Lord Bacon to be the father of experimental philosophy, asserts, that "Mr Boyle, the ornament of his age and country, succeeded to the genius and inquiries of the great chancellor Verulam. Which (says he) of all Mr Boyle's writings shall I recommend? All of them. To him we owe the secrets of fire, air, water, animals, vegetables, fossils: so that from his works may be deduced the whole system of natural knowledge." The reader perhaps may here be pleased to know, that Mr Boyle was born the same year in which Lord Bacon died.

As to the person of this great man, we are told, that he was tall, but slender; and his countenance pale and emaciated. His constitution was so tender and delicate, that he had divers sorts of cloaks to put on when he went abroad, according to the temperature of the air; and in this he governed himself by his thermometer. He escaped indeed the small-pox; but for almost forty years he laboured under such feebleness of body, and such lowness of strength and spirits, that it was astonishing how he could read, meditate, make experiments, and write, as he did. He had likewise a weakness of his eyes; which made him very tender of them, and extremely apprehensive of such distempers as might affect them. He imagined likewise, that if sickness should confine him to his bed, it might raise the pains of the stone to a degree which might be above his strength to support; so that he feared his last minutes should be too hard for him. This was the ground of all the caution and apprehension with which he was observed to live; but as to life itself, he had that just indifference for it which became a philosopher and a Christian. However, his sight began to grow dim not above four hours before he died; and when death came upon him, he had not been above three hours in bed before it made an end of him, with so little pain that the flame appeared to go out merely for want of oil to maintain it.

Mr Boyle was never married; but Mr Evelyn was assured, that he courted the beautiful and ingenious daughter of Cary earl of Monmouth, and that to this passion was owing his "Seraphic Love." In the memorandum of Mr Boyle's life set down by Bishop Burnet, it is remarked that he abstained from marriage, at first out of policy, afterwards more philosophically; and we find by a letter of Dr John Wallis to him, dated at Oxford, July 17th 1669, that he had an overture made him with respect to the lady Mary Hastings, sister to the earl of Huntingdon: But it does not appear from any of his papers, that he had ever entertained the least thoughts of that kind; nay, there is a letter of his, wrote when he was young, to the lady Barrymore his niece, who had informed him of a report that he was actually married, which almost shows that he never did. The letter is written with great politeness, and in the true spirit of gallantry; and is a clear proof that though Mr Boyle did not choose to marry, yet it was no misanthropic cynical humour which restrained him from it. It is impossible to entertain the reader better than by presenting him with that part of it which concerns the point in question. "It is high time for me to hasten the payment of the thanks I owe your ladyship for the joy you are pleased to wish me, and of which that wish possibly gives me more than the occasion of it would. You have certainly reason, madam, to suspend your belief of a marriage, celebrated by no priest but fame, and made unknown to the supposed bridegroom. I may possibly ere long give you a fit of the spleen upon this theme; but at present it were incongruous to blend such pure raillery, as I ever prate of matrimony and amours with, among things I am so serious in as those this scribble presents you. I shall therefore only tell you, that the little gentleman and I are still at the old defiance. You have carried away too many of the perfections of your sex to leave enough in this country for reducing so stubborn a heart as mine; whose conquest were a task of so much difficulty, and so little worth it, that the latter property is always likely to deter any that hath beauty and merit enough to overcome the former. But though this untamed heart be thus insensible to the thing itself called *love*; it is yet very accessible to things very near of kin to that passion; and esteem, friendship, respect, and even admiration, are things that their proper objects fail not proportionably to exact of me, and consequently are qualities which in their highest degrees are really and constantly paid my lady Barrymore by her most obliged humble servant, and affectionate uncle, ROBERT BOYLE." Boyle.

We shall conclude this account of Mr Boyle with the mention of his posthumous works, which are as follow. 1. "The general history of the air designed and begun." 2. "General heads for the natural history of a country, great or small; drawn out for the use of travellers and navigators." 3. "A paper of the honourable Robert Boyle's, deposited with the secretaries of the Royal Society, October 14th, 1680, and opened since his death; being an account of his making the phosphorus, September 30. 1680." Printed in the Philosophical Transactions. 4. "An account of a way of examining waters as to freshness or saltness." 5. "A free discourse against customary swearing, and a dissuasive from cursing, 1695, 8vo." 6. "Medicinal experiments, or a collection of choice remedies, chiefly simple and easily prepared, useful in families, and fit for the service of the country people. The third and last volume,

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Boyle. volume, published from the author's original manuscript; whereunto is added several useful notes explicatory of the same," 1698, 12mo. Beautiful editions of all his works have been printed at London, in 5 volumes folio, and six volumes 4to.

BOYLE, *Charles*, earl of Orrery in Ireland, and baron of Maston in the county of Somerset, was the second son of Roger the second earl of Orrery, and was born in August 1679. He was educated at Christ-church in Oxford, and soon distinguished himself by his learning and abilities. Like the first earl of Orrery, he was an author, a soldier, and a statesman. He translated the life of Lysander from the Greek of Plutarch; and published a new edition of the epistles of Phalaris, which engaged him in a literary dispute, in which he defended the genuineness of those epistles against Dr Bentley. He was three times member for the town of Huntingdon; but his elder brother, Lionel earl of Orrery dying on the 23d of August 1703 without issue, he succeeded to that title; and, entering into the queen's service, had a regiment given him, when he behaved with such bravery, that in 1709 he was raised to the rank of major-general, and sworn one of her majesty's privy council. At the famous battle of the Wood, he gave the strongest proofs of his intrepid courage, remaining at the head of his regiment in the warmest part of the action, till the victory was complete, which, as it was one of the most glorious, so it was the dearest bought, of any of that war. His lordship had the honour of being appointed the queen's envoy to the states of Brabant and Flanders; and having honourably discharged the trust, was raised to the dignity of a British peer, by the title of Lord Boyle, baron of Maston, in Somersetshire. He enjoyed several other additional honours in the reign of King George I.; but having the misfortune to fall under the suspicion of the government, his lordship was committed to the Tower: he was, however, at length, admitted to bail; and nothing being found that could be esteemed sufficient ground for prosecution, he was discharged. His lordship died after a slight indisposition, on the 21st of August 1731. To his tutor Mr Atterbury, he probably owed a good part of that fine relish he had for the writings of the ancients. He made these his constant study, and expressed a high contempt, says Budgell, for the greater part of our modern wits and authors. He was delighted with the company of two sorts of persons; either such as were really geniuses of the first rank, who had fine understandings, strong judgments, and true tastes; or such as had a few foibles, and an eye of ridicule in them, which served to make him laugh. He would rally these in so agreeable, and yet in so tender a manner, that, though it diverted himself and others, it was never offensive to the person rallied. The instrument which was invented by him, and bears his name, representing the solar system according to the sentiments of the new astronomers, is an undeniable proof of his mechanic genius. His lordship had also a turn for medicine; which led him not only to buy and read whatever was published on that subject, but also to employ his friends to send him accounts of herbs and drugs in foreign countries.

BOYLE, *John*, earl of Cork and Orrery, a nobleman distinguished by his learning and genius, was the only son of Charles earl of Orrery, and was born on the 2d of January 1707. He was educated at Christ-church college in Oxford; but, as he himself declares, early disappointments, indifferent health, and many untoward accidents, rendered him fond of retirement, and of improving his talents for polite literature and poetry; of which last art he gave several excellent specimens. He also wrote a translation of Pliny the Younger's letter, with various notes, for the service of his eldest son the Lord Boyle, in two volumes, 4to. This was first published in 1751. The year following, he published the Life of Dean Swift, in several letters, addressed to his second son Hamilton Boyle; and afterwards printed Memoirs of Robert Cary earl of Monmouth, a manuscript presented to him by a relation, with explanatory notes. He died in 1762. Boyle || Boyse.

BOYLE's Lectures, a course of eight sermons or lectures preached annually, set on foot by the honourable Robert Boyle, Esq. by a codicil annexed to his will in 1691; whose design, as expressed by the institutor, is, to prove the truth of the Christian religion against infidels, without descending to any controversies among Christians; and to answer new difficulties, scruples, &c. For the support of this lecture he assigned the rent of his house in Crooked-lane to some learned divine within the bills of mortality, to be elected for a term not exceeding three years, by the late Archbishop Tennison and others. But the fund proving precarious, the salary was ill paid; to remedy which inconveniences, the said archbishop procured a yearly stipend of 50l. for ever, to be paid quarterly, charged on a farm in the parish of Brill in the county of Bucks. To this appointment we are indebted for many elaborate defences both of natural and revealed religion.

BOYNE, a river in Ireland, which rises in Queen's county in the province of Leinster, and runs north-east by Trim and Cavan, falling at last into the Irish channel a little below Drogheda. It is memorable for a battle fought on its banks between James II. and King William III. in which the former was defeated.

BOYSE, Boys or Bois, *John*, one of the translators of the Bible in the reign of James I. was son of William Bois, rector of West Stowe, near St Edmunsbury, Suffolk, and born at Nettlestead in Suffolk on the 3d of January 1560. He was taught the first rudiments of learning by his father; and his capacity was such, that at the age of five years he read the Bible in Hebrew. He went afterwards to Hadley school; and at 14 was admitted of St John's college, Cambridge, where he distinguished himself by his skill in Greek. Happening to have the small-pox when he was elected fellow, he, to preserve his seniority, caused himself to be carried in blankets to be admitted. He applied himself for some time to the study of medicine; but, fancying himself affected with every disease he read of, he quitted that science. He was ten years chief Greek lecturer in his college, and read every day. He voluntarily read a Greek lecture for some years at four in the morning, in his own chamber, which was frequented by many of the fellows. On the death of his father, he succeeded him in the rectory of West Stowe. At the age of 36, he married the daughter of Mr Holt, rector of Buxworth, in Cambridgeshire; whom he succeeded in that living, October 13. 1596. On his quitting the university, the college gave him

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Boyse. 100l. His young wife, who was bequeathed to him with the living, which was an advowson, proving a bad economist, and he himself being wholly addicted to his studies, he soon became so much involved in debt, that he was obliged to sell his choice collection of books, consisting of almost every Greek author then extant. When a new translation of the Bible was by King James I. directed to be made, Mr Bois was elected one of the Cambridge translators. He performed not only his own, but also the part assigned to another, with great reputation; though with no profit, for he had no allowance but his commons. He was also one of the six who met at Stationers Hall to revise the whole; which task they went through in nine months, having each from the company of stationers, during that time 30s. a-week. He afterwards assisted Sir Henry Savile in publishing the works of St Chrysostom. In 1615, Dr Lancelot Andrews, bishop of Ely, bestowed on him, unasked, a prebend in his church. He died on the 14th of January 1643, in the 84th year of his age. He left a great many manuscripts behind him, particularly a Commentary on almost all the books of the New Testament.—When he was a young student at Cambridge, he received from the learned Dr Whitaker three rules for avoiding those distempers which usually attend a sedentary life, to which he adhered with equal constancy and success. The first was, To study always standing; the second, Never to study in a window; and the third, Never to go to bed with his feet cold.

BOYSE, *Joseph*, a late eminent dissenting minister in Dublin, much respected not only for learning and abilities, but his extensive humanity and undissembled piety. During his ministerial charge at Dublin, he published many sermons which compose several folio volumes, a few poems, and other tracts; but what chiefly distinguished him as a writer, was the controversy he carried on with Dr King, archbishop of Dublin, and author of the *Origin of Evil*, concerning the office of a scriptural bishop. This controverted point was managed on both sides with great force of argument and calmness of temper. The bishop asserted, that the episcopal right of jurisdiction had its foundation in the New Testament: Mr Boyse, consistent with his principles, denied that any ecclesiastical superiority appeared there, with the greatest candour and good manners. He was father to

BOYSE, *Samuel*, the poet, a man remarkable for the fineness of his genius, the lowness of his manners, and the wretchedness of his life. He was born in 1708, and received the rudiments of his education in a private school in Dublin. When he was but 18 years old, his father, who probably intended him for the ministry, sent him to the university of Glasgow, that he might finish his education there. He had not been a year at the university, when he fell in love with the daughter of a tradesman in that city, and was imprudent enough to interrupt his education by marrying her before he had entered into his 20th year. The natural extravagance of his temper soon exposed him to want; and as he had now the additional charge of a wife, his reduced circumstances obliged him to quit the university, and go over with his wife (who also carried a sister with her) to Dublin, where they relied on the old gentleman for support. Young Boyse was of all men the furthest removed from a gentleman; he had no graces of person, and fewer still of conversation. Never were three people of more libertine characters than young Boyse, his wife, and sister-in-law; yet the two ladies wore such a mask of decency before the old gentleman, that his fondness was never abated. The estate his father possessed in Yorkshire was sold to discharge his debts; and when the old man lay in his last sickness, he was entirely supported by presents from his congregation, and buried at their expence. We have no further account of Mr Boyse, till we find him soon after his father's death at Edinburgh. At this place his poetical genius raised him many friends, and some patrons of very great eminence. He published a volume of poems in 1731, to which are subjoined *The Tablature of Cebes*, and *A Letter upon Liberty*, inserted in the *Dublin Journal*, 1726; and by these he obtained a very great reputation. They are addressed to the countess of Eglinton. This amiable lady was the patroness of all men of wit, and greatly distinguished Mr Boyse while he resided in that country. Upon the death of the viscountess Stormont, Mr Boyse wrote an elegy, which was very much applauded by her ladyship's relations. This elegy he entitled *The Tears of the Muses*, as the deceased lady was a woman of the most refined taste in the sciences, and a great admirer of poetry. The lord Stormont was so much pleased with this mark of esteem paid to the memory of his lady, that he ordered a very handsome present to be given to Mr Boyse by his attorney at Edinburgh. The notice which Lady Eglinton and the lord Stormont took of our poet, recommended him likewise to the patronage of the duchess of Gordon; who was so solicitous to raise him above necessity, that she employed her interest in procuring the promise of a place for him. She gave him a letter, which he was next day to deliver to one of the commissioners of the customs at Edinburgh. It happened that he was then some miles distant from the city; and the morning on which he was to have rode to town with her grace's letter of recommendation proved to be rainy. This slender circumstance was enough to discourage Boyse, who never looked beyond the present moment: he declined going to town on account of the rainy weather; and while he let slip the opportunity, the place was bestowed upon another, which the commissioner declared he kept for some time vacant in expectation of seeing a person recommended by the duchess of Gordon. Boyse at last having defeated all the kind intentions of his patrons towards him, fell into contempt and poverty, which obliged him to quit Edinburgh. He communicated his design of going to London to the duchess of Gordon; who, having still a very high opinion of his poetical abilities, gave him a letter of recommendation to Mr Pope, and obtained another for him to Sir Peter King the lord chancellor of England. Lord Stormont recommended him to the solicitor-general his brother, and many other persons of the first fashion. Upon receiving these letters, he, with great caution, quitted Edinburgh, regretted by none but his creditors. Upon his arrival in London, he went to Twickenham, in order to deliver the duchess of Gordon's letter to Mr Pope; but that gentleman not being at home, Mr Boyse never gave himself the trouble to repeat his visit. He wrote poems; but those, though excellent in their kind, were lost to the world, by being introduced with no advantage. He

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Boyse. He had so great a propensity to gravelling, that his acquaintance were generally of such a cast as could be of no service to him; and those in higher life he addressed by letters, not having sufficient confidence or politeness to converse familiarly with them. Thus unfit to support himself in the world, he was exposed to a variety of distresses, from which he could invent no means of extricating himself but by writing mendicant letters. It will appear amazing, that this man, of so abject a spirit, was voluptuous and luxurious; he had no taste for any thing elegant, and yet was to the last degree expensive. Can it be believed, that often when he had received but a guinea in consequence of a supplicating letter, he would go into a tavern, order a supper to be prepared, drink of the richest wines, and spend all the money that had just been given him in charity, without having any one to participate the regale with him, and while his wife and child were starving at home?

It was about the year 1740, that Mr Boyse, reduced to the last extremity of human wretchedness, had not a shirt, a coat, or any kind of apparel, to put on; the sheets in which he lay were carried to the pawn-broker's, and he was obliged to be confined to his bed with no other covering than a blanket. He had little support but what he got by writing letters to his friends in the most abject style; but was perhaps ashamed to let this instance of his distress be known, which probably was the occasion of his remaining six weeks in that situation. During this time he had some employment in writing verses for the Magazines; and whoever had seen him in his study, must have thought the object singular enough: he sat up in bed with the blanket wrapt about him, through which he had cut a hole large enough to admit his arm, and placing the paper upon his knee, scribbled in the best manner he could the verses he was obliged to make: whatever he got by those, or any other of his begging letters, was but just sufficient for the preservation of life. And perhaps he would have remained much longer in this distressful state, had not a compassionate gentleman, upon hearing this circumstance related, ordered his clothes to be taken out of pawn, and enabled him to appear again abroad.

About the year 1745, Mr Boyse's wife died. He was then at Reading, and pretended much concern when he heard of her death. His business at Reading was to compile a Review of the most material transactions at home and abroad during the last war: in which he has included a short account of the late rebellion. Upon his return from Reading, his behaviour was more decent than it had ever been before; and there were some hopes that a reformation, though late, would be wrought upon him. He was employed by a bookseller to translate *Fenelon on the Existence of a God*; during which time he married a second wife, a woman in low circumstances, but well enough adapted to his taste. He began now to live with more regard to his character, and supported a better appearance than usual; but while his circumstances were mending, and his irregular appetites losing ground, his health visibly declined. He had the satisfaction, while in this lingering illness, to observe a poem of his, entitled *The Deity*, recommended by two eminent writers, the ingenious Mr Fielding, and the reverend Mr James Harvey author of *The Meditations*.

Boyse || Brabanciones.

Mr Boyse's mind was often religiously disposed; he frequently talked upon that subject, and probably suffered a great deal from the remorse of his conscience. The early impressions of his good education were never entirely obliterated; and his whole life was a continued struggle between his will and reason, as he was always violating his duty to the one, while he fell under the subjection of the other. It was in consequence of this war in his mind, that he wrote a beautiful poem called *The Recantation*. In May 1749, he died in obscure lodgings near Shoe-lane; but in sentiments, there is the greatest reason to believe, very different from those in which he had spent the greatest part of his life. An old acquaintance of his endeavoured to collect money to defray the expences of his funeral, so that the scandal of being buried by the parish might be avoided; but in vain; the remains of this son of the muses were, with very little ceremony, hurried away by the parish-officers.

Never was a life spent with less grace than that of Mr Boyse, and never were such distinguished abilities given to less purpose. His genius was not confined to poetry only: he had a taste for painting, music, and heraldry; with the latter of which he was very well acquainted. His poetical pieces, if collected, would make six moderate volumes. Many of them are scattered in *The Gentleman's Magazine*, marked with the letter *Y*, and *Alceus*. Two volumes were published in London. An ode of his in the manner of Spenser, entitled *The Olive*, was addressed to Sir Robert Walpole, which procured him a present of ten guineas. He translated a poem from the High Dutch of Van Haren, in praise of peace, upon the conclusion of that made at Aix-la-Chapelle; but the poem which procured him the greatest reputation was that upon the attributes of the Deity. He was employed by Mr Ogle to translate some of Chaucer's tales into modern English, which he performed with great spirit, and received at the rate of threepence a line for his trouble. Mr Ogle published a complete edition of that old poet's *Canterbury Tales modernized*; and Mr Boyse's name is put to such tales as were done by him. In 1743, Mr Boyse published, without his name, an ode on the battle of Dettingen, entitled *Albion's Triumph*.

BOZOLA, a town of Italy, in the duchy of Mantua, capital of a territory of the same name, and subject to the house of Austria. E. Long. 10. 25. N. Lat. 45. 9.

B QUADRO, QUADRATO, or *Durale*, in *Music*, called by the French *b quarre*, from its figure ♮. This is what we call B *natural* or *sharp*, in distinction to B *mol* or *flat*. See FLAT and SHARP.

If the flat ♭ be placed before a note in the thorough bass, it intimates, that its third is to be minor; and if placed with any cypher over a note in the bass, as ♭ 6, or ♭ 5, &c. it denotes, that the fifth or sixth thereto are to be flat. But if the quadro ♮ be placed over any note, or with a cypher, in the thorough-bass, it has the contrary effect; for thereby the note or interval thereto is raised to its natural order.

BRABANCIONES, in middle age writers, a kind of Netherland soldiery, infamous for rapine, being lit-

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Brabanciones || Bracciolini.

tle better than commissioned banditti, who hired themselves to fight for any that could pay them best. The word is variously written by the historians of those days; all given them from the country of Brabant, which was the chief nursery of those troops. They are also frequently confounded with the *Routiers*, *Roturiers*, *Ruptarii*, *Ruterarii*, *Corteraux*, &c.

BRABANT, a large province of the Netherlands, with the title of a duchy. It is bounded on the north by the province of Holland and the duchy of Gnelderland; on the east, by the same duchy and the bishopric of Liege; on the south, by the province of Namur and Hainault; and on the west, by Zealand. It was formerly divided into Dutch Brabant and Austrian Brabant; and is watered by several rivers, of which the Scheld, the Ruppel, and the Dommel, are the chief. The soil is very fertile; and it contains 26 fortified towns, of which Brussels is the capital.

BRABEJUM, the AFRICAN ALMOND. See BOTANY *Index*.

BRABEUTES, or BRABEUTA, in antiquity, an officer among the Greeks, who presided at the public games, and decided controversies that happened among the antagonists in the gymnastical exercises. The number of brabeutæ was not fixed; sometimes there was only one, but more commonly they amounted to nine or ten.

BRACCIANO, a town of St Peter's patrimony, about 12 miles north of Rome, situated on the west side of a lake to which it gives name. E. Long. 13. N. Lat. 42.

BRACCIOLINI, FRANCIS, an Italian poet, a native of Postoia, and the friend of Pope Urban VIII. was born about the year 1566. Removing to Florence, he was admitted into the academy there, and devoted himself to literature. At Rome he entered into the service of Cardinal Maffeo Barberini, with whom he afterwards went to France. After the death of Clement VIII. he returned to his own country, and for some years prosecuted his studies in retirement. When his patron Barberini was elected pope, under the name of Urban VIII. Bracciolini repaired to Rome, where he was well received, and made secretary to the pope's brother, Cardinal Antonio. He had also the honour conferred on him of taking a surname from the arms of the Barberini family, which were Bees; and thenceforth he was known by the name of *Bracciolini dell' Api*. He resided in Rome during the whole of that pontificate, frequenting the most illustrious academies, and listened to with general applause, but, at the same time, censured for his sordid avarice. He returned at length to his native city, where he died in the year 1645.

Bracciolini was a copious writer. There is scarcely any species of poetry, epic, dramatic, pastoral, lyric, or burlesque, which he did not attempt. He is principally noted for his mock-heroic poem, entitled *Scherno degli Dei*, which is a ridicule of the heathen mythology, and which disputes priority of date with Tassoni's *Secchia Rapita*. In merit, indeed, its inferiority is acknowledged, yet it obtained considerable applause. Of his serious heroic poems, the most celebrated is the *Croce Racquistata*, which by some is placed next to the great works of Ariosto and Tasso, but not without a large interval. He celebrated the elevation of his patron Urban VIII. in a poem of twenty-three books, which shews with what facility he could write verses. His dramatic pastoral entitled *L'Amoroso Sdegno*, is accounted one of the best productions of the age in which it was written; and some of his tragedies met with much applause, particularly his *Evandro*.

Bracciolini || Brachmins.

BRACE is commonly taken for a couple or pair, and applied by huntsmen to several beasts of game, as a brace of bucks, foxes, hares, &c.

BRACE, or *Brasse*, is also a foreign measure, answering to our fathom. See FATHOM.

BRACE, in *Architecture*, a piece of timber framed in with bevil joints, the use of which is to keep the building from swerving either way. When the brace is framed into the kinglesses or principal rafters, it is by some called a *strut*.

BRACE, in writing or printing, a crooked line enclosing a passage, as in a triplet.

BRACES, in the sea-language, are ropes belonging to all the yards of a ship, except the mizen, two on each yard, reeved through blocks that are fastened to pennants, seized to the yard-arms. Their use is either to square or traverse the yards. Hence to brace the yard, is to bring it to either side. All braces come aftward on; as, the main brace comes to the poop, the main-top-sail brace comes to the mizen-top and thence to the main-shrouds; the fore and fore-top-sail braces come down by the main and main-top-sail stays, and so of the rest. But the mizen-bowline serves to brace to the yard, and the cross-jack braces are brought forwards to the main-shrouds, when the ship sails close by a wind.

BRACES of a Coach, thick straps of leather on which it hangs.

BRACELET, an ornament worn on the wrist, much used among the ancients; it was made of different materials, and in different fashions, according to the age and quality of the wearer. The word is French, *bracelet*; which Menage derives further from *bracelettum*, a diminutive of *bracile*, a word occurring in writers of the Justinian age; all formed from the Latin *brachium*, *arm*. It amounts to the same with what was called by the ancients *armilla*, *brachiale*, *occabus*; in the middle age, *boga*, *bauga*, *armispatha*.

Bracelets are much worn by the savages of Africa, who are so excessively fond of them, as to give the richest commodities, and even their fathers, wives, and children, in exchange for those made of no richer materials than shells, glass-beads, and the like.

They form also, in modern civilized countries, a very common part of the ornaments of the ladies.

BRACHIÆUS, the name of a muscle. See ANATOMY, *Table of the Muscles*.

Coraco-BRACHIALIS. See ANATOMY *Index*.

BRACHIUM, or ARM. See ANATOMY *Index*.

BRACHMINS, or BRACHMANS, a branch of the ancient Gymnosophists, or philosophers of India, remarkable for the severity of their lives and manners. See the article GYMNOSOPHISTS.

Some say they derive their name from the patriarch Abraham, whom they call in their language *Brachma*, or *Brama*. Others deduce it from the name of their god *Brachma*; which some again take to be the same with Abraham: whence Postel calls them *Abrachmanes*.

F. Thomassin

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Brachmans || Brackets.

F. Thomassin derives the word from the Hebrew *barach*, to *fly* or *escape;* because the Brachmans retire into the country and live in deserts. The same author gives us another derivation, viz. from the Hebrew *barach* (*benedicere*, *orare*), to bless or pray; in regard this is their principal occupation.—The Greeks ascribe to them the doctrine of the immortality of the soul, and certain notions concerning the nature of the Supreme Being and future rewards and punishments. To this species of knowledge the Brachmans added an infinite number of religious observances, which were adopted by Pythagoras in his school; such as fasting, prayer, silence, and contemplation. They were looked upon as the friends of the gods, because they affected to pay them so much regard; and as the protectors of mankind, because they paid them no regard at all. No bounds were therefore set to the respect and gratitude that were shown them: princes themselves did not scruple to consult these recluses upon any critical conjuncture, from a supposition, no doubt, that they were inspired; since it was impossible to imagine that they had the advantages of experience. We can scarcely, however, deny, that there might be among them some men of real virtue, whose minds relished the pure and ingenious delights of study and science; and who, by nobly raising their thoughts to the contemplation of the First Being, must have had more powerful incitements to render themselves worthy of his care, and none to justify them in deceiving and tyrannizing over their fellow-creatures.

There appear still some remains of the ancient brachmans in the east, under the denomination of Bramins. See BRAMINS.

BRACHYGRAPHY, the art of short-hand-writing. See SHORT HAND.

BRACHYLOGY, (from βραχυς and λογος "expression"), in *Rhetoric*, the expressing any thing in the most concise manner. This, so far as consistent with perspicuity, is a virtue and beauty of style; but if obscurity be the consequence, which is often the case, it becomes a blemish and inexcusable defect.—Quintilian gives an instance of brachylogy from Sallust: *Mithridates corpore ingenti perinde armatus;* "Mithridates, as it were, armed with the hugeness of his stature."

BRACHYPTERA, a term used by Willoughby, to denote those hawks which have their wings so short as not to reach to the end of the tail. Of this kind are the goss-hawk, sparrow hawk, &c.

BRACHYPRENIA, in the history of fossils, a genus of septariæ, with a short, roundish nucleus. See SEPTARIÆ.

BRACHYTELOSTYLA, in *Natural History*, the name by which Dr Hill calls those crystals which are composed of a short hexangular column terminated at each end by an hexangular pyramid. See CRYSTAL.

BRACKET, among carpenters, &c. a kind of wooden stay, serving to support shelves and the like.

BRACKETS, in a ship, the small knees, serving to support the galleries, and commonly carved. Also the timbers that support the grating in the head are called *brackets*.

BRACKETS, in *Gunnery*, are the cheeks of the carriage of a mortar: they are made of strong planks of wood, of almost a semicircular figure, and bound round with thick iron plates; they are fixed to the beds by four bolts, which are called *bed-bolts*; they rise up on each side of the mortar, and serve to keep her at any elevation by means of some strong iron bolts, called *bracket-bolts*, which go through these cheeks or brackets. Brackets || Bradford.

BRACKLAU, a strong town in Poland, capital of a palatinate of the same name. The houses are built of wood. It was taken by the Turks in 1672, but retaken three years afterwards. It is seated on the river Bog, in E. Long. 29. 20. N. Lat. 48. 5.

BRACKLAW, a palatinate of that name, which is the eastern part of Podolia; it is also called *Lower Podolia*, and is of greater extent than Upper Podolia, but is more desolate, on account of the neighbourhood of the Tartars.

BRACKLEY, a borough-town in Northamptonshire, in England, seated on the edge of the county, next Buckinghamshire, on a branch of the river Ouse. It is an ancient and large corporation-town, containing two parish-churches; is governed by a mayor and aldermen; and sends two members to parliament. It had formerly a college, which is turned into a free school. W. Long. 1. 15. N. Lat. 52. 0.

BRACTEA, in *Natural History*, denotes a spangle, or thin flake of any substance.

BRACTEA, in *Botany*, a thin leaf or plate of any *folium florale*, ranged by Linnæus among the *fulcra* of plants. These floral leaves differ in shape and colour, from the other *folia* of the plant; are generally situated on the penduculus, and often so near the corolla as to be easily mistaken for the *calyx;* than which, however, the *bracteæ* are generally more permanent. Examples of the floral leaves are seen in the tilia, fumaria bulbosa, lavendula and herminum.

BRACTEARIA, in *Natural History*, a genus of talcs, composed of small plates in form of spangles, each plate either being very thin, or fissile into very thin ones.

Of this genus there are a great many species, called from their different colours, *mica aurea*, or gold-glimmer; and *mica argentea*, silver-glimmer, or cats-silver, &c.

BRACTON, HENRY, lord chief justice of England in the reign of Henry III. was probably a native of Devonshire. He was educated at Oxford, where he took the degree of doctor of laws, and was made one of the itinerant judges about the year 1244. Ten years after he became chief justice, and had the earl of Derby's house in London assigned him for his town residence, during the minority of that nobleman. He is said to have filled this important office with singular reputation during 20 years. When he died is not known; probably it was in the reign of Edward I. He wrote *De legibus et consuetudinibus Angliæ*, which is one of the most ancient, and also most methodical books on our laws. His method is copied from Justinian. This work was printed at London in 1569, folio; and in 1640, 4to. The first is very incorrect.

BRAD, a town of Sclavonia, seated on the north side of the river Save, in E. Long. 18. 40. N. Lat. 45. 20.

BRADFIELD, a town of Essex in England, in E. Long. 0. 30. N. Lat. 51. 14.

BRADFORD, a town of Wiltshire in England, seated in W. Long. 2. 40. N. Lat. 51. 20.

BRADFORD, *John*, a divine, and martyr to the reformation,

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Bradford & Bradley.

formation, was born in the former part of the reign of Henry VIII. at Manchester in Lancashire. Being a remarkable penman and accountant, he became secretary to Sir John Harrington, who was several times employed by King Henry, and his successor Edward VI. as paymaster to the troops abroad. Bradford at this time was a gay man, and to support his extravagance made free with the king's money; but being at last unable to support the reflection of his guilt, he determined to make restitution, and actually repaid the money. Quitting his employment of secretary, about the year 1547, he took chambers in the inner temple, and for some time studied the law; but finding in himself an inclination to preach the gospel, in the following year he removed to Catharine-hall in Cambridge, where he applied with such uncommon assiduity to the study of divinity, that in a much shorter time than usual he was admitted to the degree of master of arts, and soon after made fellow of Pembroke-hall. Bishop Ridley, who, in 1550, was translated to the see of London, charmed with Bradford's application and zeal, now sent for him to the metropolis, ordained and appointed him his chaplain. In 1553, he was also made chaplain to Edward VI. during which time he became one of the most popular preachers in the kingdom. Such a reformer was too dangerous to be suffered in the succeeding reign. Mary was hardly in possession of the crown, before Bradford's persecutions began. He was first confined in the Tower for sedition, where he continued a year and a half; during which time he wrote several epistles that were dispersed in various parts of the kingdom. He was afterwards removed to other prisons, and at last brought to his trial before that infernal court of inquisition in which Gardiner sat as chief inquisitor, where he defended his principles to the last, in contempt of their utmost power. They condemned him to the flames; and he was accordingly burnt alive in Smithfield, on July 1. 1555. His works are, 1. Seventy-two letters, written to various people, whilst the author was in prison; printed in Bishop Coverdale's collection. 2. Ten letters, printed in Fox's Acts and Monuments. 3. Complaint of verity, 1559, 8vo. 4. Three examinations before the commissioners, and his private talk with the priests, with the original of his life, 1561, octavo. 5. Two notable sermons 1574, octavo, 1631. 6. Godly meditations and prayers 1614, 24to. 7. Treatise of repentance, 1622. With several translations and other pieces.

BRADFORTH, a town in the west of Yorkshire, seated on a breach of the river Are, containing 7767 inhabitants in 1811. W. Long. 1. 35. N. Lat. 53. 40.

BRADLEY, Dr James, a famous English astronomer, was the third son of William and Jane Bradley, and was born at Sherborne in Dorsetshire in the year 1692.

He was educated for the university at North Leach by Mr Egles and Mr Brice, who kept a boarding-school there; and from North Leach he was sent to Oxford. His friends intended him for the church, and his studies were regulated with that view; and as soon as he was of sufficient age to receive holy orders, the bishop of Hereford, who had conceived a great esteem for him, gave him the living of Bridstow, and soon after he was inducted to that of Welfrie in Pembrokeshire. But notwithstanding these advantages, from which he might promise himself still farther advancement in the church, he at length resigned his livings, that he might be wholly at liberty to pursue his favourite study the mathematics, and particularly astronomy. He was nephew to Mr Pound, a gentleman who is well known in the learned world by many excellent observations, and who would have enriched it with more, if the journals of his voyages had not been burnt at Pulo Condore, when the place was set on fire, and the English who were settled there cruelly massacred, Mr Pound himself very narrowly escaping with his life. With this gentleman, Mr Bradley passed all the time that he could spare from the duties of his function; and perhaps he sometimes trespassed upon them: he was then sufficiently acquainted with the mathematics to improve by Mr Pound's conversation; yet it does not appear that, in this study, he had any preceptor but his genius, or any assistant but his labour. Bradley.

It may be easily imagined, that the example and conversation of Mr Pound did not render Bradley more fond of his profession than he was before; he continued, however, as yet to fulfil the duties of it, though at this time he had made such observations as laid the foundation of those discoveries which afterwards distinguished him as one of the greatest astronomers of his age. Though these observations were made as it were by stealth, they gained him at first the notice, and then the friendship, of the lord chancellor Macclesfield, Mr Newton, afterwards Sir Isaac, Mr Halley, and many other members of the Royal Society, into which he was soon elected a member. About the same time, the chair of Savilian professor of astronomy became vacant by the death of the celebrated Dr Keil; and Mr Bradley was elected to succeed him on the 31st of October 1721, being then just 29 years old; and his colleague was Mr Halley, who was professor of geometry on the same foundation. Bradley, upon his being elected into this professorship, gave up both his livings, and with great joy quitted a situation in which his duty was directly opposite to his inclination. From this time, he applied himself wholly to the study of his favourite science; and in the year 1727 he published his theory of the aberration of the fixed stars, which is allowed to be one of the most useful and ingenious discoveries of modern astronomy. Three years after this discovery, by which Mr Bradley acquired very great reputation, he was appointed lecturer in astronomy and physics, at the museum of Oxford.

He pursued his studies with equal application and delight; and in the course of his observations, which were innumerable, he discovered that the inclination of the earth's axis upon the plane of the ecliptic was not always the same, but that it varied backwards and forwards some seconds, and that the period of these variations was nine years. This period seemed altogether unaccountable, as it could not be supposed to have any thing in common with the revolution of the earth, which is performed in one year. Mr Bradley, however, discovered the cause of this phenomenon in the Newtonian system of attraction. He published this discovery in 1737, so that in the space of about ten years he communicated to the world two of the finest discoveries in modern astronomy, which will for ever make a memorable epocha in the history of that science.

Mr

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Bradley. Mr Bradley always preserved the esteem and friendship of Mr Halley; who, being worn out by age and infirmities, thought he could do nothing farther for the service of astronomy, than procure for Mr Bradley the place of regius professor of astronomy at Greenwich, which he had possessed himself many years with the greatest reputation. With this view, he wrote many letters, which have been since found among Mr Bradley's papers, desiring his permission to apply for a grant of the reversion of it to him, and even offering to resign in his favour, if it should be thought necessary: but before Mr Halley could bring this kind project to bear, he died. Mr Bradley, however, obtained the place afterwards, by the favour and interest of Lord Macclesfield, who was afterwards president of the Royal Society. As soon as the appointment of Mr Bradley to this place was known, the university of Oxford sent him a diploma creating him doctor of divinity. The appointment of astronomer at Greenwich placed Mr Bradley in his proper element, and he pursued his observations with unwearied diligence. However numerous the collection of astronomical instruments at the observatory at Greenwich, it was impossible that such an observer as Dr Bradley should not desire to increase them, as well to answer those particular views, as in general to make observations with greater exactness. In the year 1748, therefore, he took the opportunity of the annual visit made by the Royal Society to the observatory, in order to examine the instruments and receive the professor's observations for the year, to represent so strongly the necessity of repairing the old instruments, and purchasing new, that the society thought proper to represent it to his majesty, and his majesty gave them 1000l. for that purpose. This sum was laid out under the direction of Dr Bradley, who, with the assistance of the late celebrated Mr Graham and Mr Bird, furnished the observatory with as complete a collection of astronomical instruments, as the most skilful and diligent observer could desire. Dr Bradley, furnished with such assistance, pursued his observations with new assiduity, an incredible number of which were found after his death, and put into the hands of the Royal Society.

It has been already observed, that when Dr Bradley was elected to the professor's chair at Oxford, he gave up his two livings, which were at such a distance, that he could not possibly fulfil the duties of them himself; but it happened that after he was settled at Greenwich the living of that parish became vacant, which is very considerable, and which was offered to him, as he was upon the spot to perform the duty, and had the claim of uncommon merit to the reward. This living, however, Dr Bradley, very greatly to his honour, refused, fearing the duties of the astronomer would too much interfere with those of the divine. His majesty, however, hearing of the refusal, was so pleased with it, that he granted him a pension of 250l. a-year, in consideration of his great abilities and knowledge in astronomy and other branches of the mathematics, which had procured so much advantage to the commerce and navigation of Great Britain, as is particularly mentioned in the grant, which is dated the 15th of February 1752. Dr Bradley, about the same time, was admitted into the council of the Royal Society. In the year 1748, he was admitted a member of the royal academy of sciences and belles lettres of Berlin, upon the death of M. Crevier, first physician to his Catholic majesty; in the year 1752, a member of the imperial academy at Petersburg; and in 1757, of that instituted at Bologna. Bradley Bradshaw.

Dr Bradley was still indefatigable in his observations, and whatever honour he received became an incitement to obtain new distinction; his corporeal abilities, however, at length declined, though his intellectual suffered no abatement. In the year 1780, he became extremely weak and infirm; and towards the end of June 1762, he was attacked with a total suppression of urine, caused by an inflammation of the reins, which on the 12th of July following put an end to his life, in the 70th year of his age. He was buried at Mitchin Hampton, in Gloucestershire, in the same grave with his mother and his wife. In the year 1744, he married Susannah Peach, the daughter of a gentleman of that name in Gloucestershire, by whom he had only one daughter.

As to his character, he was remarkable for a placid and gentle modesty, very uncommon in persons of an active temper and robust constitution. It was still more remarkable, that, with this untroubled equanimity of temper, he was compassionate and liberal in the highest degree. Although he was a good speaker, and possessed the rare but happy art of expressing his ideas with the utmost precision and perspicuity, yet no man was a greater lover of silence, for he never spoke but when he thought it absolutely necessary. He did indeed think it necessary to speak when he had a fair opportunity to communicate any useful knowledge in his own way; and he encouraged those that attended his lectures to ask him questions, by the exactness with which he answered, and the care he took to adapt himself to every capacity. He was not more inclined to write than to speak, for he has published very little; he had a natural diffidence, which made him always afraid that his works should injure his character; and therefore suppressed many, which probably were well worthy of the public attention. He was even known, as it were, in spite of himself; and, in spite of himself, he was known much, and consequently much esteemed. He was acquainted with many of the first persons in this kingdom, persons eminent as well for their rank as their abilities; he was honoured by all men of learning in general; and there was not an astronomer of any eminence in the world with whom he had not a literary correspondence. Upon the whole, it may be said of Dr Bradley, that no man cultivated great talents with more success, or had a better claim to be ranked among the greatest astronomers of his age.

BRADNINCH, a town of Devonshire, once a considerable place, but some time ago totally destroyed by fire. W. Long. 3. 35. N. Lat. 50. 45.

BRADS, among artificers, a kind of nails used in building, which have no spreading heads as other nails have. They are distinguished by ironmongers by six names; as *joiner's brads*, *flooring-brads*, *batten-brads*, *bill-brads*, or *quarter-heads*, &c. Joiners-brads are for hard wainscot; batten-brads are for soft wainscot; bill-brads are used when a floor is laid in haste, or for shallow joists subject to warp. See NAIL.

BRADSHAW, HENRY, a Benedictine monk, was born at Chester, about the middle of the 15th century. Discovering

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Bradshaw ‖ Brady.

Discovering an early propensity to religion and literature, he was received while a boy into the monastery of St Werberg in that city; and having there imbibed the rudiments of his education, he was afterwards sent to Gloucester college, in the suburbs of Oxford, where for a time he studied theology with the novices of his order, and then returned to his convent at Chester: here, in the latter part of his life, he applied himself chiefly to the study of history, and wrote several books. He died in the year 1513, the fifth of Henry VIII. His poetry is not inferior to that of any of his cotemporaries. His works are, 1. *De antiquitate et magnificentia urbis Cestriæ.* 2. *Chronicon.* 3. The life of the glorious virgin St Werberg. Printed Lond. 1521, 4to, in verse. The life of St Werberg makes only part of this work; for it contains also a description of the kingdom of Mercia, life of St Etheldred, the life of St Sexburg, the foundation and history of Chester, and the chronicles of some kings. Possibly this work may include the two first. Bishop Tanner says that he wrote a chronicle in English verse, extracted from Bede, Malmsbury, Giraldus, and others. Probably this is the chronicle above mentioned.

BRADWARDIN, Thomas, archbishop of Canterbury, was born at Hartfield in Sussex, about the close of the 13th century. He was educated at Merton college, Oxford, where he took the degree of doctor of divinity; and acquired the reputation of a profound scholar, a skilful mathematician, and consummate divine. Authors are not agreed as to his first preferments. Pitt says he was professor of divinity at Oxford. They agree, however, in asserting, that from being chancellor of the diocese of London, he became a courtier and confessor to Edward III. whom he constantly attended during his war with France, assisting that victorious prince with his advice, animating the troops, and fervently praying for their success. After his return from the war, he was made prebendary of Lincoln, and afterwards archbishop of Canterbury. He died at Lambeth in the year 1349, forty days after his consecration; and was buried in St Anselm's chapel, near the south wall. His works are, 1. *De causa Dei*, printed at London, 1618, published by J. H. Savil. 2. *De geometria speculativa*, &c. Paris, 1495, 1512, 1530. 3. *De arithmetica practica*, Paris, 1502, 1512. 4. *De proportionibus*, Paris, 1495. Venice, 1505, folio. 5. *De quadratura circuli*, Paris, 1495, folio.

BRADY, Robert, born in Norfolk in 1643, was master of Caius college, Cambridge, regius professor there, and twice representative of that university in parliament. In 1685, he was made keeper of the records in the Tower, and was physician in ordinary to James II. He wrote, An introduction to Old English history; A history of England, from the time of the Romans to the end of the reign of Richard II.; and, A treatise on English boroughs. He died in 1700.

Brady, *Nicholas*, an excellent divine and poet, born at Bandon, in the county of Cork, October 28th 1659. He studied at Westminster-school, and afterwards at Oxford and Dublin college. He was a zealous promoter of the Revolution; and, in 1690, when the troubles broke out in Ireland, by his interest with M'Carty, King James's general, he thrice prevented the burning of the town of Bandon. Having quitted several preferments in Ireland, he settled in London, where he was successively promoted to several livings; and at the time of his death was rector of Clapham, minister of Richmond, and chaplain to the duke of Ormond's troop of horse-guards. He wrote part of the new version of the Psalms, now sung in many churches in England and Ireland; the Æneids of Virgil, in 4 vols; and 3 vols of sermons. He died May 20th 1726.

Brady ‖ Brahe.

BRADYPUS, or Sloth, a genus of quadrupeds, belonging to the order of bruta. See Mammalia *Index*.

BRAE-MAR, a mountainous territory of Scotland, in the shire of Aberdeen, where the last earl of Mar began to raise a rebellion in 1715. It is 27 miles north-west of Aberdeen.

Brae-Murray, a mountainous and woody tract of land, lying in the shires of Elgin and Nairn in Scotland.

BRAG, an ingenious and pleasant game at cards, where as many may partake as the cards will supply; the eldest hand dealing three to each person at one time, and turning up the last card all round. This done, each gamester puts down three stakes, one for each card.—The first stake is won by the best card turned up in the dealing round; beginning from the ace, king, queen, knave, and so downwards. When cards of the same value are turned up to two or more of the gamesters, the eldest hand gains; but it is to be observed, that the ace of diamonds wins, to whatever hand it be turned up.—The second stake is won by what is called the *brag*, which consists in one of the gamesters challenging the rest to turn up cards equal to his: Now it is to be observed, that a pair of aces is the best brag, a pair of kings the next, and so on; and a pair of any sort wins the stake from the most valuable single card. In this part consists the great diversion of the game; for, by the artful management of the looks, gestures, and voice, it frequently happens, that a pair of fives, treys, or even deuces, outbrags a much higher pair, and even some pairs royal, to the no small merriment of the company. The knave of clubs is here a principal favourite, making a pair with any other card in hand, and with any other two cards a pair royal.—The third stake is won by the person who first makes up the cards in his hand one and thirty; each dignified card going for ten, and drawing from the pack, as usual in this game.

BRAGA, the capital of the province of Entre-minho-duro, in Portugal, situated on the river Cavado, in W. Long. 8. 40. N. Lat. 41. 20.

BRAGANZA, a city of Portugal, and capital of a duchy of the same name. It is seated on an eminence, by a brook called *Farvenca;* and is divided into two parts, the old city and the town. The former is upon an eminence, and fortified with a double wall. That part next the town has five bastions, but no ditch; the citadel is on the opposite side joined to the wall. The town is in a plain, and defended by a fort with four bastions. It is seated near the river Sabor, on the frontiers of Galicia, in W. Long. 6. 15. N. Lat. 41. 27.

BRAGGOT, a kind of drink made of malt, honey, and spices, much used in Wales.

BRAHE, Tycho, a celebrated astronomer, descended of an illustrious family originally of Sweden but settled at Denmark, was born December 14. 1546, at

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Brahe. at Knudstorp in the county of Schonen. He was taught Latin when seven years old, and studied five years under private tutors. His father dying, his uncle sent him, in April 1559, to study philosophy and rhetoric at Copenhagen. The great eclipse of the sun on the 21st of August 1560, happening at the precise time the astronomers had foretold, he began to look upon astronomy as something divine; and purchasing the tables of Stadius, gained some notion of the theory of the planets. In 1562, he was sent by his uncle to Leipsic to study law; but astronomy wholly engrossed his thoughts, and in purchasing books on that science he employed all his pocket-money. Having procured a small celestial globe, he was wont to wait till his tutor was gone to bed, in order to examine the constellations and learn their names; and when the sky was clear, he spent whole nights in viewing the stars. In 1565, a difference arising between Brahe and a Danish nobleman, they fought, and the former had part of his nose cut off; which defect he so artfully supplied with one made of gold and silver, that it was not perceivable. It was about this time that he began to apply to chemistry, proposing nothing less than to obtain the philosopher's stone. In 1571, he returned to Denmark; and was favoured by his mother's brother, Steno Belle, a lover of learning, with a convenient place at his castle of Herritzvad near Knudstorp, for making his observations, and building a laboratory. His marrying a country girl, beneath his rank, occasioned such a violent quarrel between him and his relations, that the king was obliged to interpose to reconcile them. In 1574, by his majesty's command, he read lectures upon the theory of the comets at Copenhagen. The year following he began his travels through Germany, and proceeded as far as Venice: he then resolved to remove his family, and settle at Basil; but Frederic II. king of Denmark being informed of his design, and unwilling to lose a man that was capable of being such an ornament to his country, promised to enable him to pursue his studies, to bestow upon him for life the island of Huen in the Sound, to erect an observatory and laboratory there, and to defray all the expences necessary for carrying on his designs. Tycho Brahe readily embraced this proposal; and accordingly the first stone of the observatory was laid August 8. 1576. The king also gave him a pension of 2000 crowns out of the treasury, a fee in Norway, and a canonry of Roschild, which brought him in 1000 more. James VI. of Scotland, afterwards raised to the crown of England, going to Denmark in order to marry the princess Anne, paid a visit to our author in his retirement at Uraniaburg, made him several presents, and with his own hand wrote a copy of verses in his praise; but, soon after the death of King Frederic, he was deprived of his pension, fee, and canonry; upon which, finding himself incapable of bearing the expences of his observatory, he went to Copenhagen, whither he brought some of his instruments, and continued his astronomical observations in that city, till Valkendorf, chamberlain to the household of Christian IV. commanded him by the king's order to discontinue them. He then removed his family to Rostock, and afterwards to Holstein, in order to solicit Henry Ranzou to introduce him to the emperor; and that gentleman complying with his request, he was received by the emperor at Prague with the utmost civility and respect. That prince gave him a magnificent house, till he could procure one for him more fit for astronomical observations; assigned him a pension of 3000 crowns; and promised upon the first opportunity, a fee for him and his descendants: but he did not long enjoy this happy situation; for, upon the 24th of October 1601, he died of a retention of urine, in the 55th year of his age, and was interred in a very magnificent manner in the principal church at Prague, where a noble monument was erected to him. —His skill in astronomy is universally known, and he is famed for being the inventor of a new system, which he endeavoured, though without success, to establish upon the ruins of that of Copernicus. He was very credulous with regard to judicial astrology and presages. If he met an old woman when he went out of doors, or a hare upon the road in a journey, he used to turn back immediately, being persuaded that it was a bad omen. When he lived at Uraniaburg, he had at his house a madman, whom he placed at his feet at table, and fed himself. As he imagined that every thing spoken by mad persons presaged something, he carefully observed all that this man said; and because it sometimes proved true, he imagined it might always be depended on. A mere trifle put him in a passion; and against persons of the first rank, with whom it was his duty to keep on good terms, he openly discovered his resentment. He was very apt to rally others, but highly provoked if the same liberty was taken with himself. His principal works are, 1. *Progymnasmata astronomiæ.* 2. *De mundi ætherei recentioribus phænomenis.* 3. *Epistolarum astronomicarum liber.*

Brahe || Braidalbin.

BRAHMA. See BRAMA.

BRAIDALBIN, a district of Perthshire in Scotland, stretching 32 miles from east to west, and 13 where broadest from south to north. It is a mountainous country, lying among the Grampian hills, supposed to be the country anciently known by the name of *Albanii*; whence the Highlanders to this day call themselves *Albinich*. It is bounded on the west by Lochaber, Lorn, and Knapdale; on the north and east, by part of Lochaber and part of Athol; and on the south by Strathern and Monteith. It produces plenty of game and black cattle; is inhabited by Highlanders said to be the most ferocious in all Scotland; and gives the title of earl to a branch of the Campbell family, which is possessed of a noble and magnificent seat in this division. Much flax is cultivated here. Some years ago, when premiums were given for the greatest crops, from 70 to 120 hogsheads of linseed were annually sown, each peck yielding two stones of dressed flax; and when the yarn sold highest, 2000l. worth has been sold out of the country. Oats and potatoes are the other crops. Oats yield from four to six fold at the most, oftener less; bear from eight to ten, at an average six. The corn raised seldom suffices the number of inhabitants, so they are often obliged to have recourse to importation. From their potatoes some have distilled a very strong spirit, which has been found cheaper than what is distilled from any grain. Starch is also made from them; and, in some places, bread. Corcur, or the *lichen omphaloides*, is an article of commerce; great quantities have been scraped from the rocks, and exported for the use of the dyers,

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Braidalbin || Bramber.

at the price of 1s. or 16d. per stone. A good many sheep are reared here, and much wool is sent out of the country. There are few horses raised in this country: such as feed on the tops of the higher hills are often afflicted with a distemper that commonly proves fatal, if a remedy is not applied within 24 hours. It attacks them in the months of July and August, usually after a fall of rain, or before the dew rises in the morning. An universal swelling spreads over the body; the remedy is exercise, chafing, or any other method that promotes urine and perspiration. The common people attribute this evil to a certain animal that scatters its poison over the grass; but more probably it arises from some noxious vegetable, hitherto unobserved. Before the year 1745, Lord Braidalbin was obliged to keep a constant guard for the protection of his vassals cattle, or to retain spies among the thievish clans; having too much spirit to submit to pay an infamous tax, called *black mail*, to the plundering chieftans, as the price of their safety.

BRAIL, or BRAILS, in a ship, are small ropes made use of to furl the sails across: they belong only to the two courses and the mizen-sail; they are reeved through the blocks, seized on each side the ties, and come down before the sail, being at the very skirt thereof fastened to the cringles; their use is, when the sail is furled across, to hale up its bunt, that it may the more easily be taken up or let fall. Hale up the brails, or brail up the sail; that is, Hale up the sail, in order to be furled or bound close to the yard.

BRAILOW, a town of Poland, in the province of Podolia, seated on the river Bog, in E. Long. 29. 0. N. Lat. 43. 50.

BRAIN, in *Anatomy*, is that large, soft, whitish mass, enclosed in the cranium or skull; wherein all the organs of sense terminate, and the soul is supposed principally to reside. See ANATOMY *Index*.

BRAIN le Comte, a town of the Austrian Netherlands, in the province of Hainault. E. Long. 4. 11. N. Lat. 50. 35.

BRAINTREE, a large town of Essex in England, situated in E. Long. 0. 30. N. Lat. 51. 50.

BRAKE, denotes female fern, or the place where it grows.—Also a sharp bit or snaffle for horses; and a baker's kneading-trough.—Also an instrument with teeth to bruise flax or hemp. See *FLAX-Dressing*.

BRAKEL, a town of Germany, in the bishopric of Paderborn. E. Long. 9. 8. N. Lat. 51. 46.

BRAMA, or BRUMA, a pagan deity of the East Indies. He is the first person of a kind of trinity in their theology; is the great progenitor of mankind; and has created as many worlds as there are considerable parts in his body. See the article BRACHMANS, BRAMINS, and INDOSTAN.

BRAMA, in *Ichthyology*, the trivial name of a species of cyprinus.

BRAMAH, JOSEPH, an English engineer and machinist. See SUPPLEMENT.

BRAMANT, a town of Savoy in the valley of Maurith, seated on the river Arck, in E. Long. 4. 15. N. Lat. 45. 0.

BRAMBER, a town of Sussex in England, with 95 inhabitants, though formerly of some account; however, it sends two members to parliament. W. Long. 0. 15. N. Lat. 50. 50.

BRAMBLE, in *Botany*, the English name of the RUBUS. See BOTANY *Index*.

Bramble || Bramhall.

BRAMBLE-Net, otherwise called *hallier*, is a net to catch birds in of several sizes: the great meshes must be four inches square; those of the least size are three inches square; and those of the biggest, five. In the depth they should not be above three or four inches; but as for the length, they may be enlarged at pleasure; the shortest being 18 feet long.

BRAMBLE, or *Brambling*, in *Ornithology*, the trivial name of a species of FRINGILLA.

BRAMER, LEONARD, history-painter, was born at Delft in 1596; but learned the art of painting in the school of Rembrandt, and imitated the manner of his master in small. In the 18th year of his age he went to Rome for his improvement; but although he continued in Italy for some years, and acquired somewhat in his style rather more graceful than Rembrandt, yet he could never divest himself of the Flemish gout. He had a fine taste of design; his expression is generally good, and in some of his compositions truly noble. His pencil is delicate, and his colouring very peculiar in the tints, being also remarkably thin in many parts, so as barely to cover the pannel; yet, by great skill in the management of the chiaro-scuro, his colouring is bright, bold, and full of lustre; particularly in the vases, which he was fond of introducing in every subject that could admit them, as he knew how to give them a rich and fine relievo. He had accustomed himself to paint with a very thin body of colour, especially in the browns and shadowy parts, in order to give his pictures a greater transparence. At Venice, Naples, Florence, Mantua, and other cities of Italy, as well as at Rome, he left many proofs of his extraordinary merit, which rendered his name deservedly famous; and his works are rarely to be met with out of Italy, where he painted most; but whenever they are to be purchased they are bought at considerable prices, if they are entire and undamaged. One of the most capital pictures of Bramer is the *Raising of Lazarus*, in which there is a charming opposition of light and shadow; and another is the *Denial of St Peter*: They are both painted in his best manner; they are bright, transparent, and finely penciled, and are still preserved at Rome. Likewise at the palace of Ryswick, there are several valuable paintings by this master; in which the invention and execution are highly commendable. But none of his works can be more admired than a small picture on copper representing the story of Pyramus and Thisbe. *Pilkington's Dict.*

BRAMHALL, Dr JOHN, archbishop of Armagh, was born of an ancient family at Pontefract in Yorkshire, about the year 1593. He was invited over to Ireland by the lord deputy Wentworth; and soon after obtained the arch-deaconry of Meath, the best in that kingdom. In 1634, he was made bishop of Londonderry, which see he improved very much; but the greatest service he did to the church of Ireland, was by getting, with the deputy's assistance, several acts passed for abolishing fee-farms, recovering impropriations, &c. by which, and by other means, he regained to the church in the space of four years 30,000l. or 40,000l. a-year. In the convocation he prevailed upon the church of Ireland to unite in the same faith with the church of England, by adopting the 39 articles.

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Bramhall, Bramins.

cles of that church; and would willingly have introduced the English canons, but could only prevail on their accepting such as they deemed proper. Articles of treason were exhibited against him in the Irish parliament; and at the treaty of Uxbridge in 1644, the English parliament made it a preliminary article, that Bishop Bramhall, with Archbishop Laud, and others, should be excepted from the general pardon. He went abroad; but on the restoration was appointed archbishop of Armagh, primate and metropolitan of all Ireland, and was chosen speaker of the house of lords. He died in 1663; and was the author of several works, which are collected in one vol. folio.

BRAMINS, the name of the priests among the idolatrous Indians; the successors of the ancient Brachmans. See the article BRACHMANS.

Their name is formed from *Brama*, their particular deity. They are found in Siam, Malabar, China, Coromandel, and most other eastern nations anywise civilized; but their chief seat is in Indostan *, or the Mogul's country. They have a language peculiar to themselves, which they call *Shanscrit*; in which they have several ancient books, written, as is alleged, by their great prophet Brahma; as the *Shastram*, which is their bible; and *Porana*, a history which they esteem sacred, and pretend to have been dictated by God himself.

See Indostan.

There are several orders of Bramins. Those who mix in society are for the most part very corrupt in their morals: they believe that the water of the Ganges will wash away all their crimes; and, as they are not subject to any civil jurisdiction, live without either restraint or virtue, excepting that character of compassion and charity which is so commonly found in the mild climate of India. The others, who live abstracted from the world, are either weak-minded men or enthusiasts; and abandon themselves to laziness, superstition, and the dreams of metaphysics. We find in their disputes the very same ideas that occur in the writings of our most celebrated metaphysicians; such as, substance, accident, priority, posteriority, immutability, indivisibility, &c.

Their religion, which was anciently of the allegorical and moral kind, hath degenerated into a heap of extravagant and obscene superstitions, owing to their having realized those fictions which were intended merely as so many symbols and emblems. Were it possible to obtain a sight of their sacred books, the only remains there are of the Indian antiquities, we might in some measure be enabled to remove the veil that envelopes these numerous mysteries; but the following story will show how little reason there is to hope that we shall ever be intrusted with such a communication.

Bramins.

Dynal's hist. of the Indies.

The emperor Mahmoud Akbar had an inclination to make himself acquainted with the principles of all the religious sects throughout his extensive provinces. Having discarded the superstitious notions with which he had been prepossessed by his education in the Mahometan faith, he resolved to judge for himself. It was easy for him to be acquainted with the nature of those systems that are formed upon the plan of making proselytes; but he found himself disappointed in his design when he came to treat with the Indians, who will not admit any person whatever to the participation of their mysteries. Neither the authority nor promises of Akbar could prevail with the Bramins to disclose the tenets of their religion; he was therefore obliged to have recourse to artifice. The stratagem he made use of, was to cause a boy, of the name of Feizi, to be committed to the care of these priests, as a poor orphan of the sacerdotal line, who alone could be initiated into the sacred rites of their theology. Feizi, having received the proper instructions for the part he was to act, was conveyed privately to Benares, the seat of knowledge in Indostan; he was received into the house of a learned Bramin, who educated him with the same care as if he had been his own son. After the youth had spent ten years in study, Akbar was desirous of recalling him: but he was struck with the charms of the daughter of his preceptor. The women of the sacerdotal tribe are looked upon as the greatest beauties in Indostan. The old Bramin laid no restraint upon that growing passion of the two lovers: he was fond of Feizi, who had gained his affection by his address and docility; and offered him his daughter in marriage. The young man, divided between love and gratitude, resolved to conceal the fraud no longer; and falling at the feet of the Bramin, discovered the imposture, and asked pardon for his offence. The priest, without reproaching him in the least, seized a poignard, which hung at his girdle, and was going to plunge it in his breast, if Feizi had not prevented him by taking hold of his arm. The young man used every means to pacify him, and declared himself ready to do any thing to expiate his treachery. The Bramin, bursting into tears, promised to pardon him on condition that he should swear never to translate the *Bedas* or sacred volumes, or disclose to any person whatever the symbol of the Bramin creed. Feizi readily promised all that the Bramin required: how far he kept his word is not known; but the sacred books of the Indians have never been translated by him, or any one else, to this day. As the Bramins are the only persons who understand the language of the sacred books, their comments on the text are the same as those that have ever been made on religious books; all the maxims which fancy, interest, passion, or false zeal can suggest, are to be found in these volumes. See the articles SHASTAH and VEDAM.

They own a supreme God, who created Brama, and gave him a power to create the world. They have also their subaltern deities, their pagods or temples, and idols, whom they fan to defend from flies, dancing before them. They also hold a feast in honour of the sun considered as the source of light and heat, whereby all nature is fecundified.

Their pagods or temples consist of three parts. The first is a vaulted roof, supported on stone columns: it lies open, and all persons, without distinction, are allowed to enter into it. It is adorned with symbolical figures made of wood, as elephants, oxen, and horses. The second part is open in the day time, and shut at night. It is filled with grotesque and monstrous figures, as men with many heads and arms. The third, which is a kind of chancel, is kept always shut, with a very strong gate. In this is placed the statue of the deity to whom the pagod is dedicated. A great num-

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Bramins || Bran.

ber of lamps burn day and night before the idol. The Bramins, before they go into the pagod, pull off their shoes, and leave them at the door.

The Bramins of Siam and Coromandel maintain that the earth will be destroyed by fire; and the former assert that another will arise out of its ashes, in which there shall be no sea, nor any change of seasons, but an eternal spring; and the latter maintain a plurality of worlds, which are alternately destroyed and renewed.

Robert de Nobili, an Italian Jesuit, and one of the Indian missionaries, in the beginning of the 17th century, in order to secure success to his mission, assumed the title and appearance of a Bramin, and at length persuaded the credulous people that he was in reality a member of that venerable order. He forged a deed in the ancient Indian characters, showing that the Bramins of Rome were elder than those of India, and that the Jesuits of Rome descended in a direct line from the god Brama. He farther declared on oath, that he derived his origin from this Indian deity. By this imposture he proselyted twelve eminent Bramins, whose influence proved very favourable to his mission. After his death, the Portuguese Jesuits carried on the imposture with very considerable success. These missions, however, were suspended and abandoned in consequence of a papal mandate, issued out in the year 1744, by Benedict XIV. who declared his disapprobation of the artifices that had been used in the conversion of the Indians. See further under the article OBSERVATORY.

BRAMPOUR, or BRAMPORE, a city of Asia, in Hindostan, and once capital of Candish. It formerly stood on as much ground as London; but it is now greatly decayed, and chiefly inhabited by Banians. The streets are numerous but narrow, with low thatched houses made of earth, though a few are covered with varnished tiles. In rainy weather many of the streets are overflowed. In the market place is the statue of an elephant in red stone, as big as life. On the other side of the river they have built a new town, which is in a better situation. A great trade is carried on in this town, and throughout all the province, where there is made a prodigious quantity of cotton-cloths, as cotton is in greater plenty here than in any other place of the empire. E. Long. 77. 25. N. Lat. 21. 10.

BRAMPTON, a town of Cumberland in England, seated not far from the Picts wall, and on the river Irthin. It is a very ancient place, and contained 2043 inhabitants in 1811. W. Long. 2. 40. N. Lat. 54. 50.

BRAN, the skins or husks of corn, especially wheat, ground, separated from the flour by a sieve or boulter. It contains, besides, a portion of the farinaceous matter; this is less glutinous than the finer flour, and is supposed to have a detergent quality. Infusions of bran are not unfrequently employed in this intention externally, and sometimes likewise taken inwardly.

Among the ancients bran was used as an erotic, to excite love. Bran boiled purges scurf, dandreff, and cleanses the hands in lieu of soap. The dyers reckon it among the nut-coloured drugs; and use it for making what they call the *sour waters*, with which they prepare their several dyes. Bran is also used as a medicine for horses. See FARRIERY *Index*.

Branch || Branchiostegi.

BRANCH, in *Botany*, an arm of a tree, or a part which, sprouting out from the trunk, helps to form the head or crown thereof. Branches do not spring out of the mere surface of the trunk, but are profoundly rooted therein, so as not only to penetrate into the cortical, but also the woody substance, and even the pith. The constituent parts therefore of a *branch* are the same as of the trunk, viz. skin, bark, wood, and pith. See the article PLANTS.

BRANCHES of a Bridle, in the manege, are two pieces of iron bended, which, in the interval between the one and the other, bear the bit-mouth, the cross-chains, and the curb; so that on one end they answer to the head-stall, and on the other to the reins, in order to keep the horse's head in subjection. With regard to their form and structure, branches are either straight, in form of a pistil, for young horses to form their mouth; or after the constable of France's fashion, proper for a horse that carries his head well. Some are in form of a gigot or leg, which will prevent horses from carrying too low: Some are in form of a bent knee, contrived for horses that arm themselves against the operation of the bit; and others after the French fashion, which is hardly above one third of an inch at the sevile hole, and kneed 1¼ inch at the jarret or ham.

It is to be observed, 1. That the farther the branch is from the horse's neck, the more effect it will have. 2. That short branches, *cæteris paribus*, are ruder, and their effects more sudden, than those of longer. 3. That the branch is to be proportioned to the length of a horse's neck; and one may sooner err in choosing one too short than too long.

BRANCHES of Ogives, in *Architecture*, are the arches of Gothic vaults. These arches, traversing from one angle to another diagonal-wise, form a cross between the other arches, which make the sides of the square, of which the arches are diagonal.

BRANCH-Stand, with falconers, a term used to signify the making a hawk leap from tree to tree, till the dog springs the game.

BRANCHER, among sportsmen, a young hawk, newly taken out of the nest, that can hop from bough to bough.

BRANCHIÆ, or GILLS, in the anatomy of fishes, the parts corresponding to the lungs of land-animals. All fishes, except the cetaceous ones, and the pteromyzum, which have lungs, are furnished with these organs of respiration. See ANATOMY *Index*.

BRANCHIDÆ, in Grecian antiquity, priests of the temple of Apollo, which was at Didymus in Ionia, a province of Lesser Asia, towards the Ægean sea, upon the frontier of Caria. They opened to Xerxes the temple of Apollo, the riches whereof he took away. After which, thinking it unsafe to stay in Greece, they fled to Sogdiana, on the other side of the Caspian sea, upon the frontiers of Persia, where they built a city called by their own name: but they did not escape the punishment of their crime; for Alexander the Great having conquered Darius king of Persia, and being informed of their treachery, put them all to the sword, and razed their city, thus punishing the impiety of the fathers in their posterity.

BRANCHIOSTEGI, in *Ichthyology*, a term used to express one of the general classes of fishes; the characters of which are, that the rays of the fins are of a bony

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Branchiostegi || Brandenburg.

bony substance, but these fish have no bones or ossicula at the branchiæ, as the malacopterygious and acanthopterygious fishes all have.

BRANCHON, a town of the Netherlands, in the province of Namur, seated on the river Mehaigne. E. Long. 4. 40. N. Lat. 50. 32.

BRAND SUNDAY, *Dimanche des Brandons*, in French ecclesiastical writers, denotes the first Sunday in Lent, which is thus called on account of an ancient practice in the Lyonnois, where the peasants, in the night of this day, walked about their orchards, gardens, &c. with torches lighted, or fire-brands in their hands; in which plight they visited every tree, and addressing themselves to them one after another, threatened, that if they did not bear fruit well the ensuing season, they should be cut down to the ground and burnt. This is evidently a relick of Paganism; the like of which was practised by the ancient idolaters in the month of February; hence called *Februarius, à februando.*

BRANDEIS, a town of Bohemia, seated on the river Elbe. E. Long. 14. 25. N. Lat. 50. 15.

BRANDENBURG, Marquisate of, a large country of Germany, having Mecklenburg and Pomerania on the north; Poland, on the east; Silesia, with the Lusatias, the electorate of Saxony, Anhalt, and duchy of Magdeburg, on the south; and part of the same duchy, and that of Lunenburg, on the west. Its greatest length is near 200 miles, and its greatest breadth near 100. It northern situation makes it very cold for seven or eight months in winter. The soil in general is far from being fruitful, a great part of it consisting of sand: yet there are several fruitful spots in it; and the whole, under the last and present reign, has been greatly improved, and much better peopled. In some parts there is great plenty of potatoes and turnips; in others of buck-wheat, millet, and flax; in others of tobacco, woad, and other herbs for dyeing. All sorts of colour-earth, together with alum, saltpetre, amber, iron, stone, and medicinal springs, are found in it. Abundance of cattle, especially sheep, are bred here; and the woods not only supply the inhabitants with fuel, but with timber, charcoal, tar, and wood-ashes, both for domestic uses and for exportation. The culture of silk is also carried on in this country with great success. The principal rivers by which it is watered are the Elbe, the Oder, the Prignitz, the Havel, the Warte, and the Spree. Some of the rivers and lakes abound in fish, and are united by canals for the benefit of navigation. They reckon in the whole Mark 120 towns, 2500 villages; and in 1801 about 1,100,000 inhabitants. The states here consist of the nobility and towns, whose assembly-house is in the Spandau-street at Berlin, and who still enjoy some small remains of their ancient privileges. The hereditary officers of the marquisate are a marshal, chamberlain, cup-bearer, purveyor, sewer, treasurer, and ranger. The king of Prussia, who is also elector of Brandenburg, with his whole court, are Calvinists; but the religion of most of the inhabitants is Lutheranism. The churches of both persuasions are well endowed, and the laity jointly employed by the government. The Roman Catholics are also tolerated here. In short, every inhabitant enjoys full liberty of conscience. A great variety of manufactures, most of which were introduced by the French refugees, are carried on in the marquisate, especially at Berlin and Potsdam; where are also excellent painters, statuaries, and engravers. By means of these manufactures, fabrics, and arts, not only large sums are kept in the country, but also imported from other parts, to which considerable quantities of the manufactures and natural productions are exported. For the education of youth and the advancement of learning, besides Latin schools in several places, and gymnasia, there is an university at Frankfort on the Oder, and an academy of sciences at Berlin. Brandenburg.

The Brandenburg family is of great antiquity. Some historians say it was founded by the Sclavonians, who gave it the name of *Branber*, which signifies the "Guards of the Forests;" and the Germans called it *Branburg*. Henry I. surnamed the Fowler, fortified this place in the year 923, to serve as a rampart against the Huns, a warlike nation, who were extremely troublesome by their frequent incursions. He bestowed the government on Sifro, count of Ringelheim, with the title of Margrave or Marquis, which signifies Protector of the Marches or Frontiers, in 923. It descended to Gerod, margrave of Lusatia; and in succession of time passed into the families of Staden, Ascania, Bellenstadt, and that of Bavaria, till the emperor Sigismund, with the consent of the states of the empire, in 1416, gave perpetual investiture to Frederick VI. of Nuremberg; who also the following year received from the emperor, at the diet of Constance, the investiture of the county of Brandenburg as Frederick I.; having had previously conferred upon him the dignity of elector and arch-chamberlain of the Holy Roman empire.

Brandenburg remained long in subjection to Poland; and the investiture of Prussia was granted by the Polish kings to each succeeding margrave. Frederick-William, having concluded a treaty with the king of Poland, was acknowledged to be sovereign of Ducal Prussia by an assembly of the states at Konigsberg A. D. 1663. By the treaty of Vienna the emperor confirmed this title; and Frederick, the son of Frederick-William, was proclaimed king of Prussia, January 18. 1701. He was succeeded by his son, who performed the greatest services to his country, and prepared the materials of the future grandeur of the late sovereign, Frederick III. who began his reign on the 31st of May, 1740, at the age of 28. See PRUSSIA.

Among the electors he possesses the seventh place. As arch-chamberlain, he carries the sceptre before the emperor at his coronation, and brings him water in a silver bason to wash with. In the college of princes of the empire he has five voices. His assessment, as elector, is 60 horse and 277 foot, or 1828 florins in lieu of them. To the chamber of Wetzlar, his quota is 811 rix-dollars 58 kruitzers, each term. As to the orders of the knights of the Black Eagle, and of Merit, it is sufficient here to observe, that the former was instituted by Frederick I. at his coronation, and the other by the present king. For the government of this country and the administration of justice, there are several supreme colleges and tribunals; particularly for the departments of war, foreign affairs, and the finances, there are distinct boards. Here is a supreme ecclesiastical council and consistory for the Lutherans, a supreme directory

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Brandenburg, Brandeum

directory of the Calvinist church; a supreme medicinal college; a supreme mine-office; a college or board of trade, &c. These of the French nation, settled in this country, are allowed particular courts of their own. The amount of the yearly revenues of the Mark, arising from the domains, protection money paid by the Jews, tolls, land-tax, mines, forests, duties on stamp-paper, salt, and variety of other imposts and excises, is computed at about 2,500,000 crowns; but the money is said to be much inferior in goodness to that of Saxony and the dominions of Hanover. Of late it was extremely debased. Since 1815 the whole number of the inhabitants of the royal and electoral dominions have been estimated at 10,000,000, and the revenues at about 7,000,000 sterling. Upwards of 200,000 men are kept on foot in time of peace, which are said to cost more than half of the royal revenue. These troops are under strict discipline, very expert at their exercise, always in readiness to march, and always complete. Each regiment has a particular canton or district allotted it for its quarters and raising recruits. The infantry are clothed in blue, and the horse and dragoons in white; and both are required to hear sermon twice a-day when in quarters or garrisons. In time of peace they are allowed, for several months in the year, to hire themselves out, or to follow their business either as burghers or peasants, in the canton where they are quartered; but they are not allowed to marry. A considerable part of these troops are stationed in the Mark, particularly at Berlin and Potsdam. The corps of hussars alone amounts to about 10,000 men. The Mark of Brandenburg is divided, in general, into the electoral and new Marks. The former is again subdivided into the old Mark, the Pregnitz, the middle Mark, and the Ucker Mark. The old Mark, which lies on the west side of the Elbe, between that river and Lunenburg, is about 50 miles in length, and 30 in breadth.

BRANDENBURG, a city of Germany, and capital of the marquisate of that name, situated on the river Havel, in E. Long. 13. 0. N. Lat. 52. 25. It is divided into the old and new town, and was anciently the see of a bishop. The mountain in the neighbourhood, called *Marienberg*, is planted with vines. Here is a small colony of French Calvinists, with a manufacture of cloth, fustian, and canvas; and a pretty good trade is carried on by the Havel. The fort here looks like a suburb, and contains a riding school, with the cathedral church. The greater part also of the members of the chapter, which still subsists, and is composed of a Lutheran provost, dean, senior, subsenior, and three other canons, reside in it. They are distinguished by a cross of gold enamelled with violet, terminating in eight points; and have a considerable estate. The town contains about 13,000 inhabitants.

BRANDEUM, in ecclesiastical writers, a linen cloth or veil put over the tombs of the apostles St Peter and St Paul, and left there for some time; by which it is supposed to acquire a degree of sanctity, so as to be worshipped as a relic; and for that purpose frequently sent by the pope as a present to some prince. In this sense, Brandeum amounts to the same with what was otherwise called *sanctuarium*, *sudarium*, *orarium*, and *velum*. The use of brandea was introduced as a means of diffusing and propagating the virtues and influences of relics, without moving, or any way impairing, the substance of them; the translation of relics in early days being forbidden.

Brandea, Branska

BRANDING, in the face or hand, denotes a punishment inflicted by law on various offences, by burning with a hot iron, after the offender hath been once admitted to benefit of clergy.

BRANDON, a town of Suffolk in England, seated on the little river Ouse, over which it has a bridge, and a ferry at a mile's distance: whence it is divided into Brandon, and Brandon ferry; which last has the most business, because commodities are brought thither from the isle of Ely. This place gives the British title of duke to the family of Hamilton in Scotland. Population 1360. E. Long. 0. 55. N. Lat. 52. 30.

BRANDRITH, denotes a trevet or other iron stand, whereon to set a vessel over the fire.

BRANDRITH, among builders, denotes a fence or rail about the mouth of a well.

BRANDT, GERARD, a learned divine of the reformed religion, was born at Amsterdam in 1626, and was successively minister in several places of the Netherlands. He wrote some works which are esteemed, particularly the history of the reformation of the Netherlands, 4 vols 4to; and The Life of Admiral Ruyter; both written in the Flemish tongue. He died at Rotterdam in 1685.

BRANDY, a spirituous and inflammable liquor, extracted from wine and other liquors by distillation. See DISTILLATION.

Wine-brandy, made in France, is esteemed the best in Europe. They make it wherever they make wine, and for that purpose use wine that is pricked rather than good wine. The chief brandies for foreign trade, and those accounted best, are the brandies of Bourdeaux, Rochelle, Cogniac, Charenton, the isle of Rhe, Orleans, the county of Blasois, Poicton, Touraine, Anjou, Nantz, Burgundy, and Champaign.

BRANK, an instrument used in some parts of Scotland, and in Staffordshire, for correcting scolding women. It is a sort of head-piece, which opens and encloses the head of the impatient, while an iron, sharp as a chissel, enters the mouth, and subdues the more dreadful weapon within. Thus harnessed, the offender is led in triumph through the streets. Dr Plott, in his History of Staffordshire, has favoured the world with a minute description and figure of the instrument*, which is there called a *scolding bridle*; and tells us, he looks upon it "as much to be preferred to the ducking-stool, which not only endangers the health of the party, but also gives the tongue liberty betwixt every dip; to neither of which this is at all liable."

*Page 310. tab. 32.

BRANLIN, in *Ichthyology*, a species of salmon, with several transverse black streaks, resembling the impression of so many fingers.

BRANNODUNUM (Notitiæ), with a garrison of the Equites Dalmatiæ, a town of Britain, on the Sinus Metaris: now Brancester, in Norfolk, on the Washes.

BRANOGENIUM, or BRANONIUM, a town of the Coritani, a people in the heart of Britain: from the distances of the Itinerary, Camden supposes it to be Worcester.

BRANSKA, a town of Transilvania, situated on the river Marish. E. Long. 23. 15. N. Lat. 46. 0.

BRASIDA,

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Brasida Brasil.

BRASIDA, an anniversary solemnity at Sparta, in memory of Brasidas, a Lacedemonian captain, famous for his achievements at Methone, Pylus, and Amphipolis. It was celebrated with sacrifices and games, wherein none were permitted to attend but free-born Spartans. Whoever neglected to be present at the solemnity was fined.

BRASIDAS, a celebrated general of the Lacedemonians, about 424 years before the birth of Christ. He defeated the Athenians by land and sea, took many places, and rendered his country formidable to all the neighbouring states. He conquered the Athenians on their attempting to surprise Amphipolis, but died of the wounds he received in that battle. See ATTICA and LACEDEMON.

BRASIL, a large country of South America, being the eastermost part of that continent lying between the equinoctial line and the tropic of Capricorn. It is about 1560 miles in length, and 1000 in breadth; but measuring along the coast, it is 2000 miles long, and is bordered with mountains that open from time to time, and form good harbours where vessels may lie in safety. It was acoidentally discovered by the Portoguese in 1500. Emmanuel king of Portugal had equipped a squadron of 13 sail, carrying 1200 soldiers and sailors destined for the East Indies, under the conduct of Peter Alvarez Cabral. This admiral, quitting Lisbon on the 19th of March 1500, struck out to sea to avoid the coast of Guinea, and steered his course southward, that he might the more easily turn the Cape of Good Hope, which projects a good way into the ocean. On the 24th of April, he got sight of the continent of South America, which he judged to be a large island at some distance from the coast of Africa. Coasting along for some time, he ventured to send a boat on shore; and was astonished to observe the inhabitants entirely different from the Africans in features, hair and complexion. It was found, however, impracticable to seize upon any of the Indians, who retired with great celerity to the mountains on the approach of the Portuguese; yet, as the sailors had discovered a good harbour, the admiral thought proper to come to an anchor, and called the bay *Puerto Segura*. Next day he sent another boat on shore, and had the good fortune to lay hold on two of the natives, whom he clothed and treated kindly, and then dismissed, to make a proper report to their countrymen. The stratagem had the desired effect. The Indians, having heard the relation of the prisoners, immediately crowded to the shore, singing, dancing, and sounding horns of different kinds; which induced Cabral to land, and take solemn possession in the name of his Portuguese majesty.

As soon as the court of Lisbon had ordered a survey to be taken of the harbours, bays, rivers, and coasts of Brasil, and was convinced that the country afforded neither gold nor silver, they held it in such contempt, that they sent thither none but condemned criminals and abandoned women. Two ships were sent every year from Portugal, to carry the refuse of the kingdom to this new world, and to bring home parrots and woods for the dyers and cabinet-makers. Ginger was afterwards added; but soon after prohibited, lest it should interfere with the sale of the same article from India.

In 1548, the Jews, many of whom had taken refuge in Portugal, beginning to be persecuted by the inquisition, were stripped of their possessions, and banished to Brasil. Here, however, they were not entirely forsaken. Many of them found kind relations and faithful friends; others, who were known to be men of probity and understanding, obtained money in advance from merchants of different nations with whom they had formerly had transactions. By the assistance of some enterprising men, they were enabled to cultivate sugar canes, which they first procured from the island of Madeira. Sugar, which till then had been used only in medicine, became an article of luxury. Princes and great men were all eager to procure themselves this new species of indulgence. This circumstance proved favourable to Brasil, and enabled it to extend its sugar plantations. The court of Lisbon, notwithstanding its prejudices, began to be sensible that a colony might be beneficial to the mother country, without producing gold or silver; and this settlement, which had been wholly left to the capricious management of the colonists, was now thought to deserve some kind of attention; and accordingly Thomas de Souza was sent thither, in 1549, to regulate and superintend it. Brasil.

This able governor began by reducing these men, who had always lived in a state of anarchy, into proper subordination, and bringing their scattered plantations closer together: after which he applied himself to acquire some information respecting the natives, with whom he knew he must be incessantly engaged either in traffic or war. This it was no easy matter to accomplish. Brasil was full of small nations, some of which inhabited the forests, and others lived in the plains and along the rivers. Some had settled habitations; but the greater number of them led a roving life, and most of them had no intercourse with each other. It is not to be supposed that such a people would be at all disposed to submit to the yoke which the Portuguese wanted to put upon them on their arrival. At first they only declined all intercourse with these strangers: but finding themselves pursued in order to be made slaves, and to be employed in the labours of the field, they took the resolution to murder and devour all the Europeans they could seize upon. The friends and relations of the savages that were taken prisoners also ventured to make frequent attempts to rescue them, and were sometimes successful: so that the Portuguese were forced to attend to the double employments of labour and war.

Souza did not bring a sufficient number of forces to change the situation of affairs. Indeed, by building San Salvador, he gave a centre to the colony; but the honour of settling, extending, and making it really useful to the mother country, was reserved for the Jesuits who attended him. These men, who for their arts of insinuation and address have been equalled by none, dispersed themselves among the Indians. When any of the missionaries were murdered, they were immediately replaced by others; and seeming to be inspired only with sentiments of peace and charity, the Indians, in process of time, grew not only familiar to but passionately fond of them. As the missionaries were too few in number to transact all the business themselves, they frequently deputed some of the most intelligent Indians in their stead. These men having distributed hatchets, knives, and looking-glasses, among the savages they met

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Brasil. met with, represented the Portuguese, as a harmless, humane, and good sort of people.

The prosperity of the colony of Brasil, which was visible to all Europe, excited the envy of the French, Spaniards, and Dutch successively. The latter, indeed, bid fairest for the conquest of the whole. Their admiral Henry Lonk arrived, in the beginning of the year 1630, with 46 men of war, on the coast of Fernambucca, one of the largest and best fortified captainships of these parts. He reduced it after several obstinate engagements, in which he was always victorious. The troops he left behind subdued the captainships of Tamaraca, Pareiba, and Rio Grande, in the years 1633, 1634, and 1635. These, as well as Fernambucca, furnished annually a large quantity of sugar, a great deal of wood for dyeing, and other commodities. The Hollanders were so elated with the acquisition of this wealth, which flowed to Amsterdam instead of Lisbon, that they determined to conquer all the Brasils, and intrusted Maurice of Nassau with the conduct of this enterprise. That general reached the place of his destination in the beginning of the year 1637. He found the soldiers so well disciplined, the commanders such experienced men, and so much readiness in all to engage, that he directly took the field. He was successively opposed by Albuquerque, Banjola, Lewis Rocca de Borgia, and the Brasilian Cameron, the idol of his people, passionately fond of the Portuguese, brave, active, cunning, and who wanted no qualifications necessary for a general, but to have learned the art of war under able commanders. These several chiefs exerted their utmost efforts to defend the possessions that were under their protection; but their endeavours proved ineffectual. The Dutch seized upon the captainships of Siara, Seregippe, and the greater part of that of Bahia. Seven of the 15 provinces which composed the colony had already submitted to them, and they flattered themselves that one or two campaigns would make them masters of the rest of their enemies possessions in that part of America; when they were suddenly checked by the revolution happening on the banishment of Philip IV. and placing the duke of Braganza on the throne. After this, the Portuguese recovering their spirits, soon drove the Dutch out of Brasil, and have continued masters of it ever since.

The country of Brasil is divided into the following provinces, viz. Paria, Maragnano, Sira, Rio Grande, Pareiba, Tamaraca, Fernambucca, Seregippe, Bahia, Porto Seguro, Esperito Santo, Rio de Janeiro, Angra, St Vincent, and Del Rey. See these articles.

The first aspect of the country from the sea is rather unfavourable, as it appears high, rough, and unequal; but, on a more narrow inspection, nothing can be more delightful, the eminences being covered with woods, and the valleys and savannahs with the most refreshing verdure. In so vast a tract of land, it cannot be imagined that the climate will be found at all equal, or the seasons uniform. The northern provinces are subject to heavy rains and variable winds, like other countries under the same parallels. Tornadoes, storms, and the utmost fury of the elements, wreak their vengeance here; while the southerly regions are blessed with all the comforts which a fine fertile soil and temperate climate can afford. In some of the provinces, the heat of the climate is thought to prove favourable to the generation of a great variety of poisonous reptiles: some of which, as the *liboy* or *roebuck* snake, are said to extend to the length of 30 feet, and to be two or three yards in circumference. The rattlesnake and other reptiles of the same kind, grow likewise to an enormous size; and the serpent called *ibibaboka* is affirmed to be 7 yards long, and half a yard in circumference, possessed too of a poison instantaneously fatal to the human race. Here also are scorpions, ant-bears, tygers, armadilloes, porcupines, jananveras, and an animal called *tapirasson*, which is the production of a bull and an ass, having a great resemblance to both. No country on earth affords a greater number of beautiful birds, nor variety of the most exquisite fruits; but the chief commodities are Brasil wood, ebony, dyeing woods, ambergris, rosin, balsams, indigo, sweetmeats, sugar, tobacco, gold, diamonds, beautiful pebbles, crystal, emeralds, jasper, and other precious stones; in all which the Portuguese carry on such an amazing trade as may justly be reputed the support, and indeed the vital fountain, of the mother country. The gold and diamond mines are but a recent discovery: they were first opened in the year 1681; and have since yielded above five millions sterling annually, of which sum a fifth belongs to the crown. So plentiful are diamonds in this country, that the court of Portugal had found it necessary to restrain their importation, to prevent too great a diminution of their value. They are neither so hard nor so clear as those of the East Indies, nor do they sparkle so much, but they are whiter. The Brasilian diamonds are sold ten per cent. cheaper than the Oriental ones, supposing the weights to be equal. The largest diamond in the world was sent from Brasil to the king of Portugal. It weighs 1680 carats, or 12¾ ounces; and has been valued at 56,787,500l. Some skilful lapidaries, however, are of opinion that this supposed diamond is only a topaz; in which case a very great abatement must be made in its value. The crown revenue arising from this colony amounts to two millions sterling in gold, if we may credit some late writers, besides the duties and customs on merchandise imported from that quarter. This indeed is more than a fifth of the precious metal produced by the mines; but, every other consequent advantage considered, it probably does not much exceed the truth. The excessive confluence of people to the Brasil colonies, as well from other countries as from Portugal, not only enlarges the imports of gold, but, what is of infinitely more importance to Europe in general, the exportation of the manufactures of this hemisphere; of which the principal are the following. Great Britain sends woollen manufactures; such as fine broad medley cloths, fine Spanish cloths, scarlet and black cloths; serges, duroys, druggets, sagathies, shalloons, camblets, and Norwich stuffs; black Colchester baise; says, and perpetuanas, called *long ells*; hats, stockings, and gloves. Holland, Germany, and France, chiefly export fine hollands, bone-lace, and fine thread: silk manufactures, pepper, lead, block tin, and other articles, are also sent from different countries. Besides the particulars already specified, England likewise trades with Portugal, for the use of the Brasils, in copper and brass, wrought and unwrought pewter, and all kinds of hardware: all which articles have so enlarged the Portuguese trade, that, instead of 12 ships usually employed in the Brasil commerce, there are now never fewer

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Brasil & Brass.

fewer than 100 sail of large vessels constantly going and returning to those colonies. To all this may be added the vast slave-trade carried on with the coast of Africa for the use of the Brasil colonies; which, we may believe, employs a great number of shipping, from the multitude of slaves that are annually transported. Indeed the commerce of Brasil alone is sufficient to raise Portugal to a considerable height of naval power, as it maintains a constant nursery of seamen; yet a certain infatuation in the policy of the country has prevented that effect, even amidst all these extraordinary advantages. All the ships in this trade, being under the direction of the government, have their appointed seasons of going and returning, under convoy of a certain number of men of war. In 1806, in consequence of the violence of the French government, the court of Portugal retired to Brasil, where it still remains. In March 1817 a revolt broke out in the city of Pernambuco. Some individuals, who were marked out for proscription, being apprized of the intention of the government, took up arms, and, supported by the people, drove out the military and got possession of the town. A provisional government was installed, and a republic proclaimed. An army was then sent against the town, and the republicans being defeated on the 18th May, retired into the interior, when the royal government was re-established. See BRASIL, SUPPLEMENT.

BRASIL-Wood, or *Brasil-wood*, an American wood of a red colour, and very heavy. It is denominated variously, according to the places from whence it is brought: Thus we have brasil of Fernambucca, Sappan, Lamon, &c. For its description, &c. see CÆSALPINIA, BOTANY *Index*.

BRASILETTO, the same with Brasil wood.

BRASLAW, a considerable town of Poland, in Lithuania, and palatinate of Wilna, with a castle. It is seated on a small lake, in E. Long. 17. 5. N. Lat. 55. 45.

BRASS, or, as the French call it, *yellow copper*, is a factitious metal, composed of copper and zinc. See CHEMISTRY *Index*, and BRASS, SUPPLEMENT.

The first formation of brass, as we are assured by scripture, was prior to the flood, and discovered even in the seventh generation from Adam*. But the use of it was not, as is generally believed, and the Arundelian marbles assert, previous to the knowledge of iron. They were both first known in the same generation, and first wrought by the same discoverer. And the knowledge of them must have been equally carried over the world afterwards, with the spreading of the colonies of the Noachidæ. An acquaintance with the one or the other was absolutely necessary to the existence of the colonists; the clearing away of the woods about their settlements, and the erection of houses for their habitation.

Gen. iv.

The ancient Britons, though acquainted from the remotest periods with the use of both these metals, remained long ignorant that they were to be obtained in the island. Before this discovery they imported all their iron and brass from the continent. And when they had at length detected the former in their own hills, and had ceased to introduce it, they continued to receive the latter. Their want of the metal remained, and no mines of it were opened in the island. In the earliest ages whose manners have been delineated by history, we find the weapons of their warriors invariably framed of this factitious metal; and the most authentic of all the profane records of antiquity, the Arundelian marbles, for that reason, mistakenly date the first discovery of iron a couple of centuries below the Trojan war. Every military nation, as such, is naturally studious of brightness in its arms; and the Britons, particularly, gloried in the neatness of theirs. For this reason the nations of the world still fabricated their arms of brass, even long after the Arundelian era for the discovery of iron; and the Britons continued to import it from the continent, though they had found iron to be a native of the country, and could have supplied themselves with a sufficient quantity of it.

Brass.

Mr Whitaker * supposes, that when the Britons derived their iron and brass from the continent, they purchased the latter at an easier expence than the former. The Gauls had many large brass works carried on in the kingdom, but seem to have had but few iron forges within it. And this would naturally induce the Belgæ to be less diligent in their inquiry after the veins of copper and calamine at home, than for the courses of iron ore; though the one was equally discoverable in the island as the other, and lay equally within the Belgic regions of it. Brass being thus cheaper than iron, they necessarily formed with it some domestic as well as military implements. Such were common among the Gauls; and such were familiar to the Britons, either imported into the island, as some actually were, or manufactured within it, as others also assuredly were. The Britons had certainly brass founderies erected among them, and minted money and fabricated weapons of brass.

* *Hist. of Manchester.*

In this condition of the works, the Romans entered the island. And seeing so great a demand among the natives for this article, they would speedily instruct them to discover the materials of it among themselves. This must unavoidably have resulted from the conquest of the Romans. The power of surprising their new subjects with so unexpected a discovery would naturally stimulate the pride of the Roman intellect; and the desire of obliging themselves with so cheap a supply of that useful metal, stationary as they were in that kingdom, would also equally actuate the selfishness of the Roman breast. The veins of copper and calamine would be easily found out by any experienced inquirer after them; and the former metal is therefore distinguished among the Welsh, only by the Roman appellation of *cyprium*, *koppr*, or copper. And many founderies of brass appear to have been established in the island. Some had been erected before, one perhaps within the confines of every kingdom, and probably in the vicinity of every capital. One at least would be necessary, in order to supply the armoury of the principality: and one perhaps was sufficient for most of the British states. But several appear now to have been settled in every kingdom, and one perhaps near every stationary town. Two have been discovered in the single county of Essex, and within a narrow portion of it, at Fifield and Danbury. And a third was placed upon Easterly Moor in Yorkshire, 12 miles to the north-west of York, and in the neighbourhood of Isurium or Aldborough.

Corinthian BRASS, famous in antiquity, is a mixture of gold, silver, and copper. L. Mummius having sacked and burnt the city of Corinth, 146 years before Christ, it is said this metal was formed from the immense quantities of gold, silver, and copper, wherewith that

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Brass. that city abounded, thus melted and run together by the violence of the conflagration.

BRASS, in the glass trade.—Thrice calcined brass is a preparation which serves the glassmen to give many very beautiful colours to their metal. The manner of preparing it is this: Place thin plates of brass on tiles on the feet of the furnace near the occhis; let it stand to be calcined there for four days, and it will become a black powder sticking together in lumps. Powder this, sift it fine, and recalcine it four or five days more; it will not then stick together, but remain a loose powder, of a russet colour. This is to be calcined a third time in the same manner; but great care must be taken in the third calcination, that it be not overdone nor underdone; the way to be certain when it is right is, to try it several times in glass while melting. If it makes it, when well purified, to swell, boil, and rise, it is properly calcined; if not, it requires longer time. This makes, according to the different proportions in which it is used, a sea-green, an emerald-green, or a turcoise colour.

Brass, by long calcination alone, and without any mixture, affords a fine blue or green colour for glass; but they have a method of calcining it also with powdered brimstone, so as to make it afford a red, a yellow, or a chalcedony colour, according to the quantity and other variations in the using it. The method of making the calcination is this: Cut thin plates of brass into small pieces with shears, and lay them stratum super stratum, with alternate beds of powdered sulphur, in a crucible; calcine this for 24 hours in a strong fire; then powder and sift the whole; and finally expose this powder upon tiles for 12 days to a reverberating furnace; at the end of this time powder it fine, and keep it for use. The glass-makers have also a method of procuring a red powder from brass, by a more simple calcination, which serves them for many colours. The method of preparing it is this: They put small and thin plates of brass into the arches of the glass furnaces, and leave them there till they are sufficiently calcined, which the heat in that place, not being enough to melt them, does in great perfection. The calcined matter, powdered, is of a dusky red, and requires no farther preparation.

Brass-Colour, one prepared by the braziers and colour-men to imitate brass. There are two sorts of it; the red brass or bronze, and the yellow or gilt brass; the latter is made only of copper-filings, the smallest and brightest that can be found; with the former they mix some red ochre, finely pulverized; they are both used with varnish.—In order to make a fine brass that will not take any rust or verdigris, it must be dried with a chafing dish of coals as soon as it is applied.—The finest brass-colour is made with powder-brass imported from Germany, diluted into a varnish, made and used after the following manner: The varnish is composed of one pound four ounces of spirit of wine, two ounces of gum-lac, and two ounces of sandarac; these two last drugs are pulverized separately, and afterwards put to dissolve in spirit of wine, taking care to fill the bottle but half full. The varnish being made, you mix such quantity as you please of it with the pulverized brass, and apply it with a small brush to what you would brass over. But you must not mix too much at once, because the varnish being very apt to dry, you would not have time to employ it all soon enough; it is therefore better to make the mixture at several times. After this manner they brass over figures of plaster, which look as well as if they were of cast brass. Brass ‖ Brassica.

Brass Leaf is made of copper, beaten out into very thin plates, and afterwards rendered yellow. The German artists, particularly those of Nuremberg and Augsburg, are said to possess the best method of giving to these thin plates of copper a fine yellow colour like gold, by simply exposing them to the fumes of zinc, without any real mixture of it with the metal. These plates are cut into little pieces, and then beaten out fine like leaves of gold; after which they are put into books of coarse paper, and sold at a low price for the vulgar kinds of gilding. The parings or shreds of these very thin yellow leaves being well ground on a marble plate, are reduced to a powder similar to gold; which serves to cover, by means of gum-water, or some other glutinous fluid, the surface of various mouldings or pieces of curious workmanship, giving them the appearance of real bronze, and even of fine gold, at a very trifling expence, because the gold colour of this metallic powder may be easily raised and improved by stirring it on a wide earthen bason over a slow fire.

Brass-Lumps, a common name given by miners to the globular pyrites. See PYRITES, MINERALOGY *Index*.

BRASSAW, or CRONSTADT, a strong town of Transilvania in Burezland; seated on the river Buxel, in E. Long. 22. 35. N. Lat. 46. 30.

BRASSE, a species of perca. See ICHTHYOLOGY *Index*.

BRASSICA, CABBAGE, in *Botany*, for the classification of which see BOTANY *Index*. But as many of the species of this genus are of considerable importance as articles of food, we shall here lay before our readers a more particular account of their uses and mode of culture, under the names known to practical gardeners.

The species called *campestris* grows naturally on the sea-shore near Dover, has a perennial branching stalk, and in this it differs from all the other species. In very severe winters, when the other sorts are destroyed, this is a necessary plant, for the most severe frosts do not injure it. The flower-stalks grow from the end of the branches, and spread out horizontally; but those which arise from the centre of the plants grow erect, and seldom put out branches. The cauliflower has been much more improved in Britain than in any other part of Europe. In France they rarely have cauliflowers till Michaelmas, and Holland has been often supplied with them from Britain. In many parts of Germany there were none of them cultivated till within a few years past, and most parts of Europe are supplied with seeds from Britain. That which is generally known by the title of *rape* or *cole seed* is much cultivated in the isle of Ely, and some other parts of England, for its seed, from which rape-oil is drawn; and it hath also been cultivated of late years, in other places, for feeding of cattle, to great advantage. The cole-seed, when cultivated for feeding of cattle, should be sown about the middle of June. The ground for this should be prepared for it in the same manner as for turnips. The quantity of seeds for an acre of land is from six to eight pounds; and as the price of the seed is not great, so it is better to allow

eight

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Brassica. eight pounds; for if the plants are too close in any part they may be easily thinned when the ground is hoed, which must be performed in the same manner as is practised for turnips, with this difference only, of leaving these much nearer together; for as they have fibrous roots and slender stalks, so they do not require near so much room. These plants should have a second hoeing about five or six weeks after the first, which, if well performed in dry weather, will entirely destroy the weeds, so they will require no farther culture. Where there is not an immediate want of food, these plants had better be kept as a reserve for hard weather, or spring feed, when there may be a scarcity of other green food. If the heads are cut off, and the stalks left in the ground, they will shoot again early in the spring, and produce a good second crop in April; which may be either fed off, or permitted to run to seeds, as is the practice where this is cultivated for the seeds: but if the first is fed down, there should be care taken that the cattle do not destroy their stems, or pull them out of the ground. As this plant is so hardy as not to be destroyed by frost, so it is of great service in hard winters for feeding of ewes; for when the ground is so hard frozen as that turnips cannot be taken up, these plants may be cut off for a constant supply. This will afford late food after the turnips are run to seed; and if it is afterwards permitted to stand for seed, one acre will produce as much as, at a moderate computation, will sell for five pounds, clear of charges. Partridges, pheasants, turkeys, and most other fowl, are very fond of this plant; so that wherever it is cultivated, if there are any birds in the neighbourhood, they will constantly lie among these plants. The seeds of this plant are sown in gardens for winter and spring salads, this being one of the small salad herbs.

The common white, red, flat, and long-sided cabbages, are chiefly cultivated for autumn and winter use. The seeds of these sorts must be sown the beginning or middle of April, in beds of good fresh earth; and when the young plants have about eight leaves, they should be pricked out into shady borders, about three or four inches square, that they may acquire strength, and to prevent their growing long shanked. About the middle of June you must transplant them out, where they are to remain. If they are planted for a full crop in a clear spot of ground, the distance from row to row should be three feet and a half, and in the rows two feet and a half asunder: if the season should prove dry when they are transplanted out, you must water them every other evening until they have taken fresh root; and afterwards, as the plants advance in height, you should draw the earth about the stems with a hoe, which will keep the earth moist about their roots, and greatly strengthen the plants. These cabbages will some of them be fit for use soon after Michaelmas, and will continue until the end of February, if they are not destroyed by bad weather; to prevent which, the gardeners near London pull up their cabbages in November, and trench their ground up in ridges, laying their cabbages against their ridges as close as possible on one side, burying their stems in the ground: in this manner they let them remain till after Christmass, when they cut them for the market; and although the outer part of the cabbage be decayed (as is often the case in very wet or hard winters), yet, if the cabbages were large and hard when laid, the inside will remain sound. Brassica.

The Russian cabbage was formerly in much greater esteem than at present, it being now only to be found in particular gentlemen's gardens, who cultivate it for their own use. This must be sown late in the spring of the year, and managed as those before directed, with this difference only, that these must be sooner planted out, and must have an open clear spot of ground, and require much less distance every way, for it is but a very small hard cabbage. This sort will not continue long before they will break and run up to seed.

The early and sugar loaf cabbages are commonly sown for summer use, and are what the gardeners about London commonly call *Michaelmas cabbages*. The season for sowing of these is about the end of July, or beginning of August, in an open spot of ground; and when the plants have got eight leaves, you must prick them into beds at about three or four inches distance every way, that the plants may grow strong and short shanked; and toward the end of October you should plant them out: the distance that these require is, three feet row from row, and two feet and a half asunder in the rows. The ground must be kept clean from weeds, and the earth drawn up about your cabbage plants. In May, if your plants were of the early kind, they will turn in their leaves for cabbaging; at which time, the gardeners near London, in order to obtain them a little sooner, tie in their leaves close with a slender osier-twig to blanch their middle; by which means, they have them at least a fortnight sooner than they could have if they were left untied.

The early cabbage being the first, we should choose to plant the fewer of them, and a greater quantity of the sugar-loaf kind, which comes after them: for the early kind will not supply the kitchen long, generally cabbaging apace when they begin, and as soon grow hard and burst open; but the sugar-loaf kind is longer before it comes, and is as slow in its cabbaging; and being of a hollow kind, will continue for a good long time. The sugar-loaf kind may be planted out in February, and will succeed as well as if planted earlier; with this difference only, that they will be later before they cabbage. You should also reserve some plants of the early kind in some well sheltered spot of ground, to supply your plantation, in case of a defect; for in mild winters many of the plants are apt to run to seed, especially when their seeds are sown too early, and in severe winters they are often destroyed.

The Savoy cabbages are propagated for winter use, as being generally esteemed the better when pinched by the frost: these must be sown about the end of April, and treated after the manner as was directed for the common white cabbage: with this difference, that these may be planted at a closer distance than those; two feet and a half square will be sufficient. These are always much better when planted in an open situation, which is clear from trees and hedges; for in close places they are very subject to be eaten almost up by caterpillars and other vermin, especially if the autumn prove dry.

The broccoli may also be treated in the same manner, but need not be planted above one foot asunder in the rows, and the rows two feet distant; these are ne-

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Brassica.

ver eaten till the frost hath rendered them tender; for otherwise they are tough and bitter.

The seeds of the broccoli (of which there are several kinds, viz. the Roman or purple, the Neapolitan or white, and the black broccoli, with some others, but the Roman is preferred to them all), should be sown about the latter end of May, or beginning of June, and when the plants are grown to have eight leaves, transplant them into beds (as was directed for the common cabbage); and towards the latter end of July they will be fit to plant out, which should be done into some well-sheltered spot of ground, but not under the drip of trees: the distance these require is about a foot and a half in the rows, and two feet row from row. The soil in which they should be planted ought to be rather light than heavy: if your plants succeed well (as there will be little reason to doubt, unless the winter prove extremely hard), they will begin to show their small heads, which are somewhat like a cauliflower, but of a purple colour, about the end of December, and will continue eatable till the middle of April. The brown or black broccoli is by many persons greatly esteemed, though it doth not deserve a place in the kitchen garden where the Roman broccoli can be obtained, which is much sweeter, and will continue longer in season: indeed, the brown sort is much hardier, so that it will thrive in the coldest situations, where the Roman broccoli is sometimes destroyed in very hard winters. The brown sort should be sown in the middle of May, and managed as hath been directed for the common cabbage, and should be planted at the same distance, which is about two feet and a half asunder. This will grow very tall, so should have the earth drawn up to their stems as they advance in height. This doth not form heads so perfect as the Roman broccoli; the stems and hearts of the plants are the parts which are eaten. The Roman broccoli (if well managed) will have large heads, which appear in the centre of the plants like clusters of buds. These heads should be cut before they run up to seed, with about four or five inches of the stem; the skin of the stems should be stripped off before they are boiled. After the first heads are cut off, there will be a great number of side-shoots produced from the stems, which will have small heads to them, but are full as well flavoured as the large. The Naples broccoli hath white heads very like those of the cauliflower, and eats so like it as not to be distinguished from it.—Besides this first crop of broccoli (which is usually sown in the end of May), it will be proper to sow another crop the beginning of July, which will come in to supply the table the latter end of March and the beginning of April; and being very young, will be extremely tender and sweet.

In order to save good seeds of this kind of broccoli, you should reserve a few of the largest heads of the first crop, which should be let remain to run up to seed, and all the undershoots should be constantly stripped off, leaving only the main stem to flower and seed. If this be duly observed, and no other sort of cabbage permitted to seed near them, the seeds will be as good as those procured from abroad, and the sort may be preserved in perfection many years.

The turnip-rooted cabbage was formerly more cultivated in Britain than at present; for since other sorts have been introduced which are much better flavoured, this sort has been neglected. There are some persons who esteem this kind for soups, but it is too strong for most palates; and is seldom good but in hard winters, which will render it tender and less strong. At the end of June the plants should be transplanted out where they are to remain, allowing them two feet distance every way, observing to water them until they have taken root; and as their stems advance, the earth should be drawn up to them with a hoe, which will preserve a moisture about their roots, and prevent their stems from drying and growing woody, so that the plants will grow more freely; but it should not be drawn very high, for as it is the globular part of the stalk which is eaten, so that should not be covered. In winter they will be fit for use, when they should be cut off, and the stalks pulled out of the ground and thrown away, being good for nothing after the stems are cut off. As food for cattle, however, the cultivation of this species deserves particular attention. See AGRICULTURE *Index*.

Brassica.

The curled colewort or Siberian broccoli is now more generally esteemed than the former, being extremely hardy, so is never injured by cold, but is always sweeter in severe winters than in mild seasons. This may be propagated by sowing of the seeds the beginning of July; and when the plants are strong enough for transplanting, they should be planted in rows about a foot and a half asunder, and ten inches distance in the rows. These will be fit for use after Christmas, and continue good until April, so that they are very useful in a family.

The musk cabbage. This may be propagated in the same manner as the common cabbage, and should be allowed the same distance: it will be fit for use in October, November, and December; but, if the winter proves hard, these will be destroyed much sooner than the common sort.

The common colewort, or Dorsetshire kale, is now almost lost near London, where their markets are usually supplied with cabbage plants instead of them. The best method to cultivate this plant in the fields is, to sow the seeds about the beginning of July, choosing a moist season, which will bring up the plants in about ten days or a fortnight; the quantity of seed for an acre of land is nine pounds: when the plants have got five or six leaves they should be hoed, as is practised for turnips, cutting down all the weeds from amongst the plants, and also thinning the plants where they are too thick; but they should be kept thicker than turnips, because they are more in danger of being destroyed by the fly: this work should be performed in dry weather, that the weeds may be killed. About six weeks after, the plants should have a second hoeing, which, if carefully performed in dry weather, will entirely destroy the weeds, and make the ground clean, so that they will require no farther culture: in the spring they may be either drawn up and carried out to feed the cattle, or they may be turned in to feed upon them as they stand; but the former method is to be preferred, because there will be little waste; whereas, when the cattle are turned in amongst the plants, they will tread down and destroy more than they eat, especially if they are not fenced off by hurdles.

The two last sorts of cabbages are varieties fit for a botanic garden, but are plants of no use. They are

annual

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Brassica. annual plants, and perish when they have perfected their seeds.

The best method to save the seeds of all the sorts of cabbages is, about the end of November you should make choice of some of your best cabbages, which you should pull up, and carry to some shed or other covered place, where you should hang them up for three or four days by their stalks, that the water may drain from between their leaves; then plant them in some border near a hedge or pale, quite down to the middle of the cabbage, leaving only the upper part of the cabbage above ground, observing to raise the earth about it, so that it may stand a little above the level of the ground; especially if the ground is wet, they will require to be raised pretty much above the surface. If the winter should prove very hard, you must lay a little straw or pease haulm lightly upon them, to secure them from the frost, taking it off as often as the weather proves mild, lest by keeping them too close they should rot. In the spring of the year these cabbages will shoot out strongly, and divide into a great number of small branches: you must therefore support their stems, to prevent their being broken off by the wind; and if the weather should be very hot and dry when they are in flower, you should refresh them with water once a-week all over the branches, which will greatly promote their seeding, and preserve them from mildew. When the pods begin to change brown, you will do well to cut off the extreme parts of every shoot with the pods, which will strengthen your seeds; for it is generally observed, that those seeds which grow near the top of the shoots, are very subject to run to seed before they cabbage; so that by this there will be no loss, but a great advantage. When your seed begins to ripen, you must be particularly careful that the birds do not destroy it, for they are very fond of these seeds. The best method to prevent this, is to get a quantity of birdlime, and daub over a parcel of slender twigs, which should be fastened at each end to stronger sticks, and placed near the upper part of the seed in different places, so that the birds may alight upon them, by which means they will be fastened thereto; where you must let them remain, if they cannot get off themselves: and although there should not be above two or three birds caught, yet it will sufficiently terrify the rest, that they will not come to that place again for a considerable time after.

When your seed is fully ripe, you must cut it off; and after drying, thrash it out, and preserve it in bags for use.

But in planting of cabbages for seed, it will be proper never to plant more than one sort in a place, or near one another: for example, never plant red and white cabbages near each other, nor Savoy with white or red cabbages; for they will, by the commixture of their effluvia, produce a mixture of kinds: and it is said to be owing to this neglect, that the gardeners rarely save any good red cabbage seed in Britain, but are obliged to procure fresh seeds from abroad; as supposing the soil or climate of Britain alters them from red to white, and of a mixed kind betwixt both; whereas, if they should plant red cabbages by themselves for seed, and not suffer any other to be near them, they might continue the kind as good in Britain as in any other part of the world.

Cauliflowers have of late years been so far improved in Britain, as to exceed in goodness and magnitude what are produced in most parts of Europe, and by the skill of the gardener are continued for several months together; but the most common season for the great crops is in May, June, and July. Having procured a parcel of good seeds, you must sow it about the 21st of August, upon an old cucumber or melon bed, sifting a little earth over the seeds, about a quarter of an inch thick; and if the weather should prove extremely hot and dry, you should shade the beds with mats, to prevent the earth from drying too fast, and give it gentle waterings as you may see occasion. In about a month's time after sowing, your plants will be fit to prick out: you should therefore put some fresh earth upon your cucumber or melon beds; or where these are not to be had, some beds should be made with a little new dung, which should be trodden down close, to prevent the worms from getting through it; but it should not be hot dung, which would be hurtful to the plants at this season, especially if it proves hot; into this bed you should prick your young plants at about two inches square, observing to shade and water them at first planting; but do not water them too much after they are growing, nor suffer them to receive too much rain if the season should prove wet, which would be apt to make them black shanked, as the gardeners term it, which is no less than a rottenness in their stems, and is the destruction of the plants so affected. In this bed they should continue till about the 30th of October, when they must be removed into the place where they are to remain during the winter season; which, for the first sowing, is commonly under bell or hand glasses, to have early cauliflowers, and these should be of an early kind: but in order to have a succession during the season, you should be provided with another more late kind, which should be sown four or five days after the other, and managed as was directed for them. In order to have very early cauliflowers, you should make choice of a good rich spot of ground that is well defended from the north, east, and west winds, with hedges, pales, or walls; but the first are to be preferred, if made with reeds, because the winds will fall dead in these, and not reverberate as by pales or walls. This ground should be well trenched, burying therein a good quantity of rotten dung; then level your ground, and if it be naturally a wet soil, you should raise it up in beds about two feet and a half, or three feet broad, and four inches above the level of the ground; but if your ground is moderately dry, you need not raise it at all: then plant your plants, allowing about two feet six inches distance from glass to glass in the rows, always putting two good plants under each glass, which may be at about four inches from each other; and if you design them for a full crop, they may be three feet and a half row from row: but if you intend to make ridges for cucumbers between the rows of cauliflower plants (as is generally practised by the gardeners near London), you must then make your rows about eight feet asunder; and the ground between the rows of cauliflowers may be planted with cabbage plants, to be drawn off for coleworts in the spring. When you have planted your plants, if the ground is very dry, you should give them a little water, and then set your glasses over them, which may remain quite close down over them till

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Brassica. till they have taken root, which will be in about a week or ten days time, unless there should be a kindly shower of rain; in which case you may set off the glasses, that the plants may receive the benefit of it; and in about ten days after planting, you should be provided with a parcel of forked sticks or bricks, with which you should raise your glasses about three or four inches on the side toward the south, that your plants may have free air; in this manner your glasses should remain over the plants night and day, unless in frosty weather, when you should set them down as close as possible; or if the weather should prove very warm, which many times happens in November, and sometimes in December, in this case you should keep your glasses off in the day-time, and put them on only in the night, lest, by keeping the glasses over them too much, you should draw them into flower at that season; which is many times the case in mild winters, especially if unskilfully managed. Toward the latter end of February, if the weather proves mild, you should prepare another good spot of ground to remove some of the plants into, from under the glasses, which should be well dunged and trenched (as before): then set off your glasses; and, after making choice of one of the most promising plants under each glass, which should remain, take away the other plant, by raising it up with a trowel, &c. so as to preserve as much earth to the root as possible; but take care not to disturb or prejudice the roots of the plants which remain. Then plant the plants which you have taken out at the distance before directed, viz. if for a full crop, three feet and a half, row from row; but if for ridges of cucumbers between them, eight feet, and two feet four inches distance in the rows: then, with a small hoe, draw the earth up to the stems of the plants which were left under the glasses, taking great care not to let the earth fall into their hearts; and set your glasses over them again, raising your props an inch or two higher than before, to give them more air, observing to take them off whenever there may be some gentle showers, which will greatly refresh the plants.

In a little time after, if you find your plants grow so fast as to fill the glasses with their leaves, you should then slightly dig about the plants, and raise the ground about them in a bed broad enough for the glasses to stand, about four inches high, which will give your plants a great deal of room, by raising the glasses so much higher when they are set over them; and by this means they might be kept covered until April, which otherwise they could not, without prejudice to the leaves of the plants; and this is a great advantage to them, for many times we have returns of severe frosts at the latter end of March, which prove very hurtful to these plants, if exposed thereto, especially after having been nursed up under glasses.

After you have finished your beds, you may set your glasses over your plants again, observing to raise your props pretty high, especially if the weather be mild, that they may have free air to strengthen them; and in mild soft weather set off your glasses, as also in gentle showers of rain; and now you must begin to harden them by degrees to endure the open air; however, it is advisable to let your glasses remain over them as long as possible, if the nights should be frosty, which will greatly forward your plants; but you must not let your glasses remain upon them in very hot sunshine, especially if their leaves press against the sides of the glasses; for it hath often been observed in such cases, that the moisture which hath risen from the ground, together with the perspiration of the plants, which by the glasses remaining over them hath been detained upon the leaves of the plants, when the sun hath shone hot upon the sides of the glasses, have acquired such a powerful heat from the beams thereof, as to scald all their larger leaves, to the no small prejudice of the plants: nay, sometimes large quantities of plants have been so affected therewith, as never to be worth any thing after. Brassica.

If your plants have succeeded well, toward the end of April some of them will begin to fruit: you must therefore look over them carefully every other day, and when you see the flower plainly appear, you must break down some of the inner leaves over it to guard it from the sun, which would make the flower yellow and unsightly if exposed thereto; and when you find your flower at its full bigness (which you may know by its outside parting as if it would run), you must then draw it out of the ground, and not cut them off, leaving the stalk in the ground, as is by some practised; and if they are designed for present use, you may cut them out of their leaves; but if designed to keep, you should preserve their leaves about them, and put them into a cool place; the best time for pulling them is in a morning, before the sun have exhaled the moisture; for cauliflowers pulled in the heat of the day, lose that firmness which they naturally have, and become tough.

But to return to our second crop (the plants being raised and manured as was directed for the early crop, until the end of October), you must then prepare some beds, either to be covered with glass-frames, or arched over with hoops, to be covered with mats, &c. These beds should have some dung laid at the bottom, about six inches or a foot thick, according to the size of your plants; for if they are small, the bed should be thicker of dung to bring them forward, and so *vice versa*; this dung should be beat down close with a fork, in order to prevent the worms from finding their way through it; then lay some good fresh earth about four or five inches thick thereon, in which you should plant your plants about two inches and a half square, observing to shade and water them until they have taken new root: but you must not keep your coverings close, for the warmth of the dung will occasion a large damp in the bed, which, if pent in, will greatly injure the plants. When your plants have taken root, you must give them as much free open air as possible, by keeping the glasses off in the day-time as much as the weather will permit; and in the night, or at such times as the glasses require to be kept on, raise them up with props to let in fresh air, unless in frosty weather; at which time the glasses should be covered with mats, straw, pease-haulm, &c. but this is not to be done but in very hard frosts; you must also observe to guard them against great rain, which in winter time is very hurtful to them, but in mild weather, if the glasses are kept on, they should be propped to admit fresh air; and if the under leaves grow yellow and decay, be sure to pick them off: for if the weather should prove very bad in winter, so that you should be obliged to keep them close covered for two or three days together, as it sometimes happens, these

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Brassica. these decayed leaves will render the inclosed air very noxious; and the plants perspiring pretty much at that time, are often destroyed in vast quantities.

In the beginning of February, if the weather be mild, you must begin to harden your plants by degrees, that they may be prepared for transplantation: the ground where you intend to plant your cauliflowers out (which should be quite open from trees, &c. and rather moist than dry) having been well dunged and dug, should be sown with radishes a week or a fortnight before you intend to plant out your cauliflowers; the sowing of radishes is particularly mentioned, because if there are not some radishes among them, and the month of May should prove hot and dry, as it sometimes happens, the fly will seize your cauliflowers, and eat their leaves full of holes, to their prejudice, and sometimes their destruction; whereas, if there are radishes upon the spot, the flies will take to them, and never meddle with the cauliflowers so long as they last: indeed, the gardeners near London mix spinach with their raddish-seed, and so have a double crop; which is an advantage where ground is dear, or where persons are straitened for room; otherwise it is very well to have only one crop amongst the cauliflowers, that the ground may be cleared in time.

Your ground being ready and the season good, about the middle of February you may begin to plant out your cauliflowers; the distance which is generally allowed by the gardeners near London (who plant other crops between their cauliflowers to succeed them, as cucumbers for pickling, and winter cabbages) is every other row four feet and a half apart, and the intermediate rows two feet and a half, and two feet two inches distance in the rows; so that in the latter end of May or beginning of June (when the radishes and spinach are cleared off, they put in seeds of cucumbers for pickling, in the middle of the wide rows, at three feet and a half apart; and in the narrow rows plant cabbages for winter use, at two feet two inches distance, so that these stand each of them exactly in the middle of the square between four cauliflower plants; and these, after the cauliflowers are gone off, will have full room to grow, and the crop be hereby continued in a succession through the whole season.

There are many people who are very fond of watering cauliflower plants in summer; but the gardeners near London have almost wholly laid aside this practice, as finding a deal of trouble and charge to little purpose; for if the ground be so very dry as not to produce tolerable good cauliflowers without water, it seldom happens that watering of them makes them much better: and when once they have been watered, if it is not constantly continued, it had been much better for them if they never had any; as also, if it be given them in the middle of the day, it rathers helps to scald them: so that, upon the whole, if care be taken to keep the earth drawn up to their stems, and clear them from every thing that grows near them, that they may have free open air, you will find that they will succeed better without than with water, where any of these cautions are not strictly observed.

But in order to have a third crop of cauliflowers, you should make a slender hot-bed in February, in which you should sow the seeds, covering them a quarter of an inch thick with light mould, and covering the bed with glass frames. When the plants are come up, and have gotten four or five leaves, you should prepare another hot-bed to prick them into, which may be about two inches square; and in the beginning of April harden them by degress, to fit them for transplanting, which should be done the middle of that month, at the distance directed for the second crop, and must be managed accordingly: these, if the soil is moist where they are planted, or the season cool and moist, will produce good cauliflowers about a month after the second crop is gone, whereby their season will be greatly prolonged. Brassica Bravo.

There is also a fourth crop of cauliflowers, which is raised by sowing the seeds about the 23d of May; and, being transplanted, as hath been before directed, will produce good cauliflowers in a kindly season and good soil after Michaelmas, and continue through October and November, and, if the season permit, often a great part of December.

All the species of cabbage are supposed to be hard of digestion, to afford little nourishment, and to produce flatulencies, though probably on no very good foundation. They tend strongly to putrefaction, and run into this state sooner than almost any other vegetable; when putrefied, their smell is likewise the most offensive, greatly resembling that of putrefied animal substances. A decoction of them is said to loosen the belly. Of all these plants cauliflower is reckoned the easiest of digestion. The white is the most fetid, and the red most emollient or laxative; a decoction of this last is recommended for softening acrimonious humours in some disorders of the breast, and in hoarseness. The red cabbage is chiefly used for pickling. In some countries they bury the white cabbage when full grown in the autumn, and thus preserve it all winter. The Germans cut them to pieces, and, along with some aromatic herbs and salt, press them close down in a tub, where they soon ferment, and are eaten under the name of *Sour-crout*. See that article.

BRASSICAVIT, or BRACHICAVIT, in the manege, is a horse whose forelegs are naturally bended archwise: being so called by way of distinction from an arched horse, whose legs are bowed by hard labour.

BRAULS, Indian cloths with blue and white stripes. They are otherwise called *turbans*, because they serve to cover those ornaments of the head, particularly on the coast of Africa.

BRAUNA, a town of Germany, in Bavaria, seated on the river Inn. It has a strong fortress: notwithstanding, it was taken by the Austrians in 1743. E. Long. 13. 3. N. Lat. 48. 10.

BRAUNSBURG, a town of Poland, in Regal Prussia, with a very commodious harbour, and belonging to the king of Prussia. It is seated near the Baltic sea, in E. Long. 20. 0. N. Lat. 54. 15.

BRAUNSFIELD, a town of Germany, in the circle of the Upper Rhine, and country of Solmes, with a handsome palace or castle. E. Long. 8. 32. N. Lat. 50. 22.

BRAVO, one of the Cape de Verd islands on the coast of Africa, remarkable for its excellent wines, and inhabited by Portuguese. The land is very high, and consists of mountains which look like pyramids. It abounds in Indian corn, gourds, water melons, potatoes, horses, asses, and hogs. There is also plenty of fish on the

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Bravo ‖ Bray.

the coast, and the island produces salt-petre. W. Long. 25. 35. N. Lat. 14. 0.

BRAVO, a town of Africa, on the coast of Ajan, with a pretty good harbour. It is an independent place, and is about 80 miles distant from Magadoxo. E. Long. 41. 35. N. Lat. 1. 0.

BRAURONIA, in Grecian antiquity, a festival in honour of Diana, surnamed *Brauronia*, from its having been observed at Brauron, an Athenian borough. This festival was celebrated once in five years, being managed by ten men, called in Greek ἐξηγηταὶ. The victim offered in sacrifice was a goat, and it was customary for certain men to sing one of Homer's Iliads. The most remarkable persons at this solemnity were young virgins, habited in yellow gowns, and consecrated to Diana. It was unlawful for any of them to be above ten or under five years of age.

BRAWN, the flesh of a boar souced or pickled: for which end the boar should be old; because the older he is, the more horny will the brawn be.—The method of preparing brawn is as follows: The boar being killed, it is the flitches only, without the legs, that are made brawn; the bones of which are to be taken out, and then the flesh sprinkled with salt, and laid in a tray, that the blood may drain off: Then it is to be salted a little, and rolled up as hard as possible. The length of the collar of brawn should be as much as one side of the boar will bear, so that when rolled up it will be nine or ten inches in diameter.

The collar being thus rolled up, it is to be boiled in a copper or large kettle, till it is so tender, that you can run a straw through it; then set it by till it is thorough cold, and put it into the following pickle. To every gallon of water, put a handful or two of salt, and as much wheat-bran: Boil them together, then drain the bran as clear as you can from the liquor; and when the liquor is quite cold, put the brawn into it.

BRAY, SIR REGINALD, a celebrated architect and politician, was the second son of Sir Richard Bray, one of the privy council to King Henry VI. Sir Reginald was instrumental in the advancement of King Henry VII. to the throne of England; and was greatly in favour with that prince, who bestowed honours and wealth upon him. His skill in architecture appears from Henry VII.'s chapel at Westminster, and the chapel of St George at Windsor, as he had a principal concern and direction in the building of the former, and the finishing and bringing to perfection the latter, to which he was also a liberal benefactor. In the middle of the south aisle of the above chapel is a spacious chapel built by him, and still called by his name. He died in 1501; and was interred in the above chapel, probably under the stone where lies Dr Waterland; for, on opening the vault for that gentleman, who died in 1740, a leaden coffin of ancient form was found, which, by other appearances, was judged to be that of Sir Reginald, and was, by order of the dean, immediately arched over.

BRAY, *Dr Thomas*, an eminent, learned, and pious divine, was born at Marton, in Shropshire, in the year 1656, and educated at Oxford. He was at length presented to the vicarage of Over-Whitacre, in Warwickshire: and in 1690, to the rectory of Sheldon, where he composed his Catechetical Lectures; which procured him such reputation, that Dr Compton, bishop of London pitched upon him as a proper person to model the infant church of Maryland, and establish it upon a solid foundation, and for that purpose he was invested with the office of commissary. He now engaged in several noble undertakings. He procured sums to be raised for purchasing small libraries for the use of the poor ministers in the several parts of our plantations: and the better to promote this design, he published two books; one entitled *Bibliotheca parochialis*, or a scheme of such theological and other heads as seem requisite to be perused or occasionally consulted by the clergy, together with a catalogue of books which may be profitably read on each of those points; the other, Apostolical Charity, its nature and excellency considered. He endeavoured to get a fund established for the propagation of the gospel, especially among the uncultivated Indians; and by his means a patent was obtained for erecting the corporation called *The society for the propagation of the gospel*. He, by his industry, procured relief for prisoners; and formed the plan for the society for the reformation of manners, charity-schools, &c. He wrote, 1. His Martyrology, or papal usurpation, in one volume, folio; 2. *Directorium missionarium*; and other works. This excellent man died in 1730, aged 73.

Bray ‖ Brazen

BRAY, a port town of Ireland, in the county of Wicklow, and province of Leinster, seated on St George's channel, eight miles south of Dublin. W. Long. 6. 16. N. Lat. 53. 8.

BRAY sur Seine, a town of France in Champagne, and in Senonois, on the confines of Brie. E. Long. 2. 15. N. Lat. 48. 35.

BRAYLE, among sportsmen, a piece of leather slit to put upon the hawk's wing, to tie it up.

BRAZED, in *Heraldry*, a term serving to describe three cheverons, one clasping another.

BRAZEN, something consisting of brass, or formed out of it. See BRASS.

BRAZEN Age. See AGE.

BRAZEN Dish, among miners, is the standard by which the other dishes are gauged, and is kept in the king's hall.

BRAZEN Sea, in Jewish antiquity, one of the sacred utensils in the temple of Solomon. It was cast in the plain of Jordan, and removed from thence into the inner court of the temple; where it was placed upon 12 oxen, three of which looked towards each quarter of the world. It was ten cubits from the one brim to the other, five cubits in height, and 30 cubits in circumference, and contained 3000 baths. The brim of it was perfectly round, and so it continued in the two upper cubits; but below the brim, in the three lower cubits, it was square. It was a handbreadth thick, and the brim was wrought like the brim of a cup, with flowers of lilies. About the body of this huge vessel there were two borders of engravings, being the heads of oxen in demi-relief: out of which some suppose the water issued, and that they were made as cocks and conveyances for that purpose.—This brazen or molten sea, was designed for the priests to wash themselves in before they performed the service of the temple. The supply of water was through a pipe out of the well Etam; though some are of opinion, that it was constantly supplied with water by the Gibeonites.

BRAZIER,

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razier || read.

BRAZIER, an artificer who makes and deals in all kinds of brass ware. This trade, as exercised in Britain, may be reckoned a branch of the smithery, though they seldom keep forges, except for brazing or soldering, and tinning the insides of their vessels, which they work up chiefly out of copper and brass prepared rough to their hands. They consist of a working part, and a shop-keeping part, which latter many carry on to a great extent, dealing as well in all sorts of iron and steel, as copper and brass goods for household furniture; and lately have fallen much into selling what is called *French plate*, made of a sort of white metal, silvered and polished to such a degree that the eye cannot soon distinguish it from real silver.

BRAZIL. See BRASIL.

BRAZING, the soldering or joining two pieces of iron together by means of thin plates of brass, melted between the pieces that are to be joined. If the work be very fine, as when two leaves of a broken saw are to be brazed together, they cover it with pulverized borax, melted with water, that it may incorporate with the brass powder, which is added to it: The piece is then exposed to the fire without touching the coals, and heated till the brass is seen to run.

BRAZING is also the joining two pieces of iron together by beating them hot, the one upon the other, which is used for large pieces by farriers, &c.

BRAZZA, a town and island on the coast of Dalmatia, in the gulf of Venice, opposite to Spalatro, and subject to Venice. E. Long. 28. 0. N. Lat. 43. 0.

BREACH, in a general sense, denotes a break or rupture in some part of a fence or enclosure, whether owing to time or violence.—Inundations, or overflowings of lands, are frequently owing to breaches in the dikes or sea banks. Dagenham breach is famous; it was made in 1707, by a failure of the Thames wall in a very high tide. The force wherewith it burst in upon the neighbouring level tore up a large channel or passage for water 100 yards wide, and in some places 20 feet deep, by which a multitude of subterraneous trees that had been buried many ages before were laid bare.

BREACH, in *Fortification*, a gape made in any part of the works of a town by the cannon or mines of the besiegers, in order to make an attack upon the place. To make the attack more difficult, the besieged sow the breach with crow-feet, or stop it with *chevaux de frize*.—A practicable breach, is that where the men may mount and make a lodgment, and ought to be 15 or 20 fathoms wide. The besiegers make their way to it, by covering themselves with gabions, earth-bags, &c.

BREACH, in a legal sense, is where a person breaks through the condition of a bond or covenant; on an action upon which, the breach must be assigned: And this assignment must not be general, but particular, as, in an action of covenant for not repairing houses, it ought to be assigned particularly what is the want of reparation: and in such certain manner, that the defendant may take an issue.

BREAD, a mass of dough kneaded and baked in an oven. See BAKER, BAKING, and BARM.

cquer's n. Dict.

The grains of all vegetables are almost entirely composed of substances very proper for the nourishment of animals; and amongst grains those which contain a farinaceous matter are the most agreeable and most nutritive. Bread.

Man, who appears to be designed by nature to eat of all substances which are capable of nourishing him, and still more of vegetables than animals, has, from time immemorial, and in all parts of the earth, used farinaceous grains as the principal basis of his food: but as these grains cannot be without difficulty eaten by men in their natural state, this active and intelligent animal has gradually found means not only to extract the farinaceous part, that is, the only nutritive part of these grains, but also to prepare it so that it becomes a very agreeable and wholesome aliment, such as the bread we now generally eat.

Nothing appears so easy at first sight as to grind corn, to make a paste with the flour and water, and to bake this paste in an oven. They who are accustomed to enjoy the advantages of the finest human inventions, without reflecting on the labour it has cost to complete them, think all these operations common and trivial. However, it appears very certain, that for a long time men no otherwise prepared their corn than by boiling and forming compact viscous cakes, not very agreeable to the taste, and of difficult digestion. Before they were able to make bread of good taste and quality, as we have now, it was necessary to invent and complete ingenious machines for grinding corn, and separating the pure flour with little trouble and labour; and that inquiries, or rather some happy chance, which some observing person availed himself of, should discover, that flour, mixed with a certain quantity of water, is susceptible of a fermentation which almost entirely destroys its viscidity, heightens its taste, and renders it proper to make a light bread, very agreeable to the taste, and of easy digestion.

This essential operation, on which the good quality of bread depends, is entirely of the province of chemistry. It would add to the honour of the ancient cultivators of chemistry, to attribute to them so useful and important a discovery; but, unhappily, it is too probable that they had no share in it. The ancient chemists were engaged in other pursuits than that of bread and other common objects. They hoped to make gold; and what is bread in comparison with gold?

However that be, to the fortunate invention of raising the paste before baking we owe the perfection of the art of making bread. This operation consists in keeping some paste or dough, till by a peculiar spirituous fermentation it swells, rarefies, and acquires a smell and taste quick, pungent, spirituous, somewhat sour, and rather disagreeable. This fermented dough is well worked with some fresh dough, which is by that mixture and moderate heat disposed to a similar but less advanced fermentation than that above mentioned. By this fermentation the dough is attenuated, and divided; air is introduced into it, which being incapable of disengaging itself from the tenacious and solid paste, forms in it small cavities, raises and swells it: hence the small quantity of fermented paste which disposes the rest to ferment, is called *leaven*, from the French word *lever*, signifying to raise.

When the dough is thus raised, it is in a proper state to be put into the oven; where, while it is baked, it dilates

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Bread. dilates itself still more by the rarefaction of the air, and of the spirituous substance it contains, and it forms a bread full of eyes or cavities; consequently light, and entirely different from the heavy, compact, viscous, and indigested masses, made by baking unfermented dough.

The invention of beer, or wine of grains, furnishes a new matter useful in the making of bread. This matter is the froth which forms upon the surface of these liquors during fermentation. When it is mixed with dough, it raises it better and more quickly than ordinary leaven. It is called *yeast* or *barm*. By means of this, the finest lightest bread is made. It often happens, that bread made with leaven dough has a sourish and not agreeable taste; which may proceed from too great a quantity of leaven, or from leaven in which the fermentation has advanced too far. This inconvenience does not happen to bread made with yeast; because the fermentation of this substance is not too far advanced, or because more attention is given to that finer bread.

It may be asked, Why, since dough is capable of fermenting spontaneously and singly, as we see from the leaven, a substance is added to dispose it to ferment: The true reason is, That all the parts of a fermenting substance do not ferment at the same time, nor to the same degree; so that some parts of this substance have finished their fermentation, while others have not yet begun. The fermentable liquors which contain much sugar, as hydromel, and must of wines, give proofs of this truth; for, after these liquors have become very vinous, they have still very distinctly a saccharine taste: but all saccharine matter is still susceptible of fermentation; and, in fact, if vinous hydromel, or must, or even new beer, be distilled, so that all their ardent spirit shall be separated, and the residuums diluted with water, we shall see a second fermentation take place, and a new quantity of ardent spirit formed.

The same thing precisely happens to dough, and still more sensibly, from its viscosity and want of fluidity; so that if it be left to ferment alone, and without the help of leaven, as the fermentation proceeds very slowly and successively, the parts which ferment first will have become sour and vapid before all the rest be sufficiently attenuated and changed, by which the bread will acquire a disagreeable taste.

A mixture of a small quantity of leaven with dough effectually prevents this inconvenience; because the effect of this leaven, and of all fermenting substances, is to dispose to a similar fermentation all matters capable of it, with which it is mixed; or rather, by means of leaven, the fermentation of all the parts of such substances is effected more nearly at the same time.

Bread well raised and baked differs from unfermented bread, not only in being less compact, lighter, and of a more agreeable taste, but also in being more easily miscible with water, with which it does not form a viscous mass, which circumstance is of great importance in digestion.

Cullen on the Mat. Med. It is observable, that without bread, or somewhat of this form, no nation seems to live. Thus the Laplanders, having no corn of their own, make a sort of bread of their dried fishes, and of the inner rind of the pine, which seems to be used, not so much for their nourishment as for supplying a dry food. For this mankind seem to have an universal appetite, rejecting bland, slippery, and mucilaginous foods. This is not commonly accounted for, but seems to depend on very simple principles. The preparation of our food depends on the mixture of the animal fluids in every stage. Among others the saliva is necessary, which requires dry food as a necessary stimulus to draw it forth, as bland, slippery, fluid aliments are too inert, and make too short stay in the mouth, to produce this effect, or to cause a sufficient degree of manducation to emulge that liquor. For this reason we commonly use dry bread along with animal food, which otherwise would be too quickly swallowed. For blending the oil and water of our food nothing is so fit as bread, assisted by a previous manducation. For which purpose, bread is of like necessity in the stomach, as it is proper that a substance of solid consistence should be long retained there. Now the animal fluids must be mixed with our aliment, in order to change the acescency it undergoes. But liquid foods would not attain this end, whereas the solid stimulates and emulges the glands of the stomach. The bread then appears to be exceedingly proper, being bulky without too much solidity, and firm without difficulty of solution. Bread.

Suppl. to Chambers's Dict. Among the ancients we meet with various denominations of bread; as, 1. *Panis siligeneus*, called also *mundus*, *athleticus*, *isungia*, *coliphius*, and *robys*, answering to our white bread; being made of the purest flour of the best wheat, and only used by the richer sort. 2. *Panis secundus* or *secundarius*, called also *similaceus* or *similagineus*, the next in purity; being made of fine flour, only all the bran not sifted out. 3. *Autopyrus*, called also *syncomistus* and *confusaneus*, made of the whole substance of the wheat, without either retrenching the finer flour or coarser bran; answering to our household bread. 4. *Cacabaceus*, apparently the same with what was otherwise denominated *sordidus*, as being given to dogs; *furfuraceus*, *furfureus*, or *furfurativus*, because made in great part of bran; and, in the middle age, *bissus*, on account of its brownness; sometimes also *leibo*. There were other sorts of bread, denominated from the manner in which they were made, or the uses they were applied to; as, 1. The *militaris*, which was prepared by the soldiers and officers in camp with their own hands; for which purpose some had hand-mills, others pounded the corn in a mortar, and baked it on the coals. 2. *Clibanites*, that baked in an oven, by way of contradistinction from that baked on the hearth or under the embers. 3. That called *subcinericius*, or *sub cinere coctus*; sometimes also *reversatus*, because it was to be turned in the baking. 4. *Nauticus*, answering to our sea-biscuit, and denominated accordingly *bis coctus*, because baked several times over to make it keep the longer. Other kinds of bread were denominated from their qualities and accidents; as, 1. The *panis siccus*, that which had been long baked; such as were the *bis coctus*, naval and buccellated bread. 2. *Madidus*, a sort made of rye or bear, sometimes also made of fine flour, wherewith they smeared their faces, by way of a cosmetic, to render them smooth. 3. *Acidus*, or sour bread, which was acidulated with vinegar. 4. *Azymus*, that unleavened or unfermented.

The French have also a great variety of breads; as queen's

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Bread. queen's bread, alamode bread, bread de Segovie, de Gentillay, quality-bread, &c. all prepared in peculiar manners by the bakers of Paris. The bread de Gonesse excels all others, on account of the waters at Gonesse, a town three leagues from Paris. It is light, and full of eyes, which are the marks of its goodness. *Pain de manege*, is that which each family bakes for itself. Spice-bread, *pain d'epice*, denotes bread baked and iced over with the scum taken off sugar in refining houses; it is sometimes also made with honey and other sorts of seasoning, and answers to what the ancients call *panis mellitus*.

Among us, bread is chiefly divided into white, wheaten, and household; differing only in degrees of purity. In the first, all the bran is separated; in the second, only the coarser; in the third, none at all: so that fine bread is made only of flour; wheaten bread of flour and a mixture of the finer bran; and household, of the whole substance of the grain, without taking out either the coarse bran or fine flour. We also meet with symnel bread, manchet or roll bread, and French bread: which are only so many denominations of the finest and whitest bread, made of the purest flour; except that in ill-roll bread there is an addition of milk, and in French bread, of eggs and butter also. In Lancashire, and several of the northern counties of England, they have several sorts of oaten bread; as, 1. The bannock, which is an oat-cake, kneaded only with water, and baked on the embers. 2. Clap-bread, which is made into thin hard cakes. 3. Bitchiness bread, which is made of thin batter, and made into thin soft oat-cakes. 4. Riddle-cakes, which are thick and sour, have but little leaven, and are kneaded stiff. And, 5. Jannock, which is oaten bread made up into loaves. Add to these, *pease-bread*, much used in many parts of Scotland; being bread consisting either wholly of the flour of pease, or of this and oat-meal mixed: the dough, sometimes leavened, sometimes made only with water, is formed either into bannocks or cakes, and baked over the embers; or into what they call *baps*, i. e. a kind of flattish rolls, and baked in the oven. In the statute of assize of bread and ale, 51 Hen. III. mention is made of wastel-bread, cocket-bread, and bread of treet; which answer to the three kinds of bread now in use, called *white*, *wheaten*, and *household* bread. In religious houses, they heretofore distinguished bread by the names esquires bread, *panis armigerorum*; monks bread, *panis conventualis*; boys bread, *panis puerorum*; and servants bread, *panis famulorum*, called also *panis servientalis*. A like distribution obtained in the households of nobles and princes; where, however, we find some other denominations; as messengers bread, *panis nuncius*, that given to messengers as a reward of their labour; court-bread, *panis curialis*, that allowed by the lord for the maintenance of his household; eleemosynary bread, that distributed to the poor by way of alms.

It is for the interest of the community that the food of the poor should be as various as possible, that, in time of dearth and scarcity of the ordinary kinds, they may not be without ready and cheap resources. To the discovery of such resources several benevolent philosophers having successfully turned their inquiries, we shall lay before the reader the result of their experiments. Bread.

1. *Bread of Potatoes**. Potatoes, previously deprived of their skin, cut into thin slices, and put between paper, will dry in a heat somewhat less than 35° of Reaumur's thermometer; and, when thus dried, they will preserve their white colour. By this process they lose about two thirds of their weight, and they may then be reduced to a fine powder. A little of this powder thrown upon the fire sends out a smoke, accompanied with a smell resembling burnt bread. As this smell is perceived from all farinaceous vegetables when treated in the same manner, M. Parmentier thinks it may be considered as the characteristic of the presence of an *amylaceous*† matter. This smell does not, however, he observes, arise from the amylaceous or fibrous part separately, but from both taken together. The powder of potatoes, obtained in the manner described above, has the smell and taste of wheat; and, like it, is devoured by rats and mice; but, even when most finely powdered, it has not the feel or brightness of the flour of wheat; although, on a chemical analysis, it yields the same products. It is also nutritious, and keeps well for a long time.

* From *Examen Chymique des Pommes de Terre*, &c. par M. Parmentier, apoth. major de l'hotel des invalides Paris.

† See the note *infra*.

Finding so great a similarity between the meal of wheat and what may be called the meal of potatoes, M. Parmentier next endeavoured to make bread of them when mixed in different proportions. His trials were made with one-fourth, one-third, one-half, and two-thirds, of the potato-meal, the remainder being flour from wheat. These proportions, with the addition of a little salt and yeast, yielded bread which was well tasted, but which had fermented little, was brown, and covered with hard brown crusts. Bread made from the meal of potatoes alone, with the addition of salt and yeast, was eatable, but very heavy, unfermented, and exceedingly brown. This bread, from the meal of potatoes alone, was apt to crumble into powder. To give it more adhesion, he mixed with the meal a decoction of bran, or a mixture of honey and water; either of which made it lighter and more fermented: it obtained also a crust of a golden colour, became well tasted, and sufficiently adhesive. M. Parmentier obtained bread also, well fermented, and of a good colour and taste, from a mixture of raw potato-pulp with meal of wheat, or potato-meal, with the addition of yeast and salt.

Potatoes, when used for making bread, are not readily disposed to ferment; without which, bread is very insipid, and not easily digested. But M. Parmentier found, from a variety of experiments, that good bread might be made from equal quantities of flour and potato-meal. He concludes, therefore, with recommending the mixture of potatoes, in times of scarcity, with the flour of wheat, instead of employing rye, barley, or oats, as has frequently been done.

When grain is altogether wanting, he recommends the use of bread made from a mixture of the amylaceous powder of potatoes and of their pulp, this mixture being fermented with leaven or with honey. The meal of this root, when diluted with hot water, acquires a tenacious and gluey consistence. However fair the meal of potatoes may be, it always gives a gray colour to the bread made by mixing it with the flour of

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Bread. wheat: but a mixture of the pulp of potatoes with the flour of wheat does not produce brown-coloured bread.

M. Parmentier made bread, very much like that of wheat, by a mixture of the following four substances, viz. four ounces of amylaceous powder of potatoes, one dram of mucilage extracted from barley, one dram of the bran of rye, and a dram and a half of glutinous matter dried and powdered.

2. *Bread from different Vegetables not commonly in Use* *. Although horse-chesnut has not hitherto been employed, yet it is certain that wholesome bread, without any bitterness, may be obtained from it. M. Parmentier advises, that the fruit, after the skin is taken off, and the juice pressed from it, be made into a paste. This mass must be diluted in water, and then strained through a sieve. A milky-coloured liquor is thus separated, which, on standing, deposits a fine powder. This, being dried, is without either smell or taste, and very fit for aliment; the mass from which it is procured retaining the bitterness of the fruit.

* From *Memoire sur les vegetaux qui pourroient suppléer en temps de disette a ceux que l'on employe communement a la nourriture des hommes*, &c. par M. Parmentier.

The roots of the bryona, when treated in the same manner, yielded a similar white powder. By the same treatment also, fine, white, insipid, inodorous powders may be procured from the roots of the iris, gladiolus, ranunculus, fumaria, arum dracunculus, mandragora, colchicum, filipendula, and helleborus; plants which grow spontaneously, and in great abundance.

Of acorns bread has frequently been made; and to this day, in some countries, they are in common use. The method of preparation which M. Parmentier recommends is, that they be deprived of their cover by boiling, then dried and powdered, and afterwards baked in the same manner as the flour of wheat. When fully ripe, and made into a paste, they were deprived of their astringency by merely pressing their juice from them. The mass remaining after the pressure, when dried, was easily reduced to a fine powder by no means disagreeable.

The *gramen caninum arvense*, in its appearance, approaches to corn; and some naturalists have considered it as the original species from which all our grain is produced. Its roots are sweet tasted, and have long been employed in making ptisans. In the preparation of them for bread, it is only necessary that the roots should be cleansed, cut small, dried, and pounded. This powder, M. Parmentier observes, does not dissolve in cold water or spirits; but it does in boiling water, which it renders thick and cloudy, and, upon cooling, the whole mass obtains a gelatinous consistence. Upon a chemical analysis, it yields an acid empyreumatic oil, which possesses a singular odour, resembling that which is perceived on burning the plant. The spongy residuum, calcined in the air, gives a fixed alkali. These properties incontestably prove, that it contains an *amylaceous* (A) matter similar to that of grain, which appears to be the nutritive part of vegetables. This amylaceous matter, formed into a jelly, and diffused in water, keeps for a long time without suffering any change; it then turns acid, and at length putrefies. Bread.

The amylaceous matter of acrid and poisonous plants, although innocent and nutritive, cannot be converted into bread without the addition of some mucilaginous substance. In times of great scarcity, common bran will answer the purpose; but when potatoes are to be had, the addition of a proper proportion of these is to be preferred.

M. Parmentier gives an account of the bread which he obtained from the amylaceous powders of the different vegetables mentioned above, with the addition of potatoes and a small quantity of common leaven of grain. This bread appeared in general to be well fermented; it was of a good white colour, and free from any disagreeable odour: but to the taste, it was somewhat insipid; which, however, he imagines, might have been corrected by the addition of a proper quantity of salt.

As the resources against scarcity here pointed out can be procured only at particular seasons, the author proposes a method for preserving the matter thus obtained. For this purpose, he advises, that bread prepared in the manner mentioned above should be carefully

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(A) M. Beccari of the Bolognian academy has discovered in the flour of wheat two distinct substances. The one he terms an *animal* or *glutinous* matter; the other, an *amylaceous* matter or *vegetable paste*.

The *gluten* has been supposed to be the nutritive part of corn, from its not dissolving unless in vegetable acids; from its assuming a spongy form in boiling water; from its supposed analogy to the animal lymph; and, lastly, from the similitude which the products it affords, on a chemical analysis, bear to those obtained from animal substances. M. Parmentier, however, from various experiments, was led to conclude, with the celebrated Model of Petersburg, that the gluten or animal matter of Beccari exists in the bran, and is not the nutritive part of the wheat. Having made experiments with four different kinds of flour, it appeared that the quantity of animal matter was always proportioned to the coarseness of the flour. Hence, were this gluten the nutritive part, the coarsest bread, or that which contained most bran, would afford the greatest quantity of nourishment. The contrary of this, however, is now known to be fact.

The *amylaceous* part, or, as some have termed it, the *fecula*, of wheat and other vegetables, is a peculiar gum, not soluble in spirit of wine, vinegar, or cold water. It contains more acid, and less water, than the ordinary gums. It is found in many of those plants that make the nourishment of men and other animals. Hence M. Parmentier concludes it to be the nutritive matter.

Though we are not to consider the glutinous matter as the nutritious part of vegetables, yet it is a very necessary ingredient. It is that which preserves the cohesion of the paste in fermenting bread: it is that which forms the viscid pellicle, and stops the air in fermentation; gives the savoury taste to bread; occasions it to be light, to ferment, and which forms the small cells seen in it. It is found especially near the cortical part of grain; and this accounts for its being found in the greatest quantity in coarse brown meal. It is this gluten which renders wheat a superior aliment to the other grains and roots.

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Bread. fully dried, reduced to powder, and then kept in a close cask. By this means, he is of opinion that it may be preserved for a very long time, and will always be ready to make an agreeable and wholesome panada by the addition of a little butter and salt.

M. Parmentier, in order to discover the degree of power wherewith this alimentary powder nourished, made himself the subject of experiment; and found, that three ounces of it for dinner, and as much for supper, made into panada with water, was a sufficient quantity of aliment for a day. From his discharge by stool while he used it, he had reason to believe that it is almost totally alimentary. He concludes with recommending it not only as useful in times of scarcity, but as a proper substitute for sea biscuit, and as a species of food well adapted for armies and hospitals.

3. *Cheap method of making wholesome* BREAD, when wheat-flour is dear, by mixing turnip with it *.

* From a letter in the *Museum Rusticum et Commerciale.*

"At the time I tried this method, bread was very dear, insomuch that the poor people, in the country where I live, could hardly afford themselves half a meal a-day. This put me upon considering whether some cheaper method might not be found than making it of wheat-meal. Turnips were at that time very plentiful. I had a number of them pulled, washed clean, pared, and boiled; when they were become soft enough to mash, I had the greatest part of the water pressed out of them, and afterwards had them mixed with an equal quantity in weight of coarse wheat-meal; the dough was then made in the usual manner, with yeast or barm, salt, water, &c. It rose very well in the trough; and after being well kneaded, was formed into loaves, and put into the oven to be baked. I had at the same time some other bread made with common meal in the ordinary way. I baked my turnip bread rather longer than the other. When they were drawn from the oven, I caused a loaf of each sort to be cut; and found, on examination, the turnip-bread was sweeter than the other, to the full as light and as white, but had a little taste (though nowise disagreeable) of the turnip. Twelve hours afterwards I tasted my turnip-bread again, when I found the taste of the turnip in it scarcely perceivable, and the smell quite gone off. On examining it when it had been baked 24 hours, had I not known that there were turnips in its composition, I should not have imagined it: it had, it is true, a peculiar sweetish taste, but by no means disagreeable; on the contrary, I rather preferred it to the bread made of wheat-meal alone. After it had been baked 48 hours, it underwent another examination, when it appeared to me to be rather superior to the other; it ate fresher and moister, and had not at all abated in its good qualities: to be short, it was still very good after a week: and, as far as I could see, kept as well as the bread made of common wheat-meal.

"In my trials of this bread by the taste, I was not satisfied with eating it by itself; I had some of it spread with butter; I tasted it with cheese; I ate of it toasted and buttered, and finally in boiled milk and in soup: in all these forms it was very palatable and good.

BREAD, in *Medicine*. Besides the alimentary, bread has also medical qualities.—Decoctions, creams, and jellies of bread, are directed in some dispensaries. Bread carefully toasted, and infused or lightly boiled in water, imparts a deep colour, and a sufficiently agreeable restringent taste. This liquor, taken as common drink, has done good service in a weak lax state of the stomach and intestines; and in bilious vomiting and purging, or the cholera morbus: examples are related in the Edinburgh essays of several cases of this kind cured by it, without the use of any other medicine.—In Westphalia there is a very coarse bread eaten, which still retains the opprobrious name given it by a French traveller of *Bonpournikel*, "good for his horse *Nickel*." It is the same with what the Romans called *panis furfuraceus*, or *panis impurus*, from its not being cleansed from the husk; and *panis ater*, from the blackness of its colour: though we learn from Pliny, that the Romans for 300 years knew no other bread. The Germans * make two sorts of waters by distillation from this bread; the one with, the other without, the addition of a spirituous liquor: to both which great virtues are ascribed. That without any thing spirituous, is made out of the juice of craw-fish, may-dew, rose-water, nutmegs, and saffron, distilled from a large quantity of this bread. This is esteemed a great restorative, and given in hectic habits. The other is distilled from this bread and Rhenish wine, with nutmegs and cinnamon. This is given in all the disorders of the stomach, vomiting, loss of appetite, and other complaints of the same kind: and besides these, there is a spirit distilled from it by the retort in the dry way, which, when separated from its fetid oil, is esteemed a powerful sudorific, and very valuable medicine in removing impurities of the blood.

* *Hoffman. Obs. Chem.*

Bread is also medicinal, applied *externally*, as is vulgarly known *. Mr Boyle assures us he drew a menstruum from bread stronger than aquafortis, and which would act even upon glass itself †.

* Boyle's *Phil. Works abridged*, vol. iii. p. 572.

Bread-Fruit Tree. See SUPPLEMENT.

Bees-Bread. See BEE.

† *Ibid*, vol. i. p. 34. 49.

Cassada BREAD. See JATROPHA, BOTANY *Index*.

Earth BREAD ‡. "In the lordship of Moscaw in the Upper Lusatia, a sort of white earth is found, of which the poor, urged by the calamities of the wars which raged in those parts, make bread. It is taken out of a hill where they formerly worked at saltpetre. When the sun has somewhat warmed this earth, it cracks, and small white globules proceed from it as meal; it does not ferment alone, but only when mixed with meal. Mr Sarlitz, a Saxon gentleman, was pleased to inform us, that he has seen persons who in a great measure lived upon it for some time. He assured us that he procured bread to be made of this earth alone, and of different mixtures of earth and meal; and that he even kept some of this bread by him upwards of six years: he further says, a Spaniard told him, that this earth is also found near Geronne in Catalonia."

‡ From the *German Ephemerides*, 1764.

Eucharist or *Sacramental* BREAD, in the Protestant churches, is common leavened bread, in conformity to the ancient practice. In the Romish mass, azymous or unleavened bread is used, particularly in the Gallican church, where a sort is provided for this purpose, called *pain à chanter*, made of the purest wheaten flour pressed between two iron plates graven like wafer-moulds, being first rubbed with white wax to prevent the paste from sticking. The Greeks observe divers ceremonies in their making the eucharist bread. It is necessary the

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Bread. the person who bakes it have not lain with his wife the day before; or, if it be a woman, that she have not conversed with her husband. The Abyssinians have an apartment in their churches for this service, being a kind of sacristy. F. Sirmond, in his disquisition on azymous bread, shows, from the council of Toledo, that anciently there were as many ceremonies used in the Latin church in the preparation of the unleavened bread as are still retained in the eastern churches. He cites the example of Queen Radegonda, who distributed with her own hands in the church, the bread which she herself had made. It appears also from the dispute of Cardinal Humbert against the Greeks, that in the Latin church no bread was used for the eucharist, but what was taken out of the sacristy, and had been made by the deacons, subdeacons, and even priests, who rehearsed several psalms during the process.

Ecclesiastical writers enumerate other species of bread allotted for purposes of religion; as, 1. *Calendarius*, that anciently offered to the priest at the kalends. 2. *Prebendarius*, the same with *capitularis*, that distributed daily to each prebendary or canon. 3. *Benedictus*, that usually given to catechumens before baptism, in lieu of the eucharist bread, which they were incapable of partaking of. The *panis benedictus*, was called also *panagium* and *eulogium*, being a sort of bread blessed and consecrated by the priest, whereby they prepare the catechumens for the reception of the body of Christ. The same was used afterwards, not only by catechumens, but by believers themselves, as a token of their mutual communion and friendship. Its origin is dated from the 7th century, at the council at Nantz. In the Gallican church we still find *panis benedictus*, *pain benit*, used for that offered for benediction, and afterwards distributed to pious persons who attend divine service in chapels. 4. Consecrated bread is a piece of wax, paste, or even earth, over which several ceremonies have been performed with benedictions, &c. to be sent in an *Agnus Dei*, or relic-box, and presented for veneration. 5. Unleavened bread, *panis azymus*. The Jews eat no other bread during their passover: and exact search was made in every house, to see that no leavened bread was left. The usage was introduced in memory of their hasty departure from Egypt, when they had not leisure to bake leavened. 6. Shew-bread was that offered to God every Sabbath-day, being placed on the golden table in the holy of holies.

Horse-Bread is made of wheat, oats, and beans; to which sometimes are added aniseed, gentian, liquorice, fenugreek, eggs, and ale; and sometimes rye and white wine are used.

For race-horses three sorts of bread are usually given with success, for the second, third, and fourth nights feeding: they are all made of beans and wheat worked with barm; the difference consisting chiefly in the proportion of the two former. In the first kind, three times the quanity of beans is used to one of wheat; in the second, equal quantities of both; in the third, three times the quantity of wheat to one of beans.

Sago-Bread. See Sago.

* See *Assize*, par. ult.

Assize * *of Bread*. The price and weight of bread is regulated by the magistrates according to the price of wheat. We have divers tables of the weights of the loaves both of wheat, wheaten, and household bread, at every price of wheat. If bread want one ounce in 36, the baker formerly was to suffer the pillory: now, to forfeit 5s. for every ounce wanting; and for every defect less than an ounce, 2s. 6d.; such bread being complained of and weighed before a magistrate within 24 hours after it is baked or exposed to sale within the bills of mortality, or within three days in any other place. It is to be observed, bread loses weight by keeping: in some experiments, recited by Bartholine, the diminution was near one-fourth in six months. The same author assures us, that in Norway, they make bread which keeps 30 or 40 years; and that they are there fonder of their old hard bread, than elsewhere of new or soft; since the older it is, the more agreeable it grows. For their great feasts, particular care is taken to have the oldest bread; so that, at the christening of a child, they have usually bread which had been baked perhaps at the christening of his grandfather. It is made of barley and oat-meal baked between two hollow stones.

Bread ‖ Bream.

Bread-Room, in a ship, that destined to hold the bread or bisket.

The boards of the bread-room should be jointed and caulked, and even lined with tin-plates or mats. It is also proper to warm it well with charcoal for several days before the bisket is put into it; since nothing is more injurious to the bread than moisture.

BREADTH, in *Geometry*, one of the three dimensions of bodies, which multiplied into their length constitutes a surface.

BREAK, in a general sense, signifies to divide a thing into several parts with violence.

In the art of war, to *break ground*, is to open the trenches before a place.

Among sportsmen, to *break a horse* in trotting, is to make him light upon the hand in trotting, in order to make him fit for a gallop. To *break* a horse for hunting, is to supple him, to make him take the habit of running.

BREAKERS, a name given by sailors to those billows that break violently over rocks lying under the surface of the sea. They are distinguished both by their appearance and sound, as they cover that part of the sea with a perpetual foam, and produce a hoarse and terrible roaring, very different from what the waves usually have in a deeper bottom. When a ship is unhappily driven among breakers, it is hardly possible to save her.

BREAKING, in a mercantile style, denotes the becoming bankrupt. See Bankrupt.

Breaking-Bulk, in the sea-language, is the same with unlading part of the cargo.

BREAKSPEAR, Nicholas. See Adrian IV.

BREAKWATER, a sort of rampart of stone or wood, placed in the water before a harbour to break the force of the waves. See Supplement.

BREAM. See Cyprinus, Ichthyology *Index*.

To Bream, to burn off the filth, such as grass, ooze, shells, or sea-weed, from a ship's bottom, that has gathered to it in a voyage, or by lying long in a harbour. This operation is performed by holding kindled furze, faggots, or such materials to the bottom, so that the flame incorporating with the pitch, sulphur, &c. that had formerly covered it, immediately loosens and throws off whatever filth may have adhered to the planks. After this, the bottom is covered anew with a composition of sulphur, tallow, &c. which not only makes

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makes it smooth and slippery, so as to divide the fluid more readily, but also poisons and destroys those worms which eat through the planks in the course of a voyage. Breaming may be performed either when the ship lies aground after the tide has ebbed from her, or by docking, or by careening.

BREAST, in *Anatomy*, denotes the fore-parts of the thorax. See ANATOMY *Index*.

Smiting the breast is one of the expressions of penitence. In the Romish church, the priest beats his breast in rehearsing the general confession at the beginning of the mass.

BREASTS, or *Mammæ*, in *Anatomy*. See ANATOMY *Index*.

The breasts are usually two; though we also meet with instances of *trimamiæ* or women with three breasts *, and even some with four, all yielding milk alike †.

Breast-Hooks, in *Ship-Building*, are thick pieces of timber incurvated into the form of knees, and used to strengthen the fore-part of the ship, where they are placed at different heights directly across the stem, so as to unite it with the bows on each side. The breast-hooks are strongly connected to the stem and hawse-pieces by tree-nails, and by bolts driven from without through the planks and hawse-pieces, and the whole thickness of the breast-hooks, upon whose inside those bolts are forelocked or clinched upon rings. They are usually about one-third thicker, and twice as long, as the knees of the decks they support.

Breast-Plate, in antiquity, a piece of armour worn to defend the breast, originally believed to be made of hides, or hemp, twisted into small cords, but afterwards made of brass, iron, or other metals, which were sometimes so exquisitely hardened, as to be proof against the greatest force.

Breast-Plate, in Jewish antiquity, one part of the priestly vestments anciently worn by the high-priests. It was a folded piece of the same rich embroidered stuff of which the *ephod* was made; and it was set with twelve precious stones, on each of which was engraven the name of one of the tribes. They were set in four rows, three in each row; and were divided from each other by little golden squares or partitions in which they were set. The names of these stones, and that of the tribes engraven on them, as also of their disposition on the breast-plate, are as follows:

Sardine REUBEN.	*Emerald* JUDAH.	*Ligare* GAD.	*Beryl* ZEBULON.
Topaz SIMEON.	*Sapphire* DAN.	*Agate* ASHER.	*Onyx* JOSEPH.
Carbuncle LEVI.	*Diamond* NAPHTALI	*Amethyst* ISSACHAR.	*Jasper* BENJAMIN

This breast-plate was fastened at the four corners; those on the top to each shoulder by a golden hook or ring at the end of a wreathed chain; and those below, to the girdle of the ephod, by two strings or ribbons, which had likewise two rings and hooks.

This ornament was never to be severed from the priestly garment; and it was called the *memorial*, to put the high-priest in mind how dear those tribes ought to be to him, whose names he wore on his breast. It is also called the *breast-plate of judgment*, because it had the divine oracle of *Urim and Thummim* annexed to it. See URIM AND THUMMIM.

Breast-Plate, in the manege, the strap of leather that runs from one side of the saddle to the other, over the horse's breast, in order to keep the saddle tight, and hinder it from sliding backwards.

Breast-Work, in *Fortification*, the same with PARAPET.

BREATH, the air inspired and expelled again in the action of respiration.

The ancients were very watchful over the last breath of dying persons, which the nearest relations, as the mother, father, brother or the like, received in their mouths.

BREATHING, the same with RESPIRATION.

BRECHIN, a town of Scotland, in the county of Angus, situated in W. Long. 2. 18. N. Lat. 56. 40. It consists of one large handsome street, and two smaller; and is on the side of a small hill, washed by the Southesk, over which there is a stone-bridge of two large arches. It contained 5000 inhabitants in 1811. At the foot of the town is a long row of houses independent of it, built on ground held in feu from the family of Northesk. It is a royal borough, and, with four others, sends a member to parliament. It has a small share of the linen manufacture, which has lately declined. It lies at no great distance from the harbour of Montrose; and the tide flows within two miles of the town; to which a canal might be made, which perhaps might create a trade, but would be of certain service in conveying down the corn of the country for exportation.

Brechin was a rich and ancient bishopric, founded by David I. about the year 1150. At the Reformation, its revenues, in money and in kind, amounted to 700l. a-year; but, after that event, were reduced to 150l. chiefly by the alienation of lands and tythes by Alexander Campbell, the first Protestant bishop, to his chieftain the earl of Argyll.—The Culdees had a convent here. Their abbot Leod was witness to the grant made by King David to his new abbey of Dunfermline. In after times, they gave way to the Mathurines or Red Friars. The ruins of their house, according to Maitland, are still to be seen in the College Wynd.—Here was likewise an hospital called *Maison de Dieu*, founded in 1256, by William de Brechin, for the repose of the souls of the kings William and Alexander; of John earl of Chester and Huntingdon his brother; of Henry his father, and Juliana his mother. Albinus bishop of Brechin, in the reign of Alexander II. was witness to the grant. By the walls which are yet standing, behind the west end of the chief street, it appears to have been an elegant little building.

The cathedral is a Gothic pile, supported by 12 pillars; is in length 166 feet, in breadth 61: part is ruinous, and part serves as the parish-church. The west end of one of the aisles is entire: its door is Gothic, and the arch consists of many mouldings; the window of it neat tracery. The steeple is a handsome tower, 120 feet high; the four lower windows in form of long narrow openings; the belfry windows adorned with that species of opening called the *quatrefoil*: the top battlemented, out of which rises a handsome spire.—At a small

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Brechin, Brecknock.

small distance from the aisle stands one of those singular round towers whose use has so long baffled the conjectures of antiquaries. These towers appear to have been peculiar to North Britain and Ireland: in the last they are frequent; in the former, only two at this time exist. That at Brechin stood originally detached from other buildings. It is at present joined near the bottom by a low additional aisle to the church, which takes in about a sixth of its circumference. From this aisle there is an entrance into it of modern date, approachable by a few steps, for the use of the ringers; two handsome bells are placed in it, which are got at by means of six ladders placed on wooden semicircular floors, each resting on the circular abutments withinside of the tower. The height from the ground to the roof is 80 feet; the inner diameter, within a few feet of the bottom, is 8 feet; the thickness of the wall at that part, 7 feet 2 inches; so that the whole diameter is 15 feet 2 inches: the circumference very near 48 feet; the inner diameter at top is 8 feet 7 inches; the thickness of the walls 4 feet 6 inches; the circumference, 38 feet 8 inches: which proportion gives the building an inexpressible elegance: the top is roofed with an octagonal spire 23 feet high, which makes the whole 103. In this spire are four windows placed alternately on the sides, resting on the top of the tower; near the top of the tower are four others facing the four cardinal points: near the bottom are two arches, one within another, in relief; on the top of the outmost is a crucifixion: between the mouldings of the outmost and inner are two figures; one of the Virgin Mary; the other of St John, the cup, and lamb. On each corner of the bottom of this arch is a figure of certain beasts; one possibly the Caledonian bear; and the other, with a long snout, the boar. The stone-work within the inner arch has a small slit or peep-hole, but without the appearance of there having been a door within any modern period; yet there might have been one originally; for the filling up consists of larger stones than the rest of this curious rotund. The whole is built with most elegant masonry, which Mr Gough observed to be composed of 60 courses.—This tower hath often been observed to vibrate with a high wind.

The castle of Brechin was built on an eminence, a little south of the town; it underwent a long siege in the year 1303; was gallantly defended against the English under Edward III.; and, notwithstanding all the efforts of that potent prince, the brave governor Sir Thomas Maule, ancestor of the family of Panmure, held out this small fortress for 20 days, till he was slain by a stone cast from an engine on the 20th of August, when the place was instantly surrendered. The family of Panmure have now a noble house on the site of the old castle.—Brechin is also remarkable for a battle fought near it, in consequence of the rebellion raised in 1452, on account of the murder of the earl of Douglas in Stirling castle. The victory fell to the royalists under the earl of Huntly. The malecontents were headed by the earl of Crawford, who, retiring to his castle of Finhaven, in the frenzy of disgrace declared, that he would willingly pass seven years in hell, to obtain the glory that fell to the share of his antagonist.

BRECKNOCK, or BRECON, a town of Brecknockshire in Wales, and capital of the county. It is called by the Welsh *Aber Hondey*, and is seated at the confluence of the rivers Hondey and Usk, over which there is a handsome stone bridge. It is an ancient place, containing three churches, one of which is collegiate, and is seated at the west end of the town. The houses are well built. Here was formerly a stately castle, and a strong wall, through which there were three gates, that are all demolished. It sends one member to parliament. It is well inhabited, which is in some measure owing to its being the town where the assizes are kept; and there is here a considerable woollen manufactory. The markets are well supplied with cattle, corn, and provisions. W. Long. 3. 15. N. Lat. 52. 0.

Brecknock ‖ Breda.

BRECKNOCKSHIRE, a county of Wales, bounded by Radnorshire, on the north; Cardiganshire and Caermarthenshire, on the west; Herefordshire and Monmouthshire, on the east; and by Glamorganshire and Monmouthshire, on the south. It is 35 miles in length, 30 in breadth, about 100 in circumference, and contained 37,735 inhabitants in 1811. It is surrounded with hills, which renders the air in the valleys pretty temperate. The soil on the hills is very stony, but the streams descending from thence into the valleys render them fruitful both in corn and grass. The chief commodities here are corn, cattle, fish, and otter's fur, besides manufactures of cloth and stockings. The principal rivers are the Usk, the Wye, and the Yvron. The chief towns are Brecknock, Bealt, and Hay.

Two miles to the east of Brecknock is a large lake, called *Brecknock Meer*, and by the Welsh *Llyn Savaddan*; it is two miles in length, and nearly the same in breadth, and contains otters, tench, &c. The county sends one member to parliament. It is in the diocese of Landaff, and contains 61 parishes, and is divided into six hundreds. See BRECONSHIRE, SUPPLEMENT.

BREDA, a town in Holland, the capital of Dutch Brabant. It is a large, populous, well-built city, regularly fortified after the modern way, and is one of the strongest places on the Dutch frontiers. It is seated on the river Merck, in a marshy country, which may be overflowed and rendered inaccessible to an army. It is 4000 paces in circumference, and contains upwards of 11,000 inhabitants. The town is of a triangular figure, and the ramparts are all planted round with elms. At every angle there is a gate built with brick. The great church is a noble structure, remarkable for its fine spire, which is 362 feet high. The mausoleum of Angelbert II. count of Nassau, is a curious piece, adorned with several statues and inscriptions suitable to the occasion. In 1577, the garrison delivered this city to the states-general; but it was taken in 1581 by Cloude de Barlaimount, assisted by the baron de Fresin, who was prisoner therein. In 1590, Prince Maurice took it again from the Spaniards.

In 1625 it was invested by Spinola; when it endured a siege too remarkable not to deserve a particular detail.

The citadel, which formed the residence of the princes of that family, was surrounded by a ditch of prodigious depth filled with water, and a strong wall defended by three great bastions; and the arsenal was celebrated for its extent, and the vast quantities of arms and military stores it contained. Spinola, perfectly acquainted with the strength of the place, thought he should expose his whole army to immediate destruction, should he attempt an assault before he had regularly carried

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Breda. carried on his approaches. He even resolved upon reducing the city by famine, as the method attended with least danger to his army; and accordingly began with drawing trenches round, for the space of four miles, erecting forts and redoubts at certain distances.

On the other hand, the garrison, consisting of seven thousand infantry, and several troops of horse, composed of English, French, and Dutch soldiers, took the most vigorous measures for their own defence. The English were under the command of Colonel Morgan, who had frequently distinguished his valour in the service of the States: the French were directed by Colonel de Hauterive; and the Dutch troops were subject to the immediate orders of Colonel Lohre, though the whole received their instructions from Justin de Nassau, the governor. The first advantage was gained by Baglioni, who seized a large convoy of provisions and stores coming up the river, converting the boats into a bridge. This loss dispirited the besieged, and reduced them to a stated allowance of bread; and what added to their misfortunes, though they were ignorant of it, was the death of Prince Maurice, from whom they were in hopes of receiving relief.

Meanwhile Spinola prosecuted the siege with the utmost diligence and vigour. On his pushing his trenches near the bastions, the besieged began a terrible fire to retard his approaches, and kept it up with such vehemence and obstinacy, that Spinola was in hopes they must soon surrender for want of ammunition. But here he formed a false judgment of the prudence of Justin de Nassau, who finding he could not accomplish his purpose by his firing, resolved to try the effect of water. With this view, he stopped up the course of the river Marck; and having formed a large bason of water, opened the sluices, swept away men, horses, and houses, in an inundation, and overflowed the whole country. The chief force of the torrent fell upon Spinola's quarters, and he exerted his utmost ability to remove the consequences. He dug large pits, and cut out ditches and canals to receive the water; but these being filled, and the whole ground covered over, so as to appear one uniform mass of water, served only to entrap his cavalry. The inundation was augmented by the rains which happened to fall; a mortality among the soldiers and horses ensued; and of his whole army, Spinola had scarce twelve thousand men fit for service by the month of December. With these inconsiderable remains, lines of vast extent were to be defended, the works were to be advanced, the sallies from the garrison repulsed, and provisions to be conveyed into the camp, while Spinola, the soul of action, was confined to a sick-bed.

In the garrison, an epidemical disease and scarcity likewise prevailed; but the excellent regulations made, and strictly observed, enabled the town to hold out three or four months beyond the time expected. The magistrates bought the corn for the bakers; obliging them to sell the bread to the inhabitants and garrison at a fixed price, and returning the overplus of their pay to the soldiers. A variety of other prudent regulations were established by the magistrates and governor, such as we do not find equalled by any instances recorded in history upon a similar occasion, and all evincing the steadiness, sagacity, courage, and ability of Justin de Nassau. A kind of rivalship appeared between him and Spinola, which should best fulfil their several duties. The Spanish general caused himself to be carried about the works in a litter; he inspected and directed every thing; and displayed the activity of full health at the time his life was in imminent danger from an acute malady. He ordered several breaches in the lines to be repaired. These the Hollanders had made by sap, with a view of introducing succours to the besieged. He drove piles into all the ditches and canals through which their boats could pass. He made drains to clear off the waters of the river Marck; and succeeded in a great measure by dint of perseverance, vigilance, and conduct. He was now reinforced with a body of eight thousand foot, and one thousand five hundred horse; many of the sick were perfectly recovered by his extreme care; and his army was again become formidable, amounting to twenty-five thousand infantry, and eight thousand cavalry. Nor was Prince Henry idle, who now succeeded to the titles and dominions of his brother Maurice, and was elected governor of Holland, Zealand, Guelderland, Utrecht, and Overyssel. He pressed France for assistance, and was joined by a body of cavalry under the conduct of the count de Roussi and the marquis de Rambures. With this reinforcement, and a body of German infantry, he attacked the enemy's lines, and after an obstinate conflict was repulsed. He advanced a second time; but Spinola, who entertained a high opinion of his valour and conduct, did not choose to wait for him in his lines; he marched out with the greater part of his army, seized upon a convenient post, and obliged the prince a second time to retire towards Boisleduc. Henry, finding no prospect of being able to relieve the garrison, sent a permission to the governor to surrender on the best conditions he could obtain. This plan, which was signed with no name, fell into the hands of the besiegers, and Spinola sent it open, by a trumpet, to Justin de Nassau, offering him an honourable capitulation; but that intrepid governor, suspecting the letter was forged, because it was anonymous, replied civilly, that a permission was not an order to surrender; and that he should better follow the prince of Orange's intentions, and show his respect for Spinola, by continuing to defend the city to the last extremity. Breda.

By this time the garrison was diminished by disease, fatigue, want, and hardship, to half the original number; but Justin put on such a countenance, as concealed his situation from Spinola. He frequently sallied out upon Baglioni's quarters, where the Italians were perishing with cold and hunger, the whole subsistence of the besiegers depending on the contributions raised in the neighbouring territories. This inconvenience produced a mutiny in the camp, that could not be appeased without applying violent remedies, and executing within sight of the whole army the chief ringleaders. One of the mutineers blew up Spinola's chief magazine, valued at two hundred thousand livres. Urged more by necessity than compassion for the besieged, Spinola sent a message to the governor, exhorting him not to force him to extremities, which might be attended with fatal consequence to a brave garrison; but Justin, with equal art and dissimulation, answered, that Spinola was certainly ill served by his spies,

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Breda. spies, as he appeared wholly unacquainted with the state of affairs in Breda, which was fully provided for a siege of several months, and defended by soldiers who preferred death to the necessity of surrendering. At that time the besieged were not informed of the death of the prince of Orange. They flattered themselves with the hopes of speedy succour, and were entirely ignorant of Prince Henry's late disappointment. When they wrote to the army an account of their miserable condition, Henry returned an answer, written with his own hand, and signed with his name, apprising them of the death of Maurice, the unsuccessful attempts made to raise the siege and throw in succours, the great inferiority of his troops in point of numbers, and the death of King James, whereby he was disappointed of a strong reinforcement; concluding, that he left the city entirely to the discretion of the governor and other principal officers. Justin was thunderstruck with the contents of this letter. He had hitherto concealed the total want of provision and ammunition from the enemy, and his own garrison, except a few officers and other persons in whom he reposed confidence. The colonels Hauterive and Morgan would listen to no propositions, saying, that the honour of their several countries was concerned, and that they were responsible for the conduct of the English and French forces. They therefore required an express order from the prince of Orange to surrender, notwithstanding they pined under the united pressure of fatigue, scarcity, and disease. Justin acquainted the prince with their resolution, and he sent back an order to surrender, threatening with capital punishment whoever should disobey; but he requested that the garrison would first acquaint him by a certain number of fires, lighted up in different parts of the city, how many days they should be able to hold out. Upon receipt of this order, eleven fires were kindled; but as the prince had sent a duplicate of the order by another messenger, and this fell into the hands of the enemy, Spinola was now acquainted with the desperate circumstances of the besieged. By this acquisition, he likewise discovered the mystery of the eleven fires: a council of war was assembled to deliberate whether they should stay the eleven days, and then oblige the garrison to surrender at discretion, or immediately offer conditions worthy of so brave a garrison. The Spanish officers were of the former opinion; the count de Berg and Spinola supported the latter. At last the marquis, determined to pursue the dictates of his noble generosity, sent such terms as could not be refused. The count de Berg conducted the negociation. Two separate capitulations were drawn up, one for the garrison and the other for the city, and both the most honourable and advantageous that could be devised. They were accepted, and the garrison marched out on the 6th of June, after having sustained a siege for ten months, whereby they were diminished two thirds; nor was the loss inferior on the part of the inhabitants. Spinola drew up his army to salute them, and, surrounded by his field officers, paid particular compliments to the governor, the colonels Morgan, Hauterive, and Lobre. He distributed money among the soldiers, ordered the sick and wounded to be treated with the utmost tenderness, conveyed the rest in the manner most commodious for them to Gertrudenburg, and displayed all the sentiments of a hero in the regard paid to the valour and merits of his enemies. Breda

Breda was retaken by the prince of Orange, for the United Provinces, in 1637. There was a congress held there, and peace concluded, in 1667, between the Dutch and the English. E. Long. 4. 45. N. Lat. 51. 35. Breeches.

BREDA, *John Van*, painter of history, landscape, and conversations, was born at Antwerp in 1683, the son of Alexander Van Breda, an artist who was much esteemed for landscapes, views of particular scenes in Italy, fairs, and markets, with a variety of animals and figures. He was instructed by his father: and having the advantage of a good example and a good director, added to his own great application, he continued his studies with his father till he was 18 years of age. Among the variety of capital paintings which were at that time in the possession of John de Wit at Antwerp, Breda fixed upon those of Velvet Breughel, which he copied with extraordinary success; and he was also employed for nine years in copying the pictures of several other great masters; which he performed with such incredible exactness as scarcely to leave it in the power of any judicious person to distinguish the originals from the copies. Having at length established his reputation in Holland, he went to London with Rysbrack the sculptor, and there gradually rose into such esteem, that he was visited by persons of the highest rank, and particularly patronized by the unfortunate earl of Derwentwater, who was beheaded for rebellion in 1715. He found so much encouragement in London, that he was employed by the court and the nobility, and could scarce execute the large demands for his performances. After a residence of some years in England, he returned to Antwerp loaded with riches, the honourable testimonies of English liberality, as well as of his own merit; and in the year 1746, when Louis XV. arrived in that city, he so far honoured this master as to purchase four of his pictures: One represented Christ at the sea of Tiberias; another, Christ performing miracles; and the other two were landscapes, with a number of figures, so exquisitely drawn and finished that it would be difficult to distinguish them from those of Velvet Breughel. He certainly approached nearer to those great masters, whose manner he imitated, namely, Breughel and Wouvermans, than any other artist of this time. His landscapes are in the style and taste of the former; and his conversations, historical figures, fairs, skirmishes, or battles, are in the manner of the latter. His colouring is good; his touch neat; his skies and distances natural and beautiful; and his taste of design agreeable. He had as Pilkington's Dict much fire in his composition, and perhaps more genius, than Breughel, in those subjects which he painted in the style of that master: his figures are generally well placed; his grounds skilfully broken; every small figure has its particular character, and occupies its proper place; and, in short, he is a painter of such a rank, that the value and estimation of his works must always increase. He died in 1750.

BREECH of a great gun, or cannon, the end next the touch-hole.

BREECHES, a garment worn by males, reaching from the girdle to the knees, and serving to cover the hips, thighs, &c.

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Breeches | Breeding

The ancient Romans had nothing in their dress answering to our breeches and stockings; instead of which, under their lower tunics and waistcoats they sometimes bound their thighs and legs round with silken scarves or fasciæ, called *tibialia* and *femoralia*. Breeches appear to be a habit peculiar to the barbarous nations, especially those inhabiting the colder countries of the north; whence Tacitus calls them *barbarum tegmen*. We find mention made of them among the ancient Getæ, Sarmatæ, Gauls, Germans, and Britons; they also obtained among the Medes and Persians, as being a people of Scythian origin; they also afterwards got footing in Italy, some pretend, as early as the time of Augustus; but without much foundation, that emperor's breeches, mentioned by Suetonius, being apparently only swaths tied over his thighs. However this be, breeches were at last received into Italy, and grew so highly into fashion, that it was thought necessary, under Honorius and Arcadius, to restrain them by law, and expel the *brocarii* or breeches-makers out of the city; it being thought unworthy of a nation that commanded the world, to wear the apparel of barbarians.

BREECHINGS, in the sea-language, the ropes with which the great guns are lashed or fastened to the ship's side. They are thus called, because made to pass round the breech of the gun.

BREEDING, in a general sense, the producing, nourishing, and educating, all manner of young animals.

BREEDING, in a moral sense, denotes a person's deportment or behaviour in the external offices and decorums of social life. In this sense we say *well-bred*, *ill-bred*, *a man of breeding*, &c. Good-breeding is hard to define; none can understand the speculation but those who have the practice. Good-breeding amounts to much the same with what is otherwise called *politeness*, among the ancient Romans *urbanity*. Good-breeding is near to virtue, and will of itself lead a man a great part of the way towards the same. It teaches him to rejoice in acts of civility, to seek out objects of compassion, and to be pleased with every occasion of doing them good offices. Lord Shaftesbury compares the well-bred man with the real philosopher; both characters aim at what is excellent, aspire to a just taste, and carry in view the model of what is beautiful and becoming. The conduct and manners of the one are formed according to the most perfect ease, and good entertainment of company; of the other, according to the strictest interest of mankind: the one according to his rank and quality in his private station; the other according to his rank and dignity in nature. Horace seems to have united both characters,

Quid verum atque decens curo et rogo, et omnis in hoc sum.

See the article *Good-Manners*.

Breeding of Horses. See Equus.

Breeding of Fish. The necessary qualities of a pond, to make it serve well for breeding fish, are very different from those which are to make it serve for the feeding of them, insomuch that some particular ponds serve only for one of these purposes, and others for the other; and scarce ever the same pond is found to answer for them both. In general, it is much more rare to find a good breeding pond than a good feeding one. The best indications of a good breeding pond are these; that there be a good quantity of rushes and grass about its sides, with gravelly shoals, such as horse-ponds usually have: when a pond has this property, and takes to the breeding of fish, it is amazing what a progress will be made in a little time. The spawn of fish is prodigious in quantity; and where it succeeds, one is able to produce many millions; thus, in one of these breeding ponds, two or three melters, and as many spawners, will, in a very little time, stock the whole country. When these ponds are not meant entirely for breeding, but the owner would have the fish to grow to some size in them, the method is to thin the numbers, because they would otherwise starve one another, and to put in other fish that will prey upon the young, and thin them in the quickest manner. Eels and perch are the most useful on this account; because they prey not only upon the spawn itself, but upon the young fry from the first hatching to the time they are of considerable size. Some fish are observed to breed indifferently in all kinds of waters, and that in considerable plenty; of this nature are the roach, pike and perch.

Breeding | Brehar.

BREENBERG, Bartholomew, an excellent painter, was born in 1620. He is best known by the name of *Bartolomeo*, an appellation bestowed upon him, for distinction sake, by the society of Flemish painters at Rome called *Bentvogels*. He was born at Utrecht; but in the early part of his life went to Rome. His studies in the art of painting were attended with such success, that his pictures were held in the highest estimation. He greatly excelled in landscapes, and these he enriched with historical subjects. The figures and animals which he introduced were very spirited, and drawn in a masterly manner; especially when they were not larger than the size in which he usually painted them. He died in 1660, aged 40 years. He also etched from his own designs a set of 24 *Views and Landscapes, ornamented with Ruins*.

BREEZE, a shifting wind that blows from sea or land for some certain hours in the day or night; common in Africa and some parts of the East and West Indies.

Breezes differ from *etesiæ* or trade-winds, as the former are diurnal, or have their periods each day; and the latter are anniversary, and blow at a distance from land. The sea-breezes rule by day, and the land-breezes by night; so that, dividing their empire, they remain constant as the seasons of the year, or course of the sun, on which they seem to depend; not but that they appear sooner or later, stronger or weaker, in some places than in others; and vary the alternative according to the several latitudes, situations, and soils, &c. of the countries where they are found. See the article Wind.

Breeze-Fly. See Tabanus, Entomology *Index*.

BREGENTZ, or Bergentz, a town of Tyrol in Germany, situated at the east end of the lake of Constance, in E. Long. 9. 40. N. Lat. 47. 36.

BREGMA, in *Anatomy*, the same with sinciput. See Anatomy *Index*.

BREHAR, one of the Scilly islands, lying almost directly west of the Land's End in Cornwall, about the distance of 30 miles. It lies between the isles of Micarol, Guel, Trescaw, and Samson. It is the roughest and most mountainous of them all, and not many years

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Brehar Bremen.

since, there were only two families in it, but now there are 13. There are a few poor houses, called the *town of Brehar*; and there are several BARROWS edged with stone, in which they buried considerable persons in ancient times; besides many monuments of the DRUIDS. Some are of opinion, that this with the rest made but one island, which is the reason why so many antiquities are now found in most of them.

BREHONS, the provincial judges among the ancient Irish, by whom justice was administered, and controversies decided. These sages were a distinct tribe or family, to whom competent lands were allowed in inheritance. In criminal cases the brehon had the eleventh part of all the fines; which could not but be considerable at a time when murders, rapes, robberies, and the like offences, were only subject to pecuniary commutations.

BREHON-Laws, or *Leges Brehonicæ*, denote the general maxims or rules of law observed by the brehons, and having the force of laws throughout all the provinces of Ireland. Several fragments of the *leges brehonicæ* are still extant in public and private libraries. The most complete collection is that belonging to the duke of Chandos; containing 22½ sheets close written, full of abbreviated words, and not very legible. By the statute of Kilkenny, made under Edward III. it is enacted that no English subject shall submit to a trial by the *brehon* law, on the penalty of high treason. Notwithstanding which, many were still under a necessity of being concluded by the Irish laws and customs, till the whole kingdom was settled on an English bottom by King James I.

BREMEGARTON, a handsome and pretty considerable town of Swisserland, which, since 1798, forms the head town of a district in the new canton of Argau. The inhabitants deal chiefly in paper; and their religion is the Roman-catholic. It is divided into the upper and lower towns, and is very advantageously seated on the river Russ. E. Long. 8. 25. N. Lat. 47. 20.

BREMEN, a large, populous, and very strong town of Germany, capital of a duchy of the same name, with an archbishop's see, secularized in favour of the Swedes, but now belongs to the king of Hanover. The river Weser runs through the middle, and divides it into the old and new town. In September 1739, while the inhabitants were asleep, the magazine of powder was set on fire by lightning, and all the houses were shaken, as if there had been a violent earthquake, which threw them into a terrible consternation. The town is divided into four quarters, each of which has a burgomaster; and in the middle there is a large market-place, with the statue of Rolando. Bremen drives a very large trade for iron, flax, hemp, and linen, with France, England, Spain, and Portugal; and in return takes back other provisions, with which it supplies Westphalia and the countries about Hanover. It also gets a great deal by its fisheries. It contains 5350 houses, and about 40,000 inhabitants. E. Long. 8. 45. N. Lat. 53. 40.

BREMEN, a duchy of Germany, in the province of Lower Saxony, lying between the rivers Weser and the Elbe; of which the former separates it from the duchy of Oldenburg, and the other from that of Holstein. The air is cold; but the country is fertile, and well peopled. It formerly belonged to the Swedes, but was afterwards sold to the king of Great Britain, as elector of Hanover, in 1716. In the winter it is subject to inundations. In 1617, on Christmas-day, several thousand cattle were drowned, besides several hundred of men: and the country was so covered with water, that it has cost immense sums to repair the dykes. Bremen is the capital town.

Bremen Brerewood

BREMEN-Veerd, a town of Germany, in the circle of Lower Saxony, and duchy of Bremen. It is an open town, seated on the river Oost, and was formerly the place of residence of the archbishop. E. Long. 8. 35. N. Lat. 53. 58.

BRENNAGE, BRENNAGIUM, in middle-age writers, a kind of tribute paid in lieu of bran, or bran itself, which the tenants were obliged to furnish for the support of the lord's hounds. The word is also written *brenage*, *brenagium*, and *brenaige*, *bernagium*, *brenaticum*, and *brennaticum*.

BRENNUS, a celebrated captain among the Gauls, who, about 388 years before the Christian era, entered Italy with a powerful army; made great conquests there; defeated the Romans; and sacked Rome. The capitol alone was defended; and Camillus coming to its relief, drove the Gauls not only out of Rome, but out of all Italy. See (*History of*) ROME.

BRENT, a town of Devonshire, with a market on Saturdays, and two fairs, on May 13th and October 10th, for horned cattle. It contains 1230 inhabitants, and lies on the road from Exeter to Plymouth, being 26 miles south-west from the former, and 198 west by south of London. W. Long. 5. 7. N. Lat. 50. 30.

BRENT-Goose, a species of goose with a black neck, and a white collar round; usually confounded with the barnacle, though in reality a distinct species. See ANAS, ORNITHOLOGY *Index*.

BRENTFORD, a town of Middlesex, on the great London road to the west. It is divided into old and new Brentford, in which last are the church and market-house, and where the county elections are held. It is a long place, well stocked with public houses, and is seated on the river Thames. Population, 1733. W. Long. 0. 10. N. Lat. 51. 26.

BRENTWOOD or BURNTWOOD, a town of Essex in England. It stands on a rising ground in the road from London to Colchester, and contained 1233 inhabitants in 1811. E. Long. 0. 25. N. Lat. 31. 38.

BREREWOOD, EDWARD, a very learned English mathematician and antiquary, was the son of Robert Brerewood, a tradesman, who was thrice mayor of Chester; and born in that city in the year 1565. He was educated in grammar learning at the free school in Chester; and afterwards admitted, in 1581, of Brazen-nose-college in Oxford. In the year 1596, he became the first professor of astronomy in Gresham-college in London; where he led the same private and retired course of life that he had before done in Oxford. He died there of a fever, upon the 4th of November 1613, much lamented. He was a great searcher into antiquity and curious knowledge; but is remarkable for having never published any thing during his lifetime. After his death came out the following works. 1. *De ponderibus et pretiis veterum nummorum*. 2. Inquiries touching the diversities of languages and religion through the chief parts of the world. 3. *Elementa logicæ in gra-*

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Brérewood Breslau. tiam studiosæ juventutis in Acad. Oxon. 4. *Tractatus quidam logici.* 5. 6. Two treatises on the Sabbath. 7. *Tractatus duo, quorum primus est de meteoris, secundus de oculo.* 8. *Commentarii in ethica Aristotelis.* Mr Wood tells us, that the original manuscript of this, written with his own hand, is in the smallest and neatest characters that his eyes ever beheld: and that it was finished by him on the 27th of October 1586. 9. Patriarchal government of the ancient church.

BRESCIA, a strong and handsome town of Italy, with a bishop's see and good citadel. It is the capital of Bresciano, contains 48,000 inhabitants, and is seated in an agreeable plain on the river Garza, in E. Long. 20. 5. N. Lat. 45. 31.

BRESCIANO, a province of Italy in the territories of Austria; bounded on the north, by the Grisons and the bishopric of Trent; on the east, by the lake Garda, the Veronese, and the duchy of Mantua; on the south, by the duchy of Mantua and the Cremonese; and on the west by the Cremasco, the Bergamasco, and the Valtelina. It is watered by several small rivers, which renders it very fertile; and is full of towns and villages, of which Brescia is the capital.

BRESCELLO, a small town of Italy, in the duchy of Modena, seated on the river Po, in E. Long. 10. 25. N. Lat. 44. 55.

BRESCICATE, in *Commerce*, a kind of baize, in which there is some trade carried on with the negroes, between the river Gambia and Sierra Leona. The best sorts for that purpose are the blue and the red.

BRESLAU, a small duchy of Lower Silesia, in Germany, lying between those of Wolaw, Olsse, Brieg, Schwednitz, and Lignitz. It is everywhere level and flat: is an excellent corn country, yielding also good pasture; abounding also with herds of cattle and flocks of sheep; but destitute of wood, except in one district or circle; and the roads in general are very bad. It is an immediate principality, that is, one of which both the property and jurisdiction belong to the king, forming a part of one of the three bailiwics into which all the immediate principalities are divided.

BRESLAU, the chief town of the duchy of that name, and of all Silesia, is situated at the conflux of the Oder and Ohlau, in E. Long. 17. 5. N. Lat. 51. 4. It contained 3096 houses in 1794, and has many large regular squares, broad streets, stately public and private edifices; but the fortifications are of no great importance. Here are in particular a great many churches and convents belonging to the Catholics; of the former are several also belonging to the Lutherans, one to the Calvinists, and another to the Greeks. The Jews have likewise two synagogues, the bishop a stately palace, and the Lutherans two gymnasiums. The Popish university is a noble structure, nor is the exchange destitute of magnificence. This city is the seat of all the high colleges; and the third in rank, next to Berlin and Konigsberg, in all the Prussian dominions. The magistracy of it is Lutheran, and its trade and manufactures are very considerable. Several of the monasteries and nunneries are very magnificent; and there are also some good public libraries in it, with two armouries, a college of physicians, and a mint. Breslau is very populous, and much frequented by Hungarian, Bohemian, Polish, and other merchants, having several yearly fairs. The city was taken by the king of Prussia in 1741, and retaken by the Austrians in 1757; but the king of Prussia took it back again in the same year. The suburbs were destroyed when it was taken by the confederates of the French in January 1807. Breslau. Breste.

BRESSE, a province of France, bounded on the north by Burgundy and the Franche Compte; on the east, by Savoy; on the south, by Viennois; on the west, by the principality of Dombes and the Somme. It is 40 miles from north to south, and 23 from east to west. It is fertile in corn and hemp, has fine pastures, and several lakes with plenty of fish. It is divided into the higher and lower; the first is on the side of Bourges, and the second towards St Trivier and the river Sonne. The French got possession of it in 1601. The principle places are Bourg en Bresse, Montluel, Pont de Vaux, and Coligny.

BRESSICI, in *Geography*. See BRESTE.

BREST, a maritime town of France, in the department of Finisterre, seated on the declivity of a hill on the side of its port, which is the largest in the kingdom, and will hold 500 ships at a time. There is an arsenal with sea-stores, which was placed there on account of its nearness to the woods, mines of iron, and other things proper for the building of ships. It was entirely consumed by fire in 1744, which was an irreparable loss to France. The entrance into the port is guarded by a strong castle seated on a rock, which cannot be attempted on the sea-side, because it is craggy, and is defended on the land-side by a large ditch and other fortifications. The streets of Brest are very narrow, ill contrived, few in number, and have all a descent. A great quay surrounds this side of the port, which is above a mile in length, and 200 paces broad; and there are magazines on the quay full of all foreign merchandises. On the other side of the port the fine church of Notre Dame is situated; and in a suburb, which is as big as half the city, there is a strong tower opposite to the castle, at the entrance of the port; there is also a great quay on this side, bordered with large magazines, partly within the rock, which has been cut away to enlarge the place. These are extended almost as far as the bottom of the harbour, where there are two docks very commodious for the building of large ships: the shops and houses of the workmen are all around them: the rope-walks are separated from the city by one of these docks. The entrance into the harbour is called the *gullet*, and is a passage extremely difficult on account of the sunk rocks on both sides of the shore; but there are experienced pilots who carry ships in very safely. The English attempted to take possession of this harbour in 1694, but were disappointed. Population 24,180 in 1815. W. Long. 4. 26. N. Lat. 48. 23.

BREST, or *Breast*, in *Architecture*, a term sometimes used for the member of a column, more usually called *torus*. See TORUS.

Brest Summers, in timber buildings, are pieces in the outward side thereof, into which the girders are framed: this, in the ground-floor, is called a *cell*; and, in the garret-floor, a *beam*.—As to their size, it is the same with that of girders. See GIRDERS.

BRESTE, the palatinate of, is one of the provinces of Cujava, in Poland. It lies between the palatinates of Ploesko, Rava, and Lencici Wiadislaw. It is divid-

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Breste Brethren.

ed into four chatelanies, and Breste is the capital of the whole.

BRESTE, or *Bressici*, the capital of the palatinate of Bressici, and of Polesia in Poland, seated on the river Bog, 80 miles east of Warsaw, and subject to Poland. It is a fortified town, and has a castle built upon a rock. Here is a famous synagogue, resorted to by the Jews from all the countries in Europe. E. Long. 24. 0. N. Lat. 41. 35.

BRET, a name the people on the coasts of Lincolnshire give to the common turbot, a fish extremely plentiful with them, and taken in vast abundance. The way of catching them is in a net trailed on the ground by two horses; the one going up to the middle of his body in water, the other on shore.

BRETESSE, in *Heraldry*, denotes a line embattled on both sides.

BRETHREN AND SISTERS OF THE FREE SPIRIT, in Ecclesiastical History, an appellation assumed by a new sect which sprung up towards the close of the thirteenth century, and gained many adherents in Italy, France, and Germany. They took their denomination from the words of St Paul, Rom. chap. viii. ver. 14.; and maintained, that the true children of God were invested with the privilege of a full and perfect freedom from the jurisdiction of the law. They were enthusiasts to a degree of distraction, both in their principles and practice. They resembled the *Beghards*, by which name they were sometimes called, in their aspect, apparel, and manner of living. Some of their professed principles resembled those of the Pantheists; for they held, that all things flowed by emanation from God; that rational souls were portions of the Deity, and that the universe was God; and that, by the power of contemplation, they were united to the Deity, and acquired hereby a glorious and sublime liberty, both from the sinful lusts and the common instincts of nature: and hence they concluded, that the person, who was thus absorbed in the abyss of the Deity, became a part of the Godhead, and was the son of God, in the same sense and manner that Christ was, and that he was freed from the obligation of all laws human and divine. They treated with contempt all Christian ordinances, and all external acts of religion, as unsuitable to the state of perfection at which they were arrived. Some of them were honest but deluded enthusiasts; and they endured the torments inflicted upon them by the inquisitors with astonishing calmness and triumph. Others proceeded to the most extravagant licentiousness of conduct. They held their secret assemblies stark naked, and lay in the same beds with their spiritual sisters, and indiscriminately with other women, without the least scruple or hesitation: modesty and decency being, according to their creed, marks of inward corruption. And some of them proceeded still farther, and maintained, that the *divine man*, or believer, could not sin, let his conduct be ever so horrible or atrocious. Many edicts were published against them; but notwithstanding the severities they suffered, they continued till about the middle of the fifteenth century. They were called by several other names, such as Schwestriones, Picards, Adamites, and Turlepins.

BRETHREN and Clerks of the Common Life, a denomination assumed by a religious fraternity towards the latter end of the fifteenth century. They lived under the rule of St Augustin, and were eminently useful in promoting the cause of religion and learning. Their society was first formed in the preceding century, by Gerard de Groote, a native of Deventer; but did not flourish till about the period above mentioned, when it obtained the approbation of the council of Constance, and became very respectable in Holland, the Lower Germany, and the adjacent provinces. It was divided into two classes; the *lettered brethren* or *clerks*, and the *illiterate*: they lived in separate habitations, but maintained the closest fraternal union. The former applied to the study of polite literature, and the education of youth; whilst the latter were employed in manual labour, and the mechanic arts. They were frequently called *Beghards* and *Lollards*, by way of reproach. Brethren Breton.

White BRETHREN, *fratres albati*, were the followers of a leader, about the beginning of the fifteenth century, who was arrayed in a white garment; and as they were also clothed in white linen, they were distinguished by this title. Their leader was a priest from the Alps, who carried about a cross, like a standard, and whose apparent sanctity and devotion drew together a number of followers. This deluded enthusiast practised many acts of mortification and penance, endeavoured to persuade the European nations to renew the holy war, and pretended that he was favoured with divine visions. Boniface IX. ordered him to be apprehended and committed to the flames, upon which his followers dispersed.

BRETON, or CAPE-BRITAIN, an island near the eastern continent of North America, lying between 45 and 47 degrees of north latitude. It is separated from Nova Scotia by a narrow strait called *Canso*, and is about 100 miles in length, and 50 in breadth. It is surrounded with little sharp-pointed rocks, separated from each other by the waves, above which some of their tops are visible. All its harbours are open to the east, turning towards the south. On the other parts of the coast there are but a few anchoring places for small vessels, in creeks, or between islets. Except in the hilly parts, the surface of the country has but little solidity, being everywhere covered with a light moss, and with water. The dampness of the soil is exhaled in fogs, without rendering the air unwholesome. In other respects, the climate is very cold; owing either to the prodigious quantity of lakes, which cover above half the island, and remain frozen a long time; or to the number of forests, that totally intercept the rays of the sun; the effect of which is besides decreased by perpetual clouds.

Though some fishermen had long resorted to this island every summer, not more than 20 or 30 had ever fixed there. The French, who took possession of it in August 1713, were properly the first inhabitants. They changed its name into that of *Isle Royale*, and fixed upon Fort Dauphin for their principal settlement. This harbour was two leagues in circumference. The ships came to the very shore, and were sheltered from winds. Forests affording oak sufficient to fortify and build a large city, were near at hand; the ground appeared less barren than in other parts, and the fishery was more plentiful. This harbour might have been rendered impregnable at a trifling expence; but the difficulty

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reton. difficulty of approaching it (a circumstance that had at first made a stronger impression than the advantages resulting from it) occasioned it to be abandoned, after great labour had been bestowed upon the undertaking. They then turned their views to Louisbourg, the access to which was easier; and convenience was thus preferred to security: the fortification of Louisbourg, however, was not begun till 1720. Breton.

In the year 1714, some fishermen, who till then had lived in Newfoundland, settled in this island. It was expected that their number would soon have been increased by the Acadians, who were at liberty, from the treaties that had been granted them, to remove with all their effects, and even to dispose of their estates; but these hopes were disappointed. The Acadians chose rather to retain their possessions under the dominion of Britain, than to give them up for any precarious advantage they might derive from their attachment to France. Their place was supplied by some distressed adventurers from Europe, who came over from time to time to Cape Breton, and the number of inhabitants gradually increased to 4000. They were settled at Louisbourg, Fort Dauphin, Port Toulouse, Nerucka, and on all the coasts where they found a proper beach for drying the cod. The inhabitants never applied themselves to agriculture, the soil being unfit for it. They often sowed corn, but it seldom came to maturity; and when it did thrive so much as to be worth reaping, it had degenerated so considerably, that it was not fit for seed for the next harvest. They have only continued to plant a few pot-herbs that are tolerably well tasted, but must be renewed every year from abroad. The poorness and scarcity of pastures has likewise prevented the increase of cattle. In a word, the soil of Cape Breton seemed calculated to invite none but fishermen and soldiers.

Though the island was entirely covered with forests before it was inhabited, its wood has scarce ever been an object of trade. A great quantity, however, of soft wood was found there fit for firing, and some that might be used for timber; but the oak has always been scarce, and the fir never yielded much resin. The peltry trade was a very inconsiderable object. It consisted only in the skins of a few lynxes, elks, musk-rats, wild cats, bears, otters, and foxes both of a red and silver-gray colour. Some of these were procured from a colony of Mickmac Indians who had settled on the island with the French, and never could raise more than 60 men able to bear arms. The rest came from St John's, or the neighbouring continent. Greater advantages might possibly have been derived from the coal-mines which abound in the island. They lie in a horizontal direction: and being no more than six or eight feet below the surface, may be worked without digging deep, or draining off the waters. Notwithstanding the prodigious demand for this coal from New England, from the year 1745 to 1749, these mines would probably have been forsaken, had not the ships which were sent out to the French islands wanted ballast. In one of these mines a fire has been kindled, which could never yet be extinguished.

The people of Cape Breton did not send all their fish to Europe. They sent part of it to the French southern islands, on board 20 or 25 ships from 70 to 240 tons burden. Besides the cod, which made at least half their cargo, they exported to the other colonies timber, planks, thin oak-boards, salted salmon and mackerel, train-oil, and sea-coal. All these were paid for in sugar and coffee, but chiefly in rum and molasses. The island could not consume all these commodities. Canada took off but a small part of the overplus; it was chiefly bought by the people of New England, who gave in exchange fruits, vegetables, wood, brick, and cattle. This trade of exchange was allowed; but a smuggling trade was added to it, carried on in flour and salt fish.

This island, the key of Canada, was attacked by the English in 1745; and the event is of so singular a nature, that it deserves a particular detail. The plan of this first invasion was laid at Boston, and New England bore the expence of it. A merchant named *Pepperel*, who had excited, encouraged, and directed the enterprise, was entrusted with the command of an army of 6000 men, which had been levied for this expedition.

Though these forces, convoyed by a squadron from Jamaica, brought the first news to Cape Breton of the danger that threatened it; though the advantage of a surprise would have secured the landing without opposition; though they had but 600 regular troops to encounter, and 800 inhabitants hastily armed; the success of the undertaking was still precarious. What great exploits, indeed, could be expected from a militia suddenly assembled, who had never seen a siege or faced an enemy, and were to act under the direction of sea-officers only. These unexperienced troops stood in need of the assistance of some fortunate incident, which they were indeed favoured with in a singular manner.

The construction and repairs of the fortifications had always been left to the care of the garrison of Louisbourg. The soldiers were eager of being employed in these works, which they considered as conducive to their safety, and as the means of procuring them a comfortable subsistence. When they found that those who were to have paid them, appropriated to themselves the profit of their labours, they demanded justice. It was denied them, and they were determined to assert their right. As these depredations had been shared between the chief persons of the colony and the subaltern officers, the soldiers could obtain no redress. Their indignation against these rapacious extortioners rose to such a height, that they despised all authority. They had lived in an open rebellion for six months, when the British appeared before the place.

This was the time to conciliate the minds of both parties, and to unite in the common cause. The soldiers made the first advances; but their commanders mistrusted a generosity of which they themselves were incapable. It was firmly believed that the soldiers were only desirous of sallying out, that they might have an opportunity of deserting; and their own officers kept them in a manner prisoners, till a defence so ill managed had reduced them to the necessity of capitulating. The whole island shared the fate of Louisbourg, its only bulwark.

This valuable possession, restored to France by the treaty of Aix-la-Chapelle, was again attacked by the British in 1758. On the 2d of June, a fleet of 23 ships of the line and 18 frigates, carrying 16,000 well disciplined troops, anchored in Gabarus bay, within half a league

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Breton. league of Louisbourg. As it was evident it would be to no purpose to land at a great distance, because it would be impossible to bring up the artillery and other necessaries for a considerable siege, it had been attempted to render the landing impracticable near the town. In the prudent precautions that had been taken, the besiegers saw the dangers and difficulties they had to expect; but, far from being deterred by them, they had recourse to stratagem, and while by extending their line they threatened and commanded the whole coast, they landed by force of arms at the creek of Cormorant.

This place was naturally weak. The French had fortified it with a good parapet planted with cannon. Behind this rampart they had posted 2000 excellent soldiers and some Indians. In front they had made such a close hedge with branches of trees, that would have been very difficult to penetrate, even if it had not been defended. This kind of pallisade, which concealed all the preparations for defence, appeared at a distance to be nothing more than a verdant plain.

This would have preserved the colony, had the assailants been suffered to complete their landing, and to advance with the confidence that they had but few obstacles to surmount. Had this been the case, overpowered at once by the fire of the artillery and the small arms, they would infallibly have perished on the shore or in the hurry of embarking; especially as the sea was just then very rough. This unexpected loss might have interrupted the whole project.

But all the prudent precautions that had been taken were rendered abortive by the impetuosity of the French. The English had scarce begun to move towards the shore, when their enemies hastened to discover the snare they had laid for them. By the brisk and hasty fire that was aimed at their boats, and still more by the premature removal of the boughs that masked the forces, which it was so much the interest of the French to conceal, they guessed at the danger they were going to rush into. They immediately turned back, and saw no other place to effect their landing but a rock, which had been deemed always inaccessible. General Wolfe, though much taken up in reimbarking his troops, and sending off the boats, gave the signal to Major Scot to repair thither. That officer immediately removed to the spot with his men. His own boat coming up first, and sinking at the very instant he was stepping out, he climbed up the rock alone. He was in hopes of meeting with 100 of his men who had been sent thither some hours before. He found only ten. With these few, however, he gained the summit of the rock. Ten Indians and 60 Frenchmen killed two of his men, and mortally wounded three. In spite of his weakness, he stood his ground under cover of a thicket, till his brave countrymen, regardless of the boisterous waves and the fire of the cannon, came up to him, and put him in full possession of that important post, the only one that could secure their landing. The French, as soon as they saw that the enemy had got a firm footing on land, betook themselves to the only remaining refuge, and shut themselves up in Louisbourg. The fortifications were in a bad condition, because the sea sand, which they had been obliged to use, is by no means fit for works of masonry. The revetments of the several curtains were entirely crumbled away. There was only one casemate and a small magazine that were bomb proof. The garrison which was to defend the place consisted only of 2900 men. Breton & Breugh

Notwithstanding all these disadvantages, the besieged were determined to make an obstinate resistance. It is scarce credible that the French were confirmed in their resolution by the courage of a woman. Madame de Drucourt was continually upon the ramparts, with her purse in her hand; and firing herself three guns every day, seemed to dispute with the governor her husband the glory of his office. The besieged were not dismayed at the ill success of their several sallies, or the masterly operations concerted by Admiral Boscawen and General Amherst. It was but at the eve of an assault, which it was impossible to sustain, that they talked of surrendering. They made an honourable capitulation; and the conqueror showed more respect for his enemy and for himself, than to sully his glory by any act of barbarity or avarice.—The possession was confirmed to Great Britain by the peace in 1763; since which the fortifications have been blown up, and the town of Louisbourg dismantled.

BRETTIGAW, a territory or valley of the Grisons, lying between the Rhine and the county of Tyrol, and along the river Lanquet. The fortress of Castels is the principal town.

BREVE, in *Law*, is any writ directed to the chancellor, judges, sheriffs, or other officers, whereby a person is summoned, or attached, to answer in the king's court, &c.

Breve Perquirere, the purchasing of a writ or license for trial in the king's courts; whence comes the present use of paying 6s. 8d. fine to the king in suit, for money due in bond, where the debt is 40l. and of 10s. where it is 100l. &c.

Breve de Recto, is a writ of right or license for a person ejected, to sue for the possession of the estate detained from him.

Breve, in *Music*, a note or character of time, in the form of a diamond or square, without any tail, and equivalent to two measures or minims.

BREVET, in the French customs, denotes the grant of some favour or donation from the king; in which sense it partly answers to our warrant, and partly to letters patent.

Brevet, more particularly denotes the commission of a subaltern officer, being only written on parchment, and without seal. A brevet officer is one whose rank in the army is above his pay: for instance, a brevet major serves only as a captain, and receives pay as such.

BREUGHEL, Peter, an eminent painter, commonly called *Old Breughel*, to distinguish him from his son, was born at a village of the same name near Breda, in the year 1565; and was the first pupil of Peter Cock, whose daughter he married. It was customary with him to dress like a country-man, in order to be more easily admitted into the company of country-people, and be allowed to join in their frolics, by which means he became perfectly acquainted with their manners and gestures, of which he made excellent use in his pictures. He travelled to France and Italy, and for a long time studied landscapes on the mountains of Tyrol. His humorous turn of mind displayed itself in all his pictures, which generally consisted of country-dances, marriages,

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marriages, sports, and diversions; though he sometimes performed pieces from the historical parts of the holy Scriptures. At his return from Italy, he settled at Antwerp, and in his last illness caused his wife to gather together all his immodest pieces and burn them before his face. It is uncertain in what year he died. Of the works of old Breughel, the great duke of Tuscany has, Christ carrying his cross, with a great number of figures; and a country feast. The emperor has the tower of Babel, the massacre of the Innocents, and the conversion of St Paul, of his painting: the elector Palatine, a landscape, with St Philip baptizing Queen Candace's eunuch; and St John preaching in the wilderness, with a great many figures. Old Breughel also, for his amusement, is said to have engraved some few plates of landscapes and grotesque subjects.

BREUGHEL, *Peter*, the younger, was the son of the above-mentioned artist, and named *Hellish Breughel*, from the horrible subjects he delighted to represent. He engraved also, according to M. Heineken; but his works are not specified. He died in 1642.

BREUGHEL, *John*, commonly called *Velvet Breughel*, from his generally wearing velvet clothes, was the son of Peter Breughel, and born about the year 1575. He first applied himself to painting flowers and fruit, in which he excelled; and afterwards had great success in drawing landscapes, and views of the sea, set off with small figures. He lived long at Cologne, where he acquired great reputation. He travelled to Italy, where his fame had got before him; and where his fine landscapes, adorned with small figures, superior to those of his father, gave very great satisfaction. If a good judgement may be formed from the great number of pictures he left behind him, all highly finished, he must have been exceedingly industrious. Nor did he satisfy himself with embellishing his own works only, but was very useful in this respect to his friends. Even Rubens made use of Breughel's hand in the landscape part of several of his small pictures, such as his Vertumnus and Pomona; the satyr viewing the sleeping nymph; and the terrestrial paradise, which is looked upon as his masterpiece. He died in 1642. —Several of his works are to be seen in the archbishop's gallery at Milan; particularly a hunting-piece with a vast many figures; a landscape representing a desert, with the picture of St Hierom painted by Cerano, alias Gio Baptista Crespi. In the Ambrosian library are 20 pieces of this masterly hand; particularly Daniel in the lion's den, the inside of the great church at Antwerp, the four seasons on copper, and the burning of Gomorrah. In the possession of the elector Palatine at Dusseldorp, Christ preaching on the sea-shore; a country-dance; a sea-port, with a great many figures; a coach and two chariots, with a multitude of figures and animals; a landscape, wherein Flora is crowned by a nymph; St John preaching in the wilderness; a small sea-landscape, and several other pieces. In the possession of the late king of France, a woman playing with a dog, the battle between Alexander and Darius, both in wood: Orpheus in hell, &c.

BREVIARY, a daily office, or book of divine service, in the Roman church. It is composed of matins, lauds, first, third, sixth, and ninth vespers, and the compline or post communio.

The breviary of Rome is general, and may be used in all places; but on the model of this various others have been built, appropriated to each diocese, and each order of religious.

The breviary of the Greeks is the same in almost all churches and monasteries that follow the Greek rites: the Greeks divide the psalter into 20 parts. In general, the Greek breviary consists of two parts: the one containing the office for the evening, the other that of the morning, divided into matins, lauds, first, third, sixth, and ninth vespers, and the compline; that is, of seven different hours, on account of that saying of David, *Septies in die laudem dixi tibi.*

The institution of the breviary is not very ancient; there have been inserted in it the lives of the saints, full of ridiculous and ill-attested stories, which gave occasion to several reformations of it, by several councils, particularly those of Trent and Cologne; by several popes, particularly Pius V. Clement VIII. and Urban VIII.; and also by several cardinals and bishops, each lopping off some extravagancies, and bringing it nearer to the simplicity of the primitive offices. Originally, every body was obliged to recite the breviary every day; but by degrees the obligation was reduced to the clergy only, who are enjoined, under penalty of mortal sin and ecclesiastical censures, to recite it at home, when they cannot attend in public. In the 14th century, there was particular reserve granted in favour of bishops, who were allowed, on extraordinary occasions, to pass three days without rehearsing the breviary.

This office was originally called *cursus;* and afterwards, the *breviarium:* which latter name imports that the old office was abridged; or rather, that this collection is a kind of abridgement of all the prayers.

The breviaries now in use are innumerable; the difference between them consists principally in the number and order of the psalms, hymns, paternosters, ave-Maries, creeds, magnificates, cantemus's, benedictus's, canticamus's, nunc dimittis's, miserere's, hallelujahs, gloria patri's, &c.

BREVIARY, in Roman antiquity, a book first introduced by Augustus, containing an account of the application of the public money.

BREVIATOR, an officer under the eastern empire, whose business it was to write and translate briefs.—At Rome those are styled *breviators*, or *abbreviators*, who dictate and draw up the pope's briefs.

BREVIBUS, A ROTULIS LIBERANDIS, a writ or command to a sheriff to deliver to his successor the county, with the appurtenances, and the rolls, writs, and other things to his office belonging.

BREVIER, among printers, a small kind of type or letter between bourgeois and minion.

BREVITY, in a general sense, that which denominates a thing brief or short.

BREVITY is more particularly used in speaking of the style or composition of discourse. Brevity of discourse is by some called *brachylogia* and *breviloquentia;* sometimes *laconismus.* Tacitus and Persius are remarkable for the brevity of their style. There are two kinds of brevity, one arising from dryness, poverty, and narrowness of genius; the other from judgment and reflection; which latter alone is laudable. Brevity is so essential to a tale, a song, and an epigram, that without it they necessarily languish and become dull. Rhetoricians make brevity one of the principal marks

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Brevity || Brewer.

or conditions of eloquence: but the rules they prescribe for attaining it are difficult to apply, so as still to keep the due medium between too much and too little. A just brevity is attained by using all the words which are necessary, and none but those which are necessary. Sometimes it may also be had, by choosing a word which has the force of several. It is this last kind which Quintilian admires so much in Sallust; and the imitation of which, by other writers, has caused so much obscurity.

BREVIUM CUSTOS. See CUSTOS.

BREVORDT, a town of Guelderland, in the United Netherlands, situated in E. Long. 6. 35. N. Lat. 52.

BREWER, ANTHONY, a dramatic poet who flourished in the reign of King Charles I. and appears to have been held in high estimation by the wits of that time, as may be more particularly gathered from an elegant compliment paid to him in a poem called *Steps to Parnassus*, wherein he is supposed to have a magic power to call the muses to his assistance, and is even set on an equality with the immortal Shakespeare himself. There are, however, great disputes among the several writers, as to the number of his works. Those which have been ascribed to him with any certainty are, 1. The country girl, a comedy. 2. The love-sick king, a comedy. And, 3. *Lingua:* a piece in regard to which Winstanley records a remarkable anecdote, which points it out to have been in some measure the innocent cause of those troubles that disturbed the peace of these realms in the middle of the 17th century. He tells us, that when this play was acted at Cambridge, Oliver Cromwell (then a youth) acted a part in it. The substance of the piece is a contention among the Senses for a crown, which Lingua had laid for them to find. The part allotted to young Cromwell was that of *Tactus* or Touch; who having obtained the contested coronet, makes this spirited declamation:

> Roses and bays, pack hence! this crown and robe
> My brows and body circles and invests:
> How gallantly it fits me! sure the slave
> Measur'd my head who wrought this coronet.—
> They lie that say complexions cannot change!
> My blood's ennobled, and I am transform'd
> Unto the sacred temper of a king.
> Methinks I hear my noble parasites
> Styling me *Cæsar*, or Great *Alexander*,
> Licking my feet, &c.

It is said that he felt the whole part so warmly, and more eepecially the above-quoted speech, that it was what first fired his soul with ambition, and excited him, from the possession of an imaginary crown, to stretch his views to that of a real one; for the accomplishment of which he was content to wade through seas of blood.

BREWER, a person who professes the art of brewing.

There are companies of brewers in most capital cities; that of London was incorporated in 1427 by Henry VI. and that of Paris is still older.

The apparatus and utensils of a brewer, or a brewhouse, are, A furnace made close and hollow for saving fuel, and with a vent for the smoke lest it taint the liquor; a copper, which is preferable to lead; a mask-vat near the head; a cooler near the mask-vat; and a guile-vat under the cooler: adjoining to all are several clean tubs, to receive the worts and liquors. Brewer Brewing

BREWERS Haven, a good harbour at the north end of the island of Chiloe on the coast of Chili, in South America, and in the South sea. The Dutch landed forces here in 1643, designing to get possession of some part of Chili; but they were driven from thence by the Spaniards and the natives. W. Long. 82°, S. Lat. 42°.

BREWING, the operation of preparing ale or beer from MALT.

1 No settled theory of brewing.

Though the art of brewing is undoubtedly a part of chemistry, and certainly depends upon fixed and invariable principles, as well as every other branch of that science, these principles have never yet been thoroughly investigated. For want of a settled theory, therefore, the practice of this art is found to be precarious; and to succeed unaccountably with some, and misgive as unaccountably with others. Some few hints, however, have been thrown out, in order to establish a regular theory of brewing; the principal of which we shall lay before our readers.

2 Common process described.

The usual process of brewing is as follows: A quantity of water being boiled, is left to cool till the height of the steam be over; when so much is poured to a quantity of malt in the mashing tub, as makes it of a consistence stiff enough to be just well rowed up: after standing thus a quarter of an hour, a second quantity of the water is added, and rowed up as before: lastly, the full quantity of water is added; and that in proportion as the liquor is intended to be strong or weak. —This part of the operation is called *mashing*.—The whole now stands two or three hours, more or less, according to the strength of the wort or the difference of weather, and is then drawn off into a receiver; and the mashing repeated for a second wort, in the same manner as for the first, only the water must be cooler than before, and must not stand above half the time. The two worts are then to be mixed, the intended quantity of hops added, and the liquor close covered up, gently boiled in a copper for the space of an hour or two; then let into the receiver, and the hops strained from it into the coolers. When cool, the barm or yeast is applied; and it is left to work or ferment till it be fit to tun up. For small beer there is a third mashing with the water near cold, and not left to stand above three quarters of an hour; to be hopped and boiled at discretion. For double beer or ale, the liquors resulting from the two first mashings must be used as liquor for the third mashing of fresh malt.

3 Difficulties attending it.

From considering this process, and the multiplicity of circumstances to be attended to in it, we may easily see that it must be a very precarious one. The success of the operation, i. e. the goodness of the beer, must depend upon the quality of the malt from which it is made; on that of the water with which it is infused; on the degree of heat applied in the infusion; on the length of time the infusion is continued; on the proper degree of boiling, the quantity and quality of the hops employed; on the proper degree of fermentation, &c.: all which, as already observed, have never yet been thoroughly investigated and ascertained.

4 Sir Robert Murray's method of malt-making.

The manner of making malt Sir Robert Murray describes as follows.—Take good barley newly thrashed, &c.; put about six English quarters in a stone trough full

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Brewing. full of water, where let it steep till the water be of a bright reddish colour; which will be in about three days, more or less according to the moisture or dryness, smallness or bigness, of the grain, the season of the year, or the temperature of the weather. In summer, malt never makes well; in winter it requires longer steeping than in spring or autumn. It may be known when it is steeped enough by other marks besides the colour of the water; as by the excessive swelling of the grain, if it be over-steeped, and by too much softness; being, when it is in a right temper, like the barley prepared to make broth of. When it is sufficiently steeped, take it out of the trough, and lay it in heaps to let the water drain from it; then, after two or three hours, turn it over with a scoop, and lay it in a new heap, 20 or 24 inches deep. This is called the *coming heap*, in the right management whereof lies the principal skill. In this heap it may lie 40 hours, more or less according to the forementioned qualities of the grain, &c. before it come to the right temper of malt; which that it may do equally, is mainly desired. While it lies in this heap, it must be carefully looked to after the first 15 or 16 hours: for about that time the grains begin to put forth roots; which when they have equally and fully done, the malt must, within an hour after, be turned over with a scoop; otherwise the grains will begin to put forth the blade and spire also, which must by all means be prevented. If all the malt do not come equally, but that which lies in the middle, being warmest, come the soonest; the whole must be turned, so that what was outmost may be inmost; and thus it is managed till it be all alike. As soon as the malt is sufficiently come, turn it over, and spread it to a depth not exceeding five or six inches; and by the time it is all spread out, begin and turn it over again three or four times. Afterwards turn it over in like manner once in four or five hours, making the heap deeper by degrees; and continue to do so for the space of 48 hours at least. This frequent turning it over, cools, dries, and deadens the grain; whereby it becomes mellow, melts easily in brewing, and separates entirely from the husk. Then throw up the malt into a heap as high as you can; where let it lie till it grow as hot as your hand can endure it, which usually happens in about the space of 30 hours. This perfects the sweetness and mellowness of the malt. After it is sufficiently heated, throw it abroad to cool, and turn it over again about six or eight hours after; and then lay it on a kiln with a hair-cloth or wire spread under it; where, after one fire which must last 24 hours, give it another more slow, and afterwards, if need be, a third: for if the malt be not thoroughly dried, it cannot be well ground, neither will it dissolve well in the brewing; but the ale it makes will be red, bitter, and unfit for keeping.

From this account of the process of malting, it appears, that, besides the proper management in wetting, turning, &c. the drying is an article of the utmost consequence; and concerning the proper degrees of heat to be employed for this purpose, Mr Combrune has related the following experiments. "In an earthen pan, of about two feet diameter, and three inches deep, I put as much of the palest malts, very unequally grown, as filled it on a level to the brim. This I placed over a little charcoal lighted in a small stove, and kept continually stirring it from bottom to top; at first it did not feel so damp as it did about half an hour after. Brewing.

"In about an hour more, it began to look of a bright orange colour on the outside, and appeared more swelled than before. Every one is sensible how long-continued custom alone makes us sufficient judges of colours. Then I macerated some of the grains, and found they were nearly such as are termed *brown malts*. On stirring and making a heap of them towards the middle, I placed therein at about half depth the bulb of my thermometer, and found it rose to 140 degrees: here the malt felt very damp, and had but little smell.

"At 165 degrees I examined it in the same manner as before, and could perceive no damp: the malt was very brown; and, on being macerated, some few black specks appeared.

"Now many corns, nearest the bottom, were become black and burnt; with all the diligence I could use, I placed my thermometer nearly there, and it rose to 175 degrees. But the particles of fire, arising from the stove, act on the thermometer in proportion to the distance of the situation it is placed in; for which, through the whole experiment, an abatement of 5 degrees should be allowed, as near as I could estimate; so, a little after, putting my thermometer in the same position, where nearly half the corns were black, it showed 180 degrees. I now judged that the water was nearly all evaporated, and the heap grew black apace.

"Again, in the centre of the heap raised in the middle of the pan, I found the thermometer at 180 degrees; the corn tasted burnt; and the whole, at top, appeared about one half part a full brown, the rest black: on being macerated, still some white specks appeared; which I observed to proceed from the barley corns which had not been thoroughly germinated, and whose parts, cohering more together, the fire, at this degree of heat, had not penetrated them: their taste was insipid, the malts brittle, and readily parting from the skin: but the thermometer was now more various, as it was nearer to or farther from the bottom; and here I judged all the true malt to be charred.

"However, I contined the experiment; and, at 190 degrees, still found some white specks on macerating the grain; the acrospire always appearing of a deeper black or brown than the outward skin: the corn now fried at the bottom of the pan.

"I next increased the fire; the thermometer, placed in the mean between the bottom of the pan and the upper edge of the corn, showed 210 degrees. The malt hissed, fried, and smoked abundantly; though, during the whole process, the grain had been kept stirring, yet, on examination, the whole had not been equally affected with the fire. I found a great part thereof reduced to perfect cinders, easily crumbling to dust between the fingers, some of a very black hue without gloss, some very black with oil shining on the outside. Upon the whole, two-thirds of the corn were perfectly black; the rest were of a deep brown, more or less so as they were hard, steely, or imperfectly germinated; which was easily discovered by the length of the shoot. Most of them seemed to have lost their cohesion, and had a taste resembling that of high roasted coffee.

5 r Combrune's experiments the drying of malt; s. on rewing.

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Brewing.

"In the last stage of charring the malt, I set thereon a wine glass inverted, into which arose a pinguious oily matter, which tasted very salt. Perhaps it may not be unnecessary to say, that the length of time this experiment took up was four hours, and that the effect it had both on myself and the person who attended me was such as greatly resembled the case of inebriation.

"Though, from hence, it is not possible to fix the exact degree of heat in which malts charr, yet we see some black appeared when the thermometer was at 165 degrees, that some were entirely black at 175 and at 180 degrees, that the grains thus affected were such as had been perfectly germinated, and that those which bore a greater heat were defective in that point; whence we may conclude, with an exactness that will be sufficient for the purposes of brewing, that true germinated malts are charred in heats between 175 and 180 degrees; and that, as these correspond to the degrees in which pure alcohol, or the finest spirit of the grain itself boils, or disengages itself therefrom, they may point out to us the reason of barley being the fittest grain for the purposes of brewing."

From these experiments, our author has constructed the following table of the different degrees of the dryness of malt, with the colour occasioned by each degree.

Deg.	
119	White.
124	Cream colour.
129	Light yellow.
134	Amber colour.
138	High amber.
143	Pale brown.
148	Brown.
152	High brown.
157	Brown inclining to black.
162	High brown speckled with black.
167	Blackish brown with black specks.
171	Colour of burnt coffee.
176	Black.

"The above table (says he) not only shows us how to judge of the dryness of malt from its colour, but also when a grist is composed of several sorts of malt, what effect the whole will have when blended together by extraction; and although possibly some small errors may arise in judgments thus formed by our senses, yet as malts occupy different volumes in proportion to their dryness in the practice of brewing, if the result of the water coming in contact with the malt show the degree expected, such parcel of malt may be said to have been judged of rightly in the degree of dryness it was estimated at; so that the first trial either confirms, or sets us numerically right as to our opinion thereof."

It is found by experience, that the less heat employed in drying the malt, the shorter time will be required before the beer is fit to be used; and of this our author has given the following table.

Deg.		Deg.	
119	2 weeks.	143	8 months.
124	a month.	147	10 months.
129	3 months.	152	15 months.
134	4 months.	157	20 months.
138	6 months.	162	two years.

Brewing.

Lastly, Mr Combrune hath given the following table, showing the tendency beers have to become fine, when properly brewed from malts of different degrees of dryness.

Deg.	Colour of malt.	
119	White.	These, when properly brewed, become spontaneously fine, even as far as 138°; when brewed for amber by repeated fermentations, they become pellucid.
124	Cream colour.	
129	Light yellow.	
134	Amber colour.	
138	High amber.	By precipitation these grow bright in a short time.
143	Pale brown.	
148	Brown.	With precipitation these require 8 or 10 months to become bright.
152	High brown.	
157	Brown inclining to black.	With precipitation these may be fined, but will never become bright.
162	Brown speckled with black.	
167	Blackish brown speckled with black.	These with difficulty can be brewed without setting the goods, and will by no means become bright, not even with the strongest acid menstruum.
171	Colour of burnt coffee.	
176	Black.	

6 Mr Richardson's observations.

In a pamphlet entitled "Theoretic hints on an improved practice of brewing malt-liquors, &c. by John Richardson," we have the following observations on the nature and properties of malt.

"The process of making malt is an artificial or forced vegetation, in which the nearer we approach the footsteps of nature in her ordinary progress, the more certainly shall we arrive at that perfection of which the subject is capable. The farmer prefers a dry season to sow his corn in, that the common moisture of the earth may but gently insinuate itself into the pores of the grain, and thence gradually dispose it for the reception of the future shower, and the action of vegetation. The maltster cannot proceed by such slow degrees, but makes an immersion in water a substitute for the moisture of the earth, where a few hours infusion is equal to many days employed in the ordinary course of vegetation; and the corn is accordingly removed as soon as it appears fully saturated, lest a solution, and consequently a destruction, of some of its parts, should be the effect of a longer continuance in water, instead of that separation which is begun by this introduction of aqueous particles into the body of the grain.

"Were it to be spread thin after this removal, it would become dry, and no vegetation would ensue; but being thrown into the couch, a kind of vegetative fermentation commences, which generates heat, and produces the first appearance of germination. This state of the barley is nearly the same with that of many days continuance in the earth after sowing: but being in so large a body it requires occasionally to be turned over, and spread thinner; the former to give the outward parts of the heap their share of the required warmth and moisture, both of which are lessened by exposure to the air; the latter to prevent the progress of the vegetative to the putrefactive fermentation, which would be the consequence of suffering it to proceed beyond a certain degree.

"To supply the moisture thus continually decreasing by evaporation and consumption, an occasional but sparing

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Brewing. sparing sprinkling of water should be given to the floor to recruit the languishing powers of vegetation, and imitate the shower upon the corn-field. But this should not be too often repeated; for, as in the field, too much rain, and too little sun, produce rank stems and thin ears, so here would too much water, and of course too little dry warmth, accelerate the growth of the malt, so as to occasion the extraction and loss of such of its valuable parts, as by a slower process would have been duly separated and left behind.

"By the slow mode of conducting vegetation here recommended, an actual and minute separation of the parts takes place. The germination of the radicles and acrospire carries off the cohesive properties of the barley, thereby contributing to the preparation of the saccharine matter, which it has no tendency to extract or otherwise injure, but to increase and meliorate, so long as the acrospire is confined within the husk; and by how much it is wanting of the end of the grain, by so much does the malt fall short of perfection, and in proportion as it has advanced beyond, is that purpose defeated.

"This is very evident to the most common observation, on examining a kernel of malt in the different stages of its progress. When the acrospire has shot but half the length of the grain, the lower part only is converted into that yellow saccharine flour we are solicitous about, whilst the other half affords no other signs of it than the whole kernel did at its first germination. Let it advance to two-thirds of the length, and the lower end will not only have increased its saccharine flavour, but will have proportionally extended its bulk, so as to have left only a third part unmalted. This, or even less than this, is contended for by many malsters, as a sufficient advance of the acrospire, which they say has done its business as soon as it has passed the middle of the kernel. But we need seek no farther for their conviction of error, than the examination here alluded to.

"Let the kernel be slit down the middle, and tasted at either end, whilst green; or let the effects of mastication be tried when it is dried off; when the former will be found to exhibit the appearances just mentioned, the latter to discover the unwrought parts of the grain, in a body of stony hardness, which has no other effect in the mash-tun than that of imbibing a large portion of the liquor, and contributing to the retention of those saccharine parts of the malt which are in contact with it; whence it is a rational inference, that three bushels of malt, imperfect in this proportion, are but equal to two of that which is carried to its utmost perfection. By this is meant the farthest advance of the acrospire, when it is just bursting from its confinement, before it has effected its enlargement. The kernel is then uniform in its internal appearance, and of a rich sweetness in flavour, equal to any thing we can conceive obtainable from imperfect vegetation. If the acrospire be suffered to proceed, the mealy substance melts into a liquid sweet, which soon passes into the blade, and leaves the husk entirely exhausted.

"The sweet thus produced by the infant efforts of vegetation, and lost by its more powerful action, revives and makes a second appearance in the stem, but is then too much dispersed and altered in its form to answer any of the known purposes of art. Brewing.

"Were we to enquire, by what means the same barley, with the same treatment, produces unequal portions of the saccharine matter in different situations, we should perhaps find it principally owing to the different qualities of the water used in malting. Hard water is very unfit for every purpose of vegetation, and soft will vary its effects according to the predominating qualities of its impregnations. Pure elementary water is in itself supposed to be the only vehicle of the nutriment of plants, entering at the capillary tubes of the roots, rising into the body, and there dispersing its acquired virtues, perspiring by innumerable fine pores at the surface, and thence evaporating by the purest distillation into the open atmosphere, where it begins anew its round of collecting fresh properties, in order to its preparation for fresh service.

"This theory leads us to the consideration of an attempt to increase the natural quantity of the saccharum of malt by adventitious means; but it must be observed on this occasion, that no addition to water will rise into the vessels of plants, but such as will pass the filter; the pores of which appearing somewhat similar to the fine strainers or absorbing vessels employed by nature in her nicer operations, we by analogy conclude, that properties so intimately blended with water as to pass the one, will enter and unite with the economy of the other, and *vice versa*.

"Supposing the malt to have obtained its utmost perfection, according to the criterion here inculcated; to prevent its farther progress, and secure it in that state, we are to call in the assistance of a heat sufficient to destroy the action of vegetation, by evaporating every particle of water, and thence leaving it in a state of preservation, fit for the present or future purpose of the brewer.

"Thus having all its moisture extracted, and being by the previous process deprived of its cohesive property, the body of the grain is left a mere lump of flour, so easily divisible, that, the husk being taken off, a mark may be made with the kernel, as with a piece of soft chalk. The extractible qualities of this flour are, a saccharum closely united with a large quantity of the farinaceous mucilage peculiar to bread corn, and a small portion of oil enveloped by a fine earthy substance, the whole readily yielding to the impression of water applied at different times and different degrees of heat, and each part predominating in proportion to the time and manner of its application.

"In the curing of malt, as nothing more is requisite than a total extrication of every aqueous particle, if we had in the season proper for malting, a solar heat, sufficient to produce perfect dryness, it were practicable to reduce beers nearly colourless; but that being wanting, and the force of custom having made it necessary to give our beers various tinctures and qualities resulting from fire, for the accommodation of various tastes, we are necessitated to apply such heats in the drying as shall not only answer the purpose of preservation, but give the complexion and property required.

"To effect this with certainty and precision, the introduction

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Brewing. worts than in such as are stronger, and hence these require to be much longer boiled than the others.

During this operation the hops are generally added, which are found to be absolutely necessary for preventing the too great tendency of beer to acidity. The fine essential oil of hops being most volatile and soonest extracted, we are therefore taught the advantage of boiling the first wort no longer than is sufficient to form the extract, without exposing it to the action of the fire so long as to dissipate the finer parts of this most valuable principle, and defeat the purpose of obtaining it. To the subsequent worts we can afford a larger allowance, and pursue the means of preservation so long as we can keep in view those of flavour; to which no rules can positively direct, the process varying with every variety of beer, and differing as essentially in the production of porter and pale ale as the modes of producing wine and vinegar.

The consequence of not allowing a sufficient time for the due separation of the parts of the wort and extraction of the requisite qualities of the hop must be obvious. If we proceed to the other extreme, we have every thing to apprehend from the introduction of too large a quantity of the grosser principles of the hop, which are very inimical to fermentation; and from impairing the fermentative quality of the worts themselves, by suffering their too long exposure to the action of the fire passing through them, whereby they are reduced to a more dense consistence, and their parts too intimately blended to yield to the separating force of fermentation with that ease the perfection of the product requires.

10 Of fermentation.

The last step in the process of brewing is to ferment the liquor properly; for if this is not done, whatever care and pains have been taken in the other parts, they will be found altogether insufficient to produce the liquor desired. The first thing to be done here is to procure a proper ferment; for though all fermentable liquors would in time begin to ferment of themselves, yet, being also susceptible of putrefaction, the vinous and putrefactive ferments would both take place at the same time in such a manner that the product would be entirely spoiled. There are only two kinds of artificial ferments procurable in large quantity, and at a low price, viz. beer-yeast and wine-lees. A prudent management of these might render the business of the brewery for distillation, as in the business of the malt-distiller, &c. much more easy and advantageous *. Brewers have always found it a considerable difficulty to procure these ferments in sufficient quantities, and preserve them constantly ready for use; and this has been so great a discouragement to the business, that some have endeavoured to produce other ferments, or to form mixtures or compounds of particular fermentable ingredients; but this has been attempted without any great success, all these mixtures falling short even of common baker's leaven in their use. Whoever has a turn for making experiments and attempting improvements of this kind, will find it much easier and more advantageous to preserve and raise nurseries of the common ones, than to devise mixtures of others. Yeast may be preserved by freeing it from its moister parts. This may be done by the sun's heat, but slowly and imperfectly. The best method is by gently pressing it in canvas bags: Thus the liquid part, in which there is scarce any virtue, will be thrown off, and the solid will remain behind in form of a cake, which may be packed in a barrel or box, and will keep for a long time sweet and fragrant, and fit for the finest uses; and the same method may be taken either with wine-lees or the flowers of wine. The former may be brought from abroad with great ease in this manner: the latter may be made with us from the lees, by only dissolving them in water, and stirring them about with a stick; by this means, the lighter, more moveable, and more active part of the lees will be thrown up to the top, and may be taken off and preserved, in the manner above mentioned, in any quantity desired. By this means, an easy method is found of raising an inexhaustible fund; or a perpetual supply of the most proper ferments may be readily formed in the way of successive generations, so as to cut off all future occasion of complaint for want of them in the business of distillation. It must be observed that all ferments abound in essential oil much more than the liquors which produce them; whence they very strongly retain the particular flavour and scent of the subject from whence they were made. It is requisite, therefore, before the ferment is applied, to consider what flavour ought to be introduced, and accordingly what species of ferment is most suited to the liquor. The alteration thus caused by ferments is so considerable, as to determine or bring over any naturally fermentable liquor of a neutral kind to be of the same kind with that which yielded the ferment. The benefit of this, however, does not extend to malt, or to any other matter that does not naturally yield a tolerably pure and tasteless spirit, as it otherwise makes not a simple, pure, and uniform flavour, but a compound and mixed one.

Brewing.

The greatest circumspection and care are necessary in regard to the quality of the ferment. It must be chosen perfectly sweet and fresh: for all ferments are liable to grow musty and corrupt; and if in this case they are mixed with the fermentable liquor, they will communicate their nauseous and filthy flavour to it in such a manner as never to be got off. If the ferment is sour, it must by no means be used for any liquor; for it will communicate its flavour to the whole, and even prevent its rising to a head, and give it an acetous, instead of a vinous, tendency. When the proper quantity is got ready, it must be put to the liquor in a state barely tepid, or scarce lukewarm. The best method of putting them together, so as to make the fermentation strong and quick, is as follows. When the ferment is solid, it must be broken to pieces, and gently thinned with some of the warm liquor; but a complete or uniform solution of it is not to be expected or desired, as this would weaken its efficacy for the future business. The whole intended quantity being thus loosely mixed in some of the lukewarm liquor, and kept near the fire or elsewhere in a tepid state, free from too rude commerce with the external air, more of the insensibly warm liquor ought at proper intervals to be brought in, till thus by degrees the whole quantity is set at work together. When the whole is thus set at work, secured in a proper degree of warmth, and kept from a too free intercourse with the external air, it becomes as it were the business of nature to finish the operation.

In the operation of fermentation, however, the degree

* See *Distillation.*

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Brewing.

gree of heat employed is of the utmost consequence. In forming the extracts of the malt, the variation of a few degrees of heat produces an important difference in the effect. In the heat of fermentation, similar consequences result from similar variety. Under a certain regulation of the process, we can retain in the beer, as far as art is capable, the finer mucilage, and thereby preserve that fulness upon the palate which is by many so much admired: on the other hand, by a slight alteration, we can throw it off, and produce that evenness and uniformity of flavour which has scarce any characteristical property, and is preferred by some only for want of that heaviness which they complain of in full beers. If a more vinous racy ale be required, we can, by collecting and confining the operation within the body of the wort, cause the separation and absorption of such an abundant portion of the oleaginous and earthy principles, as to produce a liquor in a perfect state at the earliest period, and so highly flavorous as to create a suspicion of an adventitious quality. But though all this may be done, and often hath been done, the proper management of fermenting liquors depends so much upon a multiplicity of slight and seemingly unimportant circumstances, that it hath never yet been laid down in an intelligible manner; and no rules, drawn from any thing hitherto published on the subject of brewing, can be at all sufficient to direct any person in this matter, unless he hath had considerable opportunities of observing the practice of a brewhouse.

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To what we have now said we shall only add, from a practical treatise on brewing lately published, the names of the materials and their proportions, which are employed by the London brewers in the manufacture of the different kinds of malt liquors.

Porter.

Kinds of Malt.			cwt.	qrs.	lbs.
West country pale,	3	Hops,	1	2	0
Herts pale	6	Coculus indic.	0	0	6
—— brown,	8	Leghorn juice,	0	0	30
—— amber,	8				
Quarters,	25				

This yielded 89 barrels and 2 firkins of porter.

Another proportion of materials for Porter.

Kinds of Malt.			cwt.	qrs.	lbs.
Herts pale,	11	Hops,	1	2	0
—— amber,	7	Coculus indic.	0	0	4
West country brown,	7	Leghorn juice	0	0	30
Quarters,	25				

This proportion of materials yielded 87 barrels one firkin.

Brown Stout.

Kinds of Malt.			cwt.	qrs.	lbs.
Herts brown	12	Hops,	2	0	0
—— amber,	4	Coculus indic.	0	0	4
—— white,	4	Sugar,	0	1	0
Quarters,	20	Bitter bean,	0	0	6

Reading Beer.

Pale malt, 20 quarters.

	cwt	qrs.	lbs.
Hops	1	3	0
Grains of Paradise,	0	0	6
Coriander seed, ground,	0	0	10
Sugar	0	1	0

Amber Beer.

Kinds of Malt.			cwt.	qrs.	lbs.
West country pale,	2½	Hops,	1	0	0
Herts pale,	12½	Leghorn juice,	0	0	20
—— amber,	10	Molasses,	0	0	30
Quarters,	25	Grains of Paradise ground,	0	0	4

London Ale.

Kinds of Malt.			cwt.	qrs.	lbs.
Herts white,	23	Hops,	1	3	10
—— amber,	2	Grains of parad.	0	0	4
Quarters,	25	Coriander,	0	0	4
		Orange powder,	0	0	1

Windsor Ale.

Kinds of Malt.		cwt.	qrs.	lbs.
Herts pale, 25 quarters.	Hops,	2	0	0
	Honey,	0	0	40
	Coriander seed,	0	0	4
	Grains of parad.	0	0	2

Welsh Ale.

Best pale malt, nine quarters.

	cwt.	qrs.	lbs.
Hops, best Kent,	0	2	14
Sugar,	0	0	20
Grains of paradise,	0	0	3

Wirtemberg Ale.

Kinds of Malt.			cwt.	qrs.	lbs.
Herts pale	16	Hops,	1	2	20
—— amber,	4	Honey,	0	0	28
Quarters,	20	Sugar,	0	0	20
		Hart. shavings,	0	0	14
		Ground coriander seed,	0	0	4
		Caraway seeds,	0	0	1

Hock.

Kinds of Malt.			cwt.	qrs.	lbs.
Herts pale,	14	Hops,	1	3	10
—— amber,	6	Coculus indicus berry,	0	0	4
Quarters,	20	Sugar,	0	0	20
		Bitter bean,	0	0	2

Scurvy-grass Ale.

Kinds of Malt.			
Herts pale,	3	Hops,	25 pounds.
—— amber,	3	Molasses,	10 ditto.
Quarters,	6	Garden scurvy-grass,	5 bushels.
		Alexandrian senna,	2 pounds.
		Horse-radish root, which is to be sliced into the working tun.	1 ditto.

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Brewing ‖ Bribery.

TABLE BEER.

Kinds of Malt.	Qrs.		
Herts white,	4	Hops,	72 pounds.
—— pale,	2	Spanish julde,	12 ditto.
—— amber,	2		

See BREWING, SUPPLEMENT.

BREY, a town of Germany, on the frontiers of Brabant, seated on a rivulet, in E. Long. 5. 35. N. Lat. 51. 6.

BREYNIA, in *Botany*, a synonyme of the capparis. See CAPPARIS, BOTANY *Index*.

BRIANCON, a town of France, in Upper Dauphiny, capital of the Briançonnois. E. Long. 6. 45. N. Lat. 44. 46.

BRIANCONNOIS, a territory of France, in Dauphiny, bounded by Grenoblois, Gapenzois, Ambrunois, Piedmont, and Savoy. It comprehends several valleys, which lie among the mountains of the Alps; and though it is extremely cold, yet it is fertile in corn and pastures. The inhabitants have a great deal of wood; yet they choose to be in the stables with their cattle six months in the year, to keep themselves warm. Briançon is the capital town.

BRIAR, in *Botany*, the English name of a species of rosa. See ROSA, BOTANY *Index*.

BRIARE, a town of France, in the department of Loiret, seated on the river Loire. It is remarkable for nothing but a long street full of inns and farriers, it being on the great road to Lyons; and the canal of Briare, which is 33 miles in length, and maintains a communication between the Loire and the Seine. E. Long. 2. 45. N. Lat. 47. 40.

BRIAREUS, in fabulous history, a giant: the son of Æther, Titan, or Cœlus, and Terra. This was his name in heaven; on the earth he was called *Ægeon*. He was of singular service to Jupiter, when Juno, Pallas, Neptune, and the rest of the gods, endeavoured to bind him in chains and dethrone him. Afterwards, however, he conspired with the rest of his gigantic brethren to dethrone Jupiter. Virgil, on this occasion, describes him as having 100 hands, 50 heads, and breathing out fire †. The fable says that Jupiter, to punish him, threw him under Mount Ætna, which, as often as he moves, belches out fire. See ÆTNA.

† En. x. 365.

BRIBE, a reward given to pervert the judgment. See the next article.

The word is French, *bribe*, which originally denotes a bit, fragment, or relic of meat taken off the table; on which footing, bribe imports as much as *panis mendicatus*, and still keeps up the idea of the matter whereof bribes anciently consisted. Hence also the Spaniards use *bribar* and *brivar* for *begging*; and *brivia*, *brivoneria*, and *brivonismo*, for *beggary*. In middle-age writers, a bribe given a judge is called *quato litis*, and the receiver, *campi particeps*, or *cambi particeps*; because the spoils of the field, i. e. the profits of the cause, were thus shared with the giver.

BRIBERY, in *Law*, is a high offence, where a person in a judicial place takes any fee, gift, reward, or brockage, for doing his office, but of the king only. But, taken largely, it signifies the receiving or offering any undue reward to or by any person concerned in the administration of public justice, whether judge, officer, &c. to act contrary to his duty; and sometimes it signifies the taking or giving a reward for a public office.

Bribery ‖ Brick.

In the east it is the custom never to petition any superior for justice, not excepting their kings, without a present. This is calculated for the genius of despotic countries; where the true principles of government are never understood, and it is imagined that there is no obligation due from the superior to the inferior, no relative duty owing from the governor to the governed. The Roman law, though it contained many severe injunctions against bribery, as well for selling a man's vote in the senate or other public assembly, as for the bartering of common justice; yet, by a strange indulgence in one instance, it tacitly encouraged this practice; allowing the magistrate to receive small presents, provided they did not on the whole exceed 100 crowns a-year; not considering the insinuating nature and gigantic progress of this vice, when once admitted. Plato, therefore, in his ideal republic, orders those who take presents for doing their duty to be punished in the severest manner: and by the laws of Athens, he that offered a bribe was also prosecuted, as well as he that received a bribe. In England this offence of taking bribes is punished, in inferior officers, with fine and imprisonment; and in those that offer a bribe, though not taken, the same. But in judges, especially the superior ones, it has been always looked upon as so heinous an offence, that the chief justice Thorpe was hanged for it in the reign of Edward III. By a statute 11 Henry IV. all judges and officers of the king convicted of bribery, shall forfeit treble the bribe, be punished at the king's will, and be discharged from his service for ever. And some notable examples have been made in parliament, of persons in the highest stations, and otherwise very eminent and able, but contaminated with this sordid vice. Thus in the reign of King James I. the earl of M. lord treasurer of England, being impeached by the commons, for refusing to hear petitions referred to him by the king, till he had received bribes, &c. was, by sentence of the lords, deprived of all his offices, and disabled to hold any for the future, or to sit in parliament; he was also fined 50,000l. and imprisoned during the king's pleasure. In the 11th year of King George I. the lord chancellor M—— had a somewhat milder punishment: he was impeached by the commons, with great zeal, for bribery, in selling the places of masters in chancery for exorbitant sums, and other corrupt practices, tending to the great loss and ruin of the suitors of that court; and the charge being made good against him, being before divested of his office, he was sentenced to pay a fine of 30,000l. and imprisoned till it was paid. It is said that one of the peers, if not two, who voted against him, had been possessed of the office of chancellor, and sold the places of masters in chancery whenever vacant. *Blackst. Comment.*

BRIBERY in Elections. See ELECTIONS.

BRICIANI, those of the order of that name. This was a military order, instituted by St Bridget, queen of Sweden, who gave them the rules and constitutions of those of Malta and St Augustin. This order was approved by Pope Urban V. They were to fight for the burying of the dead, to relieve and assist widows, orphans, the lame, sick, &c.

BRICK, a fat reddish earth, formed into long squares,

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Brick. squares, four inches broad, and eight or nine long, by means of a wooden mould, and then baked or burnt in a kiln, to serve the purposes of building.

Bricks are of great antiquity, as appears by the sacred writings, the tower and walls of Babylon being built with them.

The Greeks chiefly used three kinds of bricks; the first whereof was called διδωρον, i. e. of two palms; the second τετραδωρον, of four palms; the third πεντεδωρον, of five palms. They had also other bricks, just half each of those, to render their works more solid, and also more agreeable to the sight, by the diversities of the figures and sizes of the bricks.

The dimensions of the brick chiefly used by the Romans, according to Pliny, were a foot and a half long, and a foot broad; which measures agree with those of several Roman bricks in England, which are about 17 inches long, and 11 bread, of our measure. Sir Henry Wotton speaks of a sort of bricks at Venice, of which stately columns were built; they were first formed in a circular mould, and cut, before they were burnt, into four or more quarters or sides; afterwards, in laying, they were jointed so close, and the points concentrated so exactly, that the pillars appeared one entire piece *. The ordinary Paris brick is eight inches long, four broad, and two thick, French measure, which makes something more than ours. But this smallness is an advantage to a building, the strength of which consists much in the multitude of angles and joints, at least if well laid, and having a good bond.

* Wotton's em. of chitec-e, l. ii.

Bricks among us are various, according to their various forms, dimensions, uses, method of making, &c. The principal are, compass-bricks, of a circular form, used in styuing of walls: concave or hollow bricks, on one side flat like a common brick, on the other hollowed, and used for conveyance of water: feather-edged bricks, which are like common statute-bricks, only thinner on one edge than the other, and used for penning up the brick pannels in timber buildings: cogging bricks are used for making the indented works under the caping of walls built with great bricks: caping bricks, formed on purpose for caping of walls: Dutch or Flemish bricks, used to pave yards, stables, and for soap-boiler's vaults and cisterns: clinkers, such bricks as are glazed by the heat of the fire in making: sandel or samel-bricks, are such as lie outmost in a kiln or clamp, and consequently are soft and useless, as not being thoroughly burnt: great bricks are those twelve inches long, six broad, and three thick, used to build fence-walls: plaster or buttress bricks, have a notch at one end, half the breadth of the brick; their use is to bind the work which is built of great brick: statute-bricks, or small common bricks, ought, when burnt, to be nine inches long, four and a quarter broad, and two and a half thick; they are commonly used in paving cellars, sinks, hearths, &c.

pplement Cham-s.

Worlidge, and others after him, have endeavoured to excite brick-makers to try their skill in making a new kind of brick, or a composition of clay and sand, whereof to form window-frames, chimney-pieces, door-cases, and the like. It is to be made in pieces fashioned in moulds, which, when burnt, may be set together with a fine red cement, and seem as one entire piece, by which may be imitated all manner of stone work. The thing should seem feasible, by the earthen pipes made fine, thin, and durable, to carry water under ground at Portsmouth; and by the earthen backs and grates for chimneys, formerly made by Sir John Winter, of a great bigness and thickness. If chimney-pieces thus made in moulds, and dried and burnt, were not found smooth enough, they might be polished with sand and water; or were care taken, when they were half dry in the air, to have them polished with an instrument of copper or iron, then leave them till they were dry enough to burn, it is evident they would not want much polishing afterwards. The work might even be glazed, as potters do their fine earthen ware, either white or of any other colour; or it might be veined in imitation of marble, or be painted with figures of various colours, which would be much cheaper, perhaps equally durable, and as beautiful, as marble itself. Brick.

Bricks are commonly red, though there are some also of a white colour, for which sort Walpit in Suffolk is famous. Bricks may be made of any earth that is clear of stones, even sea-ouse; but all will not burn red, a property peculiar to earths which contain ferruginous particles. In England, bricks are chiefly made of a hazelly, yellowish-coloured, fatty earth, somewhat reddish, vulgarly called *loam*. The earth, according to Leibourn, ought to be dug before winter, but not made into bricks before spring. For the making of such bricks as will stand the fiercest fires, Stourbridge clay or Windsor loam are esteemed the best. In general, the earth whereof bricks are made ought not to be too sandy, which would render them heavy and brittle; nor too fat, which would make them crack in drying.

The first step in the process of brick-making is casting the clay, or earth. The next step is to tread or temper it, which ought to be performed doubly of what is usually done; since the goodness of the bricks depends chiefly upon this first preparation. The earth itself, before it is wrought, is generally brittle and dusty; but adding small quantities of water gradually to it, and working and incorporating it together, it opens its body, and tinges the whole with a tough gluey band or substance. If, in the tempering, you overwater them, as the usual method is, they become dry and brittle, almost as the earth they are made of; whereas, if duly tempered, they become smooth and solid, hard and durable. A brick of this last sort takes up near as much earth as a brick and a half made the contrary way; in which the bricks are spongy, light, and full of cracks, partly through want of due working, and partly by mixing of ashes and light sandy earth to make it work easy and with greater dispatch; as also, to save culm or coals in the burning. We may add, that for bricks made of good earth, and well tempered, as they become solid and ponderous, so they take up a longer time in drying and burning than the common ones; and that the well drying of bricks before they are burned prevents their cracking and crumbling in the burning.

Bricks are burnt either in a kiln or clamp. Those that are burnt in a kiln, are first set or placed in it; and then the kiln being covered with pieces of bricks, they put in some wood to dry them with a gentle fire; and this they continue till the bricks are pretty dry, which is known by the smoke's turning from a darkish colour to transparent smoke: they then leave off putting in wood, and proceed to make ready for burning; which is performed by putting in brush furze, spray, heath,

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Brick. brake or fern faggots: but before they put in any faggots, they dam up the mouth or mouths of the kiln with pieces of bricks (which they call *shinlog*) piled up one upon another, and close it up with wet brick-earth instead of mortar. The shinlog they make so high, that there is but just room above it to thrust in a faggot: then they proceed to put in more faggots, till the kiln and its arches look white, and the fire appears at the top of the kiln; upon which they slacken the fire for an hour, and let all cool by degrees. This they continue to do, alternately heating and slacking, till the ware be thoroughly burnt, which is usually effected in 48 hours.

About London they chiefly burn in *clamps*, built of the bricks themselves, after the manner of arches in kilns, with a vacancy between each brick, for the fire to play through; but with this difference, that instead of arching, they span it over by making the bricks project one over another on both sides of the place, for the wood and coals to lie in till they meet, and are bounded by the bricks at the top, which close all up. The place for the fuel is carried up straight on both sides, till about three feet high; then they almost fill it with wood, and over that lay a covering of sea-coal, and then overspan the arch; but they strew sea-coal also over the clamp, betwixt all the rows of bricks; lastly, they kindle the wood, which gives fire to the coal; and when all is consumed, then they conclude the bricks are sufficiently burnt.

In Dr Percival's essays*, we have the following experiment of the effects of bricks on water. "Two or three pieces of common brick were steeped four days in a bason full of distilled water. The water was then decanted off, and examined by various chemical tests. It was immiscible with soap, struck a lively green with syrup of violets, was rendered slightly lactescent by the volatile alkali, and quite milky by the fixed alkali and by a solution of saccharum saturni. The infusion of tormentil root produced no change in it." This experiment, he observes, affords a striking proof of the impropriety of lining wells with brick, a practice very common in many places, and which cannot fail of rendering the water hard and unwholesome. Clay generally contains a variety of heterogeneous matters. The coloured loams often participate of bitumen, and the ochre of iron. Sand and calcareous earth are still more common ingredients in their composition; and the experiments of Mr Geoffroy and Mr Pott prove, that the earth of alum also may in large quantity be extracted from clay. Now as clay is exposed to the open air for a long space of time, is then moulded into bricks, and burnt, this process resembles in many respects that by which the alum-stone is prepared. And it is probable that the white efflorescence which is frequently observable on the surface of new bricks, is of an aluminous nature. The long exposure of the clay to the air, the sulphureous exhalations of the pit-coal used for burning it, together with the bituminous vapour which arises from the ignited clay itself, sufficiently account for the combination of a vitriolic acid with the earth of alum. See BRICKMAKING, SUPPLEMENT.

* Vol. i. p. 302.

Oil of BRICKS, olive oil imbibed by the substance of bricks, and afterwards distilled from it. This oil was once in great repute for curing many diseases, but is now justly laid aside.

BRICK-Layer, an artificer, whose business is to build with bricks, or make brick-work. Brick, Bricklay

Brick-layers work, or business, in London, includes tyling, walling, chimney-work, and paving with bricks and tyles. In the country it also includes the mason's and plasterer's business.

The materials used by brick-layers are bricks, tyles, mortar, laths, nails, and tyle pins. Their tools are a brick trowel, wherewith to take up mortar; a brick-axe, to cut bricks to the determined shape; a saw, for sawing bricks; a rub-stone, on which to rub them; also a square, wherewith to lay the bed or bottom, and face or surface of the brick, to see whether they are at right angles; a bevel, by which to cut the under sides of bricks to the angles required; a small trannel of iron, wherewith to mark the bricks; a float-stone, with which to rub a moulding of brick to the pattern described; a banker, to cut the bricks on; line pins to lay their rows or courses by; plumb-rule, whereby to carry their work upright; level, to conduct it horizontal; square, to set off right angles; ten-foot rod, wherewith to take dimensions; jointer, wherewith to run the long joints; rammer, wherewith to beat the foundation; crow and pick-axe, wherewith to dig through walls.

The London brick-layers make a regular company, which was incorporated in 1568; and consists of a master, two wardens, 20 assistants, and 78 on the livery.

BRICK-Laying, the art of framing edifices of bricks.

Moxon hath an express treatise on the art of brick-laying; in which he describes the materials, tools, and method of working, used by brick-layers.

Great care is to be taken, that bricks be laid joint on joint in the middle of the walls as seldom as may be; and that there be good bond made there, as well as on the outsides. Some brick-layers, in working a brick and half wall, lay the header on one side of the wall perpendicular to the header on the other side, and so all along the whole course; whereas, if the header on one side of the wall were toothed as much as the stretcher on the other side, it would be a stronger toothing, and the joints of the headers of one side would be in the middle of the headers of the course they lie upon of the other side. If bricks be laid in winter, let them be kept as dry as possible; if in summer, it will quit cost to employ boys to wet them, for they will then unite with the mortar better than if dry, and will make the work stronger. In large buildings, or where it is thought too much trouble to dip all the bricks separately, water may be thrown on each course after they are laid, as was done at the building the physicians college, by order of Dr Hooke. If bricks are laid in summer, they are to be covered; for if the mortar dries too hastily, it will not bind so firmly to the bricks as when left to dry more gradually. If the bricks be laid in winter, they should also be covered well, to protect them from rain, snow and frost; which last is a mortal enemy to mortar, especially to all such as have been wetted just before the frost assaults it.

BRICK-Maker, is he who undertakes the making of BRICKS. This is mostly performed at some small distance from cities and towns; and though some, through ignorance, look upon it as a very mean employ, because laborious, yet the masters about London, and other capital cities, are generally men of substance.

BRICKING, among builders, the counterfeiting of

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Bricking || Bride-room.

a brick-wall on plaster: which is done by smearing it over with red ochre, and making the joints with an edged tool; these last are afterwards filled with a fine plaster.

BRIDE, a woman newly married. Among the Greeks, it was customary for the bride to be conducted from her father's house to her husband's in a chariot, the evening being chosen for that purpose, to conceal her blushes; she was placed in the middle, her husband sitting on one side, and one of her most intimate friends on the other; torches were carried before her, and she was entertained on the passage with a song suitable to the occasion. When they arrived at their journey's end, the axle-tree of the coach they rode in was burnt, to signify that the bride was never to return to her father's house.—Among the Romans, the bride was to seem to be ravished by force from her mother, in memory of the rape of the Sabines under Romulus: she was to be carried home in the night-time to the bridegroom's house, accompanied by three boys, one whereof carried a torch, and the other two led the bride; a spindle and distaff being carried with her: she brought three pieces of money called asses, in her hand to the bridegroom, whose doors on this occasion were adorned with flowers and branches of trees: being here interrogated who she was, she was to answer *Caia*, in memory of Caia Cecilia wife of Tarquin the Elder, who was an excellent *lanifica* or spinstress; for the like reason, before her entrance, she lined the door-posts with wool, and smeared them with grease. Fire and water being set on the threshold, she touched both; but starting back from the door refused to enter, till at length she passed the threshold, being careful to step over without touching it: here the keys were given her, a nuptial supper was prepared for her, and minstrels to divert her; she was seated on the figure of a priapus, and here the attendant boys resigned her to the *pronubæ*, who brought her into the nuptial chamber and put her to bed. This office was to be performed by matrons who had only been once married, to denote that the marriage was to be for perpetuity.

BRIDEGROOM, a man newly married, the spouse of the bride.

The Spartan bridegrooms committed a kind of rape upon their brides. For matters being agreed on between them two, the woman that contrived and managed the match, having shaved the bride's hair close to her skin, dressed her up in man's clothes, and left her upon a mattress: this done, in came the bridegroom, in his usual dress, having supped as ordinary, and stealing as privately as he could to the room where the bride lay, and untying her virgin girdle, took her to his embraces; and having staid a short time with her, returned to his companions, with whom he continued to spend his life, remaining with them by night as well as by day, unless he stole a short visit to his bride, which could not be done without a great deal of circumspection, and fear of being discovered. Among the Romans, the bridegroom was decked to receive his bride; his hair was combed and cut in a particular form; he had a coronet or chaplet on his head, and was dressed in a white garment.

By the ancient canons, the bridegroom was to forbear the enjoyment of his bride the first night, in honour of the nuptial benediction given by the priest on that day*. In Scotland, and perhaps also some parts of England, a custom called *marchet*, obtained; by which the lord of the manor was entitled to the first night's habitation with his tenant's bride †.

Bridegroom || Bridge.

* *Johns. Eccl. Law*, an. 1740. § 88.

† See *Marchet*.

BRIDEWELL, a work-house, or place of correction for vagrants, strumpets, and other disorderly persons. These are made to work, being maintained with clothing and diet; and when it seems good to their governors, they are sent by passes into their native countries; however, while they remain here, they are not only made to work, but, according to their crimes, receive once a fortnight such a number of stripes as the governor commands.

BRIDEWELL, near Fleet-street, is a foundation of a mixt and singular nature, partaking of the hospital, the prison, and work-house; it was founded in 1553, by Edward VI. who gave the place where King John had formerly kept his court, and which had been repaired by Henry VIII. to the city of London, with 700 merks of land, bedding, and other furniture. Several youths are sent to the hospital as apprentices to manufacturers, who reside there; they are clothed in blue doublets and breeches, with white hats. Having faithfully served their time of seven years, they have their freedom, and a donation of 10l. each, for carrying on their respective trades.

BRIDGE. A bridge is a mode of conveyance from one part of space to another, the intermediate part being either impassable, or difficult, or otherwise of an inconvenient access. The strength must be in proportion to the weight which is to be supported; the extent or width of the passage being likewise taken into consideration. This passage may be of a considerable distance, and the weight to be supported inconsiderable; for example a spider is the greatest weight to be supported; and she can spin as much matter from her bowels as will answer her purpose, and can find supports upon which she can make the extremities of her bridge to rest. But not to take up time to mention the ingenuity (or under whatever name it may be designed) of insects, birds, or quadrupeds, who discover admirable instances of art suitable to their nature, and uses fitted for their situation, our chief intention is to investigate the different exertions of the rational part of the creation, and their manner of accommodating themselves to answer their necessary exigencies, particularly at present confining ourselves to the formation of bridges of different kinds. The most simple part of these, we cannot doubt, were in use from the beginning of time. When any passage exceeded the step or stretch of a man's legs, we cannot imagine, but his natural invention would lead him to apply a stone, if of sufficient length to answer his purpose; but if not, a piece of wood, or trunk of a tree, would be employed in the same way to render the passage more easy for himself.

History does not inform us that this useful art was carried to any great extent, in the ages of the antediluvians; but we can scarcely imagine but they were acquainted with it, so far as we have mentioned, and even to a greater degree. Can we suppose that such geniuses as discovered the method of founding and working in iron and brass, and the formation and use of musical instruments, would be wanting in discovering methods so intimately connected with their own

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Bridge. own advantage? We have no accounts handed down to us, that they occupied houses composed of different apartments, and of different stories or flats; yet we find the infinitely wise and merciful Governor of the universe, when admonishing Noah respecting the building of an ark for his safety, speak to him of different rooms and stories, of which it was to consist, in terms with which Noah was well acquainted. As the Almighty always accommodates himself to the capacities of his creatures, if Noah had not been acquainted with these terms, can we doubt that the Almighty would not have furnished his favourite servant with a perspective view of these rooms and stories as he did to Moses, when giving him instructions to raise and construct a fabric of which he formerly never had obtained a view? But this amounts to no more than that it might be, and therefore we will not dwell upon it.

Of what took place after the flood, we have no remains of antiquity, for many years, of this art being cultivated to any extent; although it is surprising, that upon viewing the beautiful and superb dome of the heavens, and the variegated arch that at times made its appearance, that an imitation of neither of these was not earlier attempted. Among the eastern nations, and after them the Egyptians, who have left us so many monuments of grandeur and art, very little of the arch is to be found in any degree of elegance. In some of the late researches into their antiquities, a zodiac painted in lively colours, and some vaultings cut in a rock, have been discovered; but what is formed of different stones is but of a rude composure; yet being of the more early period, we cannot but conclude, that they gave the idea to the Greeks, who improved it in a more elegant style.

It is probable that the Chinese, even at an earlier period, arrived at a degree of perfection and elegance in this art, which neither the Greeks nor the Romans ever reached. We, who boast, and not without some reason, of the elegance and extent to which we have carried it, have not outdone them. We find that they have constructed a bridge of one arch, the span 400 cubits, in the ordinary computation 600 feet, from one mountain to another; the height of this arch is likewise given of 500 cubits or 750 feet. It is universally allowed, that if Noah was not the founder of that monarchy, it was some of his grand-children, at a very early period; their form of government resembles the patriarchal, which is in favour of Noah's being their founder, and that they cultivate these arts, of which he instructed them in the rudiments: but this is not a place for discussion of this subject.

But to return to the Greeks and Romans, of whose history we know more than we do of the other: Although we have admitted the Egyptians to have struck out the plan, yet, in point of elegance, in combining the parts of the arch, we will not deny the Greeks to have the first share. On account of an effigy, having Janus upon the one side, and a bridge on the opposite, some have ascribed the honour of the art to him; he might indeed, on account of his improvements of the art, shewn himself deserving of having, along with his effigy, the distinguished art he had excelled in, engraved on the metal, as a memorial of his merit. Whether the bridge improved by Janus were over land or water we are not informed; but certain it is, that necessity, which is the mother of invention, could not fail to form schemes for conveyance over water. We find boats, or some species of ships, used at a pretty early period; and we are surprised not to find them more early than we have account of. A boat or ship is an inverted arch turned down into the water. Of a bridge of this kind, we find Darius avail himself in passing the Hellespont, or the Bosphorus, for we find different historians of different opinions which of them he passed, and the word Propontis answers to either; although we rather agree with those that make the passage at the Dardanelles, or in that strait. This mode of passage is still in use, and found very convenient; but we can scarcely suppose that Darius, and his officers, and court, never heard of a bridge before that idea struck them, in the execution of which they so happily succeeded. It is highly probable that they were acquainted with, and had formed bridges in their own country, and that want of materials to make a solid wall, induced them and others to construct arches, for the purpose of aqueducts, of which there is so much occasion in Persia, on account of the scarcity of water; and as they knew not the mode of conveying their water in pipes. Bridge.

Among the Romans we find arches of different kinds, and particularly triumphal arches, although these were not always formed of lasting materials; but their aqueducts were, of which the remains of several are found in France, Spain, and others of their ancient territories. Cæsar formed a bridge over the Rhine, Trajan over the Danube; with many others, the particular mention of which would not much amuse our readers: at the same time we hope it will not be disagreeable to give a short account of Trajan's bridge, in the words of Dion Cassius. "Trajan built a bridge over the Danube, which in truth one cannot sufficiently admire; for though all the works of Trajan are very magnificent, yet this far exceeds all the others. The piers were 20 in number, of square stone; each of them 150 feet high above the foundation, 60 feet in breadth, and distant from one another 170 feet. Though the expence of this work must have been exceeding great, yet it becomes more extraordinary by the river's being very rapid, and its bottom of a soft nature; where the bridge was built was the narrowest part of the river thereabout, for in other parts of the river it was double or treble this breadth; and although on this account it became so much the deeper, and more rapid, yet no other place was so suitable for this undertaking. The arches were afterwards broken down by Adrian; but the piers are still remaining, which seems as it were to testify, that there is nothing which human ingenuity is not able to effect." From this account, the whole length of this bridge is 4770 feet, that is 500 feet less than an English mile. The architect of this great work is said to be Apollodorus of Damascus, who, it is likewise said, left a description of the work; but how much it is to be regretted that it is nowhere found on record!

Among the moderns, the French and German engineers, and perhaps the Italians, ought not to be neglected. Of those who have written on the subject, we

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Bridge. we may name Belidor, of whom it is said, that he had the best information, from his acquaintance and knowledge of the chief works of France and Germany, as well as from his experience as an engineer. His directions as to an arch or bridge are shortly thus; that the piers ought to be one-fifth part of the opening, and not less than one-sixth; that the arch stones ought to be one thirty-fourth part of the opening: In general, that the pier ought to be of that strength, that it will support its arch as an abutment, which by practice he finds one-fifth part of the opening to be sufficient; but gives as a rule, one-sixth part, and two feet more: that is, an arch of 36 feet, one-sixth is 6+2=8, the thickness of the pier. And where the arch is 72 or more, he deduces three inches for every six feet above 48; therefore the pier of 72 would be 14, that is two feet more than the one sixth-part; but with the above allowance the pier is only 13; when the width is 96 or above, he allows the one sixth part of the opening as quite sufficient: this he seems only to deduce from observation, without adducing a reason; now why a wide arch should be supported by more slender piers, in proportion, does not appear quite consistent with his principles; that the pier must be of such strength as to serve for an abutment to the arch thrown upon it, independent of the other arches, which when thrown, are allowed to be a counterpoise to the pressure. Although we do not see why it is applicable to his principles, we will afterwards have occasion to show, that it tends to corroborate the principles we mean to advance.

We find another experienced engineer, Mr Gautier, who only differs from Belidor, in so far as we observe, as to the length of the arch-stones. Gautier directs, that if the arch is 24 feet, the arch-stone ought to be 2 feet; if 45, 3 feet; if 60, 4 feet; if 75, 5 feet; if 96, 6 feet; if the stone is of a durable nature: if soft, of greater dimensions. Belidor gives the general rule, one twenty-fourth part of the opening: this must certainly be considered under some limitation; for, if the arch is only 12 feet, the arch-stone would be only six inches, which, we think, will be thought too slight; and arches over doors and windows would not be three inches; but although he mentions no limitation, we suppose, if a 24 feet arch is allowed 2 feet of an arch-stone, the rule may with safety be followed; and that a six-foot stone, of a durable nature, may be an arch-stone, although the span was 150 or 200 feet.

Under whatever names later engineers have acted, we find Belidor has in general been followed; both by Mr Mylne and others. Peter of Colechurch, a priest, architect of London bridge, has given his pier a much greater strength, being more than half the opening; the piers being from 25 to 34 feet, 18 in number; the width of the river only 900 feet, over which this bridge extends.

An ample reparation is made for these inconveniences in Westminster bridge; the piers more slender, a more easy passage for the water, the piers being only 17 feet. The breadth of the river 1223 feet. The arches are all semicircular, and spring from about two feet above low-water mark; they consist of 13 large arches and two smaller; the middle arch is 76 feet span, and the other arches decrease on each side by four feet. The passage for carriages is not of an easy ascent, having 30 feet of rise in 611.5 feet; it is supplied with plainstones for foot passengers on each side; the ledges adorned with balustrades, and semi-octagonal towers, which form the recesses of the foot-way; the whole width is 44 feet. The whole is allowed to be elegant and well executed. Bridge.

We now take a view of Blackfriars bridge (fig. 12. Plate CXXX.), which presents us with something novel, is agreeable to the eye, and no precaution is neglected that could contribute to its strength, or give addition to its elegance. Its arches are of the elliptic form, at least nearly so. Upon examination of the figure of which we are possessed, the middle arch is a span of 100 feet, the flat part of the arch is described with a radius of about 57 feet; and the lesser circles on each side 35½ or 36 nearly; this small arch is continued below its diameter, till its chord become 16 feet nearly, and its versed sine 5 feet, which gives it the degree of novelty alluded to; and which is far from being disagreeable to the eye. The shoulders are compactly filled with ruble-work; the bed of each row tending to the centre of the arch. To the height the arch can be raised without a supporting frame, an inverted semicircle is drawn, the convexity of the arch resting upon this ruble-work, which is formed of Kentish rag, but other hard stone will equally answer the purpose, as this cannot be everywhere procured. This inverted arch answers two material uses; it prevents this ruble being raised by any lateral pressure; and which we think the most material is, that it makes these parts of the arch, which form the greatest lateral pressure, to abut upon one another; of consequence there is little or no lateral pressure upon the pier. But we shall refer our observations upon this as well as the preceding arches, till we have given some account of other bridges; as we wish to make the article conduce to the information of our readers, and at the same time methodical.

The bridge of the greatest extent in England, is that built over the Trent at Burton; its length is 1545 feet, supported by 34 arches.

The most stupendous bridge in Europe, is that built over the Tave in Glamorganshire, consisting only of one arch, the segment of a circle whose diameter is 175 feet; the chord of the segment or span of the arch is 140 feet; the height 35, and abutments 32 feet; the architect of this stupendous arch was William Edward, a country mason; it was executed in the year 1756.

We have likewise an account of the famous bridge the Rialto at Venice, the design of Michael Angelo. On account of its flatness and extent, being 98¼ feet span, it is reckoned a master-piece of art. It was built in the year 1591. Its height is only 23 feet above the water, but we find it now outdone by a country mason in Britain.

The next species of bridge to be noticed is a rushen bridge; this species of bridge is formed of bundles of rushes, which being covered with boards and planks, form a passage over marshy ground. Bridges formed of casks, bottles, or sometimes bullocks bladders blown up, and attached to one another, have been used upon occasions by armies. They have been named *ascogafri*. The materials are carried along with the army in their march, which when joined, form

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Bridge. form a ready passage over rivers, or other obstructions by water; which they term a portable bridge: materials of the above kind being light, and many of them, as barrels, being useful for other purposes. Bridges may be used of them to a very great extent.

Draw-bridges differ only in form and materials, being made of wood, and turning at one end upon hinges, or, when opening in the middle, at both ends, for the purpose of allowing ships to pass up and down a river; in this case the passage over the middle arch is formed by a draw-bridge; the manner of raising them being so universally known, it would be superfluous to describe.

A Flying-bridge, is a bridge formed of one or more boats joined together, and covered with planks in the manner of flooring, surrounded with a rail or balustrade; according to its breadth it has one or more masts to support a rope at a proper height; one end turns round a windlass, the other end of the rope is fastened to an anchor in the middle of the water; the rope is kept from sinking in the water, by resting on small boats at proper distances, that float and support the rope. The bridge is then wrought by one or more rudders, from side to side of the river; the rope is lengthened or shortened by the windlass, according to the breadth of the river. Some of these bridges are formed with an upper and lower deck, for conveying cavalry and infantry at the same time, or a greater number of infantry; it being well understood by military gentlemen, that the greater number that can be conveyed over at once, they can the sooner form into defensible corps, and support one another till their strength is so augmented that they can act on the offensive.

In Plate CXXIX. we have represented a flying bridge of this kind. Fig. 1. is the perspective view of the course of a river and its banks; *a*, *b*, *c*, *d*, two long boats, or batteaux, which support the bridge; GH, KL, two masts joined at their tops by two transverse beams, and a central arch supported in a vertical position, by two pairs of shrouds, and two chains LN, HR. M, a horse, or cross-piece, upon which the cable MF *e f* rests; the use of this cable is to re-act upon the working of the rudders, and prevent the bridge from being carried down by the current of the water. E is the windlass formerly mentioned; *a*, *b*, the rudders. AB, CD, two portions of bridges of boats, fastened to the banks on each side of the river, and between which the bridge traverses. *e*, *f*, Chains supported by small floats, sometimes five or six of them placed at proper distances; the number to be used will be regulated according to the length of the cable; one of them is placed at the anchor, so as the cable may swing above the surface of the water as near as the depth of the river will permit.

Fig. 2. is a plan of the same bridge; *a*, *b*, *c*, *d*, the two boats that support it. K, G, the two masts. KFG, the transverse piece, over which the cable passes; E, the windlass about which the cable is wound; *a*, *b*, the rudders; *o*, a boat; *c*, one of the floaters that support the chain; N, N, pumps for extracting the water out of the boat; P, P, capstans.

Fig. 3. A lateral elevation of the bridge, A, *c*, one of the boats; *b*, the rudder; E, the windlass; M, the horse; GH, one of the masts; E, N, H, F, the cable. In this view the balustrade along the side of the bridge is in full view. Bridge

Fig. 4. is an elevation of the hinder part of the bridge or stern. *a*, *b*, The two boats; GH, KL, the two masts; HL, the upper transverse beam; *p*, *q*, the lower transverse beam, over which the cable passes, and occasionally slides from the one mast to the other; and must on that account be kept well greased; *p k*, *g g*, shrouds extending from the sides of the bridge to the top of the masts; M, the cross-piece, over which the cable passes to the windlass.

Besides these temporary bridges of boats already mentioned, there are permanent bridges formed of boats, as at Rouen, Beaucaire, and Seville. Those of Rouen and Seville are the most noted; that at Rouen was constructed to supply the stone bridge built by the Romans, said to have been a stately fabric. The boats are very firm, well moored with strong chains, and kept in proper repair. It is almost 300 yards in length, paved with stones as a street. A bridge of boats has the advantage of other bridges, if well moored, for as the water rises, whether by rains or tides, they keep afloat. This bridge is represented by some as a wonder of the present age; others say, it is far surpassed by that of Seville; but when we reflect upon that constructed by Darius over the straits of the Dardanelles; and on that by Cæsar over the Rhine, we cannot view either of them with so much surprise.

We find some of a different construction, called floating bridges; which we think should rather be stiled sliding bridges; they are so constructed that the one lies above the other, when not in use. When intended to be used, by drawing of ropes turned over pulleys, the upper one moves forward, till it passes over the other, when they are joined in one, and form the intended passage. It will readily occur to our readers, that these must be much limited as to their length, both on account of their weight, and the strength of the rope that would be necessary, both to push them over, and return them to their place; they can only be of use in passing a moat, in besieged places, or such as are of inconvenient access and little frequented.

We cannot omit taking notice of some natural bridges, in particular two very remarkable ones; the one in Virginia, described by Mr Jefferson in his State of Virginia. It commences at the ascent of a hill, which seems to have been cloven asunder, by some convulsion of nature; the fissure at the bridge is by some measurements said to be 270 feet; by others only 205; width at bottom 45 feet, at top 90, which gives the length of the bridge; the thickness at the summit of the arch is 40 feet: considerable part is of earth, upon which grow many large trees; the residue is of the same materials with the hill on both sides, which is a solid limestone rock, and forms the arch, which is of a semi-elliptical form, very flat; the height of this arch above the water (the whole being 205 and 40 the thickness) is 165 feet; the breadth at the middle is about 60 feet. It has no ledges, but what is formed on some parts by the rock, but even at these few can stand upon their feet to look down; but go on hands and feet to peep over. On the contrary the view from below is most delightful, and enchanting. The fissure continuing narrow, and straight, both above and below; and of such height that

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Bridge. that it exhibits a prospect, for about five miles; gives a short but very pleasing view of Blue ridge on the one side, and North mountain on the other; the stream that passes below it is called Cedar creek, and falls into James river. The bridge is in the county of Rockbridge, to which it has given the name. We have no account of the time when it was produced. It has, however, formed a passage between two mountains otherwise impassable but at a great distance from it.

The other is in the province of Angaraez in S. America, described by Don Ulloa. It is from 16 to 22 feet wide; 111 feet deep, of breadth one and one-third of a mile, and is not sensibly greater at top than at bottom. Don Ulloa thinks it has been effected by the wearing of the water, which runs below it; if, so it would have worn down plain and smooth; or most to that side, on its descent, where the rock was of softer materials; but he informs us that the cavities on the one side, where equally hard, so tally with protuberances of the other, that if they met they would fit in all their indentures, so as to leave no space void; from which we are rather inclined to conclude, that it has been formed by some violent convulsion of nature.

In comparing the two, although we find in the bridge in Virginia, the same quality of rock on both sides, and with the bridge itself, we do not find the protuberances on the one side answering to cavities on the other: if any such have been, the protuberances must have been effaced by time.

Before we proceed to make observations on the different forms already described, and the principles of their construction; we will lay down a theory founded upon approved philosophical principles; and we will endeavour to simplify our expression, so as to be understood by the mechanic, and, we hope, not despised by the philosopher.

The bridges we have described, are formed of arches of different curves; those of the circle and ellipse are the most prevalent. These are formed of certain materials, so joined together, as to retain the curvilineal form of the original curve from which it is taken, whether circle, ellipse, or other curve; and as it is only a part of the curve, and composed of different materials, the extremities of the arch must have some sufficient support to retain the materials in the form of the intended curve. Although authors that have treated upon this subject, have not agreed upon fixed principles to ascertain the strength of these abutments or supports; yet all agree, that they must be sufficient to sustain the impressing force.

It is an universal principle in nature, that all bodies, on or near the surface of the earth, tend by the laws of gravity towards its centre, unless prevented by some force, that has the power to resist them, or change their direction. If we attend particularly to one body, having all its parts tending equally to the centre of the earth, and supported in that position, it will retain its position. If we suppose another body to press upon it, so as to change that position it has on its support or force away its support, in whole, or in such part, that a greater part of the body has a tendency to the centre, more than it has to its support; it will fall toward the earth in a direction to its centre.

Let A, B, fig. 5. Plate CXXIX. be two supports, suppose one foot square, of height 5 feet, or any other height less or more, standing perpendicular; and let a piece of the same dimensions, wood or stone, of three feet in length, be placed across in equilibrium; the perpendicular support is not pressed by this weight, but in the perpendicular direction; if a second piece of five feet is laid upon the other, in the same way, projecting two feet over on each side, they will still remain in equilibrio, and so on till the two bodies upon the two uprights meet one another, as in the figure, the planks or logs DD meet in E, without affecting the supports, except in the perpendicular direction; the equilibrium being preserved, no force imposed will make the supports give way, that will not separate the particles of matter, or break its contexture; neither will any weight push it over, that is not greater than the perpendicular pressure: for action and reaction are equal, acting in contrary directions. The force, then, that it will support before it yield, to press upon its support, is equal to the number of square feet that rests on the surface, and turns upon the angular point F. Now suppose this operation continued the whole length of the bridge, and the whole level blocks in contact with one another, received by the abutments, or landstools, the bridge will support any weight that the strength of these blocks could sustain, and the abutments react upon; this would be a bridge formed of the Egyptian arches, not very elegant, but of great strength, as each block is supported at one foot distance; and the upper ones in contact with one another, only react by their own strength, at one foot distance without support; and by the reaction of the land abutments, cannot yield to give any lateral pressure upon the pier. Bridge.

Let us now suppose a semicircle or any other arch described, the superfluous matter is carried off, and the arch remains in strength and beauty. Now instead of balancing the blocks by counterpoise on each side of the support, let this be taken off, and applied as weights above the pier, being equal in weight to those that form the arch, the equilibrium is still preserved, without any lateral pressure. This may be illustrated by a very simple experiment. Let A, B, C, D, fig. 6. be four blocks; the first A, a square, which represents the base; the second B, a pentagon, inscribed in a circle of the same radius about which the square is described, placed with one of its angles to the perpendicular edge of the square, a perpendicular or plumb falls within the base, it is therefore firmly supported; let the hexagon C, be placed upon one of the sides of the pentagon, the two angles likewise coinciding; in this the perpendicular falls over the base, it will therefore be no longer firmly supported, but will fall, and if attached to the pentagon, would carry a part of it along with it, except prevented by friction and consistency of the texture of the materials. In this situation let it be retained, till a pentagon is placed on the opposite side of the hexagon; the plumb-line or perpendicular, as it now stands, falls within the base, and will be again supported so as to carry an additional block raised upon it, or require a considerable force to pull it over to that side, to which the hexagon was inclined to fall. The conclusion we would draw from the above, is that if the column or pier is of such dimensions at top, where the spring of the arch rises, that a weight of such materials as the arch is composed of can be raised, not exceeding the height of the vertex or crown of the arch, as will counterpoise that part of the arch, that produces the lateral pressure; then a

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Bridge. pier of such dimension is of sufficient strength to support such an arch, till the other arches are thrown, and the whole made to abut upon columns that will counterpoise the whole with any incumbent weight proposed.

The manner we would recommend to apply the arches to their pier, and to one another is, that they abut upon one another, as in fig. 7, 8, and 9. In fig. 10, Plate CXXX. we take a semicircular arch of 75 feet span; our arch-stone we think of a sufficient strength at three feet length; our pier six feet, equal to the two arch stones. As every arch can be raised to a certain height, without the support of the centre arch; allowed, to the 30th degree or one-third of the distance to the crown of the arch. We have divided the quadrant or half of the arch into 83 equal parts; and where more than half of the arch-stone falls over the perpendicular, we consider as the height, not to be exceeded without support: the weight of matter upon the pier to this height, we compare with the weight of matter from that contained in the arch-stones; or, rather, what breadth of pier will contain a quantity of matter that will counterpoise the weight of the arch-stones, of an arch of given span, and length of arch-stones to the crown of the arch.

In investigations of this kind, we find recourse is had to trigonometrical calculations, and to algebraic and fluxionary equations. Foreign writers, as Belidor, give us rules, collected from such constructions as suited their taste; and most of the algebraic and fluxionary equations that we have investigated, take their data from some bridge, the construction of which pleases them, and bring their result agreeable thereto; and with some degree of confidence tell us that they are right, as it has agreed to the construction of so able an engineer. If we allow ourselves to follow this method, we can never expect to make improvements.

A late writer (Atwood) has treated learnedly, and we think judiciously, upon this subject; he considers each of the arch-stones, as a wedge abutting upon one another, and the whole upon the landstool, or upon the pier of the particular arch, and is resisted by a force or pressure, with a force which he expresses by a line placed at right angles to an arch-stone, at that part of the arch which would begin to rest upon the centre arch, which here he calls BS, but says, that the length of the line or the point S is not determined: this, we hope, will be found to be determined in the result of our theory.

We hope our readers will excuse us in departing from the method of investigation formerly mentioned; and, in following that plain geometrical method, which every mechanic is able to understand, and judge of; and which, at the same time, we flatter ourselves the learned will not find cause to challenge.

The thickness of our pier we have taken is, A *b*, fig. 10. six feet; each division of our arch is equal to two feet on the outside, and tending to the centre of the circle as a wedge: the inside measures 1.8 feet; the mean is 1.9×3; the length of the stone is 5.7 feet of surface; we suppose it taken three feet into the arch, equal 17.1 solid feet, in each of our divisions; the scale half an inch to 10 feet. The solid measure, on the whole, is easily found; the 30° is at *a*, but the arch will rise without the support of the centre arch to *c*. Now, the number of divisions from *a*, to the centre of the arch, is 22.2; 17.1 solid feet each, is 374.75 solid feet; our pier of six feet contains to the height *a*, the surface A *b d a*; at a mean, taken as in the table, *a* is 72.75, being each two feet, is 145.5 superficial feet, × 3, the assumed depth is 436.5 solid feet, being fully in equilibrium with the arch-stones; but, as the arch will rise to *c*, there is an additional weight of 229.5 solid feet, which will be allowed more than a counterpoise to the pressure of the arch, without any aid from the pier, which has only the perpendicular pressure to support. The counterpoise is, therefore, by this ascertained, which will support this arch till the other arches are raised; which, as they all abut upon one another, the landstool must be made of such strength as to counterpoise the whole; which is ascertained upon the same principles, and leaves no stress upon the piers but the perpendicular pressure alone. This pier is scarce one-twelfth part of the opening, by which, the river having so free a passage, will affect the bridge by pressure but very little: but this will fall in our way to consider afterwards. Fig. 7. is a perspective view of one arch of a bridge, on this construction, with part of an adjoining arch on each side.

When the situation of the river, or other circumstances, or when a segment of a circle is made choice of for the ease of the passage, or economy in the use of materials and mason work; or the base of the arch, or surface of the pier, will not admit of mason work to bear upon the spring of the arch, of such weight as to produce a sufficient counterpoise to the arch-stones that produce the lateral pressure, the pier must be made of greater breadth, as, if much flatter than fig. 8. the pier, in that case, ought to have been of the breadth as represented by the dotted line *ab*, *ab*; but this is ascertained in projecting the plan. Fig. 8. is a perspective view of one arch, with its adjoining arch, and part of the abutment on the land side, which will be considered afterwards. At the same time, as the fall of an arch is attended with very great loss, both in money, time, and loss of materials; which might prove hurtful to many ingenious undertakers of such works; by way of precaution, if they shall doubt that the slenderness of our pier will support the arch till the others are thrown, for none can doubt them afterwards, beams may be made to abut upon one another, and upon each pier, as in fig. 8: this is no loss of time or materials, as it will supply, in part, the supports of the centre arches, upon which the arch of the bridge is raised; and it is a precaution used, upon a smaller scale, when in front-walls of houses; the whole is often supported upon arcades of shop-doors and windows, many of their piers not exceeding nine or ten inches: a cross-bar or piece of wood is laid across, to prevent their yielding or losing the perpendicular, till the whole is completed. Now, the pressure upon the arch is not so great as most writers have assigned to it; that is, the whole incumbent weight of all the materials above it, together with that of passage. The art of masonry is such, that the beds or rows of stones so bind, one with another, that each makes a pressure on its contiguous part, so as to form an arch of themselves. We see in well-built walls a vast excavation made

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Bridge. made in the lower part, or in the middle of the wall, and the upper part of the building not affected. In like manner, the arches being all raised to the height that they can be, without support of the centre arch, they are completed and filled up to the level of the keystone, but not higher. The arch is properly secured, if the principles of equilibration, in filling up, are properly attended to; but if one side is overloaded either in filling up, or in building, it must twist the arch, and if not instantly to break it, must tend to an uncertainty as to its durability. For although some have concluded, they say, from a result of their calculation, that the mathematical theory of equilibrated arches is of little value to the engineer; we do not hesitate to assert, that, if preserving the equilibrium, both in raising the arch, and filling up the haunches, is not attended to, we would not assert it to be in favour of its durability; and we know of no principles in philosophy that will support the opinion, that these can be neglected with propriety; neither do we think such a practice will be readily adopted by a skilful engineer.

Among the various writers upon bridges, some prefer the circular arch, both for strength and elegance. Others contend, that it is exceeded in both by the elliptic arch. Others will give the preference to the catenarian arch; and we are told, that the excellency lies on the side of the parabolic curve. We do not think it incumbent on us to combat each of these, neither do we think our readers would thank us for so doing. It may, however, be expected that we should not pass them entirely unnoticed. In the first place, then, we are of opinion, that the arch that bears most equably throughout the whole, one part upon another, has the best claim to strength. Our reason is, which we illustrate thus, let AB, AC, be placed as in fig. 11. Suppose a weight placed upon them in such manner as to press equally upon the point A, the two bodies AB, AC, will in that point support the greatest weight: if the same weight is laid in the middle, between A and C, or A and B, they will each yield to the pressure; for the weight is not equally divided between them. But if these bodies are so placed, that in every position on which a weight can be applied to them, that the weight being equally supported by both, this being the case with the circle (fig. 7.) inclines us to give it the preference as to strength. As to elegance, we know, that regularity is a qualification that suits every taste: and here the circle cannot be outvied. It is not, however, without its disadvantages; with regard to expediency, the semicircular arch is sometimes too high for the situation of some bridges. In this case, the elliptic arch (fig. 9.), formed upon the greater axis, offers itself in point of expediency, and refuses to yield in point of elegance. It is bold enough to assert, that if strength of materials forms its composition, and be properly abutted, it will not yield, in point of strength, in any exigence to which it may be opposed. In point of economy, it claims a preference to the semicircular arch; for our part, we are inclined to own the reasonableness of its claim, and to give it the preference to the segment of a circle (fig. 8.), which might perhaps be preferred in point of expediency, as it can be rendered as flat as the ellipse; but its flatness we rather consider as a disadvantage, as in the rise of the water, it is apt to choke its course and overturn it; whereas, the ellipse being nearly formed of two segments of circles of different radii, the smaller arches at its extremity rise more in the perpendicular, and give more scope to the current of the water; and likewise, it does not require a stronger pier than a semicircle of the same diameter. The segment, on the other hand, if flat, requires a stronger pier, and therefore tends more to choke the current of the river, which ought always to be avoided when it can be done. Bridge.

In the catenarian arch, as every one will observe, when a chain or rope is fixed at each end, and allowed to fall down in the middle, the curvature is not equal throughout; and we therefore cannot think it entitled to equal claim with the circle or ellipse. The same objection may, with equal propriety, be made to the parabola. This curve, near its vertex, has nearly the property of a circle; but every one who knows a parabola, is convinced how much it deviates from it afterwards; although everywhere it retains the property of its own curve.

We now take a review of the different bridges we have mentioned, and make some observations upon them. In general, we remark, that all the writers upon this art have formed the abutments of each particular arch, to be placed in the pier below the spring of the arch; on which account many have constructed their piers of greater strength than necessary. The first we mentioned, was that by the Roman emperor Trajan, over the Danube: the arches being broken down by the emperor to impede the passage of his invaders, we cannot, with certainty, compute the lateral pressure upon the piers; but their height being 150 feet from the foundation, must have considerable strength to react upon an arch of 170 feet span; which would act upon this column as upon a lever of 150 feet length. We find this pier is 60 feet of thickness, more than one-third of the opening; one-fifth would have been 34 feet: we cannot think this architect has acted without principles; but it is unnecessary for us to conjecture what those were. If we had been informed of the figure of the arch, we might have come near; it probably was a semicircle, and if so, perhaps 20 feet thick of pier, even at that height, might have been of sufficient strength.

The next we have mentioned, are those formed upon the principles, or rather by the rules, given by Belidor; for, although he has not condescended to lay down his principles, it does not appear that he has proceeded without principles. Upon investigating what must be the breadth of a pier that will form an abutment to an arch of 75 feet span, we have formerly stated that this arch can be raised to *c* (fig. 10.), without applying the centre arch: from the centre of this arch-stone we raised a perpendicular *p e*, and from the lower part of the arch-stone drew the line *f g* parallel to it: this line *f g* we supposed to cut the centre of the pier in *g*. Suppose him to have allowed a part of the pier equal to the length of his arch-stone, which we have in this figure taken three feet, one twenty-fourth of the opening nearly, viz. *h h*, A *k*, for the perpendicular support of the arch-stones to *c*. We find *h g* measures five and a half feet, we therefore extend *h g* to *l*, which is 11 feet, and A *l* 14 feet for the breadth

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Bridge.

of the pier: in place of taking the whole width of the bridge, we take only three feet as formerly. The number of equal divisions from *c* to the vertex or middle of the keystone, is $20\frac{1}{2}$: each of the equal divisions at three breadth contains 17.1 solid feet, as by our former measure, which multiplied by $20\frac{1}{2}$ is 350.55 solid feet. The pier, 14 feet breadth by six in height, viz. the height he supposes his pier, and three deep, is 252 solid feet: the solid building *c f g m* being supported in the perpendicular, he considers as a part of his abutment, of which *f g* measures 26 feet, by *c f* 3, and by 3 in depth, is 234+252=486 solid feet, to counterpoise 350.55 solid feet, which he considers more than sufficient. Suppose then the pier is 13 feet, at the above height it contains 234 feet + 234 as before =468 feet, which to account for accidents, and from his practice and observation gives his rule, which we suppose is fully accounted for. If the height of the pier is more than six feet, he would add to the breadth of his pier in proportion, which he does not take notice of, but asserts, that when the span is above 80, that one-sixth of the opening is sufficient in strength to resist every exigence; but if the arch is a segment, the same rule we have given will find the breadth of the pier, but would give it more than 14 feet. Belidor confines his rule to the semicircular arches. We have already mentioned what we think a proper limitation to his rule for taking the 24th part of the arch for the length of his arch-stone.

London bridge was executed in stone, under the direction of Peter of Colechurch, a priest; it was 33 years in building, being begun by King Henry in 1176, and finished by King John in 1209. The piers are 18 in number, from 25 to 34 feet thick. In what manner this priest executed so great an undertaking at that time, and in these days of ignorance, we are not informed; he has, however, given it superabundant strength of pier, and choked up the course of the river from 900 feet to 194: but as this objection is about to be removed, we need say no more about it.

Westminster bridge is generally allowed to be an elegant and noble fabric. The height of the pier is only eight feet from the bed of the river; the thickness, for a sufficient counterpoise to the arch, could not exceed 14 feet: the architect, Mr Labley, has given it 17: his arches are semicircular, the middle 76 feet span; his ascent one-twentieth part of the half width of the river, which is here 1223 feet, one-half is 621.15, the rise $30\frac{1}{4}$ feet in that extent.

The next we notice is Blackfriars (fig. 12). executed by Mr Mylne, whose ingenuity and ability as an engineer are universally acknowledged. The middle arch is a span of 100 feet, of the elliptic form; by which, with other advantages, the passage is rendered more commodious, the ascent being more easy; the quickness of the rise of the arches of the small circles, with the flatness of the large circle, are particularly well adapted to give a more easy passage to the river, rising either from a tide or other accidental causes, renders the choice of the elliptic arch here very judicious: we are likewise much pleased with the ingenuity of the inverted arch; it effectually prevents any rising of the ruble work that fills the interstices between the arches, by any pressure whatever; as it abuts upon the arch-stones at E, it presses their joints upon one another, in a more effectual manner than perhaps could be accomplished by any other method; but the effect produced by it, and in which we think its excellency mostly consists, is, that it makes the arches, at that point, where they produce the greatest lateral pressure, to abut upon one another, and thus take off the lateral pressure from the pier. It does not a little surprise us, that Mr Mylne did not avail himself of this, by which his pier would have been at least one-half thinner: in place of this, he has made it at the extremity of the greater axis, A *a*, B *b*, 19 feet, and increased it in a circular form to 22 feet; experience having proved, that when the resisting force is placed in the pier, one-fifth of the opening is more than sufficient for the resisting force; why he, after taking off the resisting force, should contract the course of the river from 100 feet to 70, when 19 feet, as has been shewn, by many experiments in practice, was more than sufficient, although he had not taken off this resistance, by making the two arches abut upon one another. The depth of the water, at ordinary tides, is not less than 16 feet, and by the principles of hydrostatics, the pressing force of a solid foot of water, at that depth, is equal to 8500 lb. × 30 the number of feet contracted, is 255,000 lb. or 113.8 tons upon the found of his pier, more than necessary; and which he might have avoided. We hope we shall be excused for these remarks, as a work of this kind is executed for general use, and to point out what might escape the most eminent, and far superior to what we can pretend to. We must likewise point out, under the same apology, and at the same time apologize for our own ignorance, in not understanding the signification of the word *joggle*, as here applied; we understand the Scots phrase *to joggle*, which is loose and infirm in position: when a mason is bedding a stone, if it is too heavy for trial by his arms, he stands upon it with his feet; if he do not find it firm, he says it is not firm, it joggles in such a position, and we think the Teutonic favours this Scoticism. Now, how a phrase that signifies infirm, should be used to give firmness, may be owing to our ignorance of that language that gives it such a signification; but this does not at all derogate from the method. It is, beyond doubt, that each stone is so bound with another by it, that they are rendered as one stone; and that one cannot be forced from its place without carrying the whole along with it, or pulling the stone asunder, which no weight that can come upon a bridge would do.

Bridge.

That the above may be the better understood, we have given a drawing of the middle arch, and part of the adjoining arches: AB, fig. 12. is the length of the greater axis of the ellipse, and span of the arch 100 feet; C the centre of the ellipse; *c* the centre of the circle, that describes the flat part of the arch; *f*, *f*, represent the two foci, or in this, the centres of the lesser circles; D, D the inverted arches abutting upon the arch-stones E, E; V the vertex or crown of the arch; F, F the thickness of the pier at the bed of the river; A *a* B *b* the thickness of the pier at the extremity of the greater axis. We have put on the bolting in one of the arches, done with the Kentish rag-stone; the bolts about a cubic foot sunk half-way into each stone; the stones in the pier are bolted with firm oak-

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Bridge. oak, of a solid foot, dovetailed into each stone, which renders the whole pier firm as if one stone.

What has been said on the breadth of piers, renders any observations on the bridge over the Trent at Burton, or the single arch over the Tave in Glamorganshire, unnecessary; the abutments of the last being on land, the method of obtaining their strength will be pointed out when we speak of the abutments of iron bridges, of which there are now several in England.

Vol. x. The first, as described in the Philosophical Magazine, over the Severn near Coalbrookdale in Shropshire, was built by Mr Abraham Darley; the iron work was cast at Coalbrookdale in 1779. It consists of one arch of 100 feet six inches of span; rises to the height of 45 feet; consists of ribs, each cast in two pieces, secured at the crown by a cast iron key-plate; and connected horizontally and vertically, by cast iron braces formed with dovetails and forelocks; the ribs are covered with cast iron plates; the railing is of iron; the weight of the whole is 387$\frac{1}{2}$ tons. The iron work executed by Mess. Wilkison and Darley, iron-masters, of which they have great credit, being the first instance of that material being applied in the bridge way. In 1801 it appeared as perfect as when put up, except what was owing to the failure in the stone abutments, which had occasioned some cracks in some of the small pieces.

The second bridge of this kind was built over the same river at Builtwas, at the expence of the county of Salop, agreeable to a plan under the direction of Mr Telford surveyor of the public works in that county; the iron work was cast at Coalbrookdale in 1795, and 1796: it consists of an arch of 130 feet span; the rise of the arch 27 feet from the spring to the soffit. The situation of the road here rendered it necessary to be kept low; the outside ribs are made to go up as high as the tops of the railing, and are connected with the ribs that bear the covering plates by bars of iron cast with deep flanches close to each other, and form an arch of themselves; so that the bridge is made upon the whole, compact and firm; the weight of the whole is 173 tons 18$\frac{1}{4}$ cwt. Some smaller arches and an aqueduct at Longdon, have been made under Mr Telford's direction in the same county.

The next upon a large scale made of iron, is that over the river Wear at Monk-Wearmouth, in the county of Durham. This bridge, fig. 13. is the segment of a circle, whose radius is 443 or 444 feet; the span of the arch, or length of the bridge, is 236 feet; the height of its vertex above the spring of the arch is 34 feet; and height above the surface of the water 60 feet, so that vessels of considerable burden may pass below it without interruption. The width of the bridge or breadth of the road-way is 32 feet; it is formed of six ribs, placed about five feet distant from one another; each rib consists of 125 blocks of cast iron, five feet in height, and two feet broad at the middle; the lines drawn from this to the centre of curvature determine the length of the block above and below, and a circle described with the radius of curvature gives the convexity of the upper part of the block, and the concavity in the lower, agreeable to the curvature of the whole arch of the bridge; the parts of the block are represented in fig. 14. upon a large scale.

In each of the three longitudinary parts of the block there is a square groove one inch deep, into which is fitted a bar of wrought iron of the same dimensions with the groove, into which it is inserted, marked *b*, *b*, *b*, by which the blocks are joined together to form the rib. These ribs are connected laterally by a hollow bar of cast iron, fig. 15. about four inches diameter, and five feet long, with flanches, through which iron bolts are made to pass it, and the sides of the ribs fixed with screws or forelocks; two of the blocks are joined by the bars of wrought iron, and connected with a bar of another rib by the iron hollow bar, as represented in fig. 16. All the ribs joined together, and connected in the same manner as in fig. 16. complete the arch of the bridge. To support the beams that form the road-way, circular pieces are formed of cast iron, to abut upon one another at their horizontal diameter, the beams that form the road-way resting upon the circular pieces at the vertical diameter, which gives a firmness to these supports, that no weight coming upon the bridge can injure. The beams or planks are then covered with plates of iron, and such materials as are reckoned to be best adapted to form the road, and prevent water passing through to the injury of the bridge; we have therefore no doubt of the strength of the circular supports, and this figure is always pleasing to the eye; but perhaps in point of economy the form of a support we have given in fig. 13. and added a short description, might be sufficiently strong, and we think contains less metal, which will produce a saving. As we have at the end of this paragraph given a description of the parts agreeable to the figure, we only add, that it was constructed under the direction, and chiefly at the expence of Rowland Burdon, Esq. then M. P. for that county; it was cast at the manufactory of Mess. Walker of Rotheram in Yorkshire, and does honour to the projector and iron-masters; it is nearly double the span of that at Builtwas, and more than double the middle arch of Blackfriars Bridge. We have seen what is called a perspective drawing of this bridge, but as it is in many instances faulty, and in some instances ridiculous, we would not wish such a piece to appear in our work; in the back ground drawing, the houses vanish in the direction quite opposite to the point of sight, and the view which is allowed to be from below, the eye is made to see quite through between the arch, and the road-way at both ends of the bridge, although at the height of 60 feet, and distance of 236. Our drawing we describe thus: A, fig. 14. is one of the blocks; *b*, *b*, *b*, are bars of wrought iron sunk into their grooves, B, fig. 15. is the hollow cross bar which joins the ribs in the manner as represented fig. 16. which shews two pieces joined, and bolted by the wrought iron bars, and the bolts represented at 1, 2, 3, and the two ribs joined by B, B, B, in which manner the whole bridge is connected; the front of the ribs in length is represented on fig. 9. by *a*, *a*, *a*, *a*, the other ribs by the different lines, which appear in the perspective; E is an arch through which a road passes, and stretches along behind the three houses by the side of the hill. The blocks placed in a vertical position, in the same manner as in the front of the bridge, are to be considered as curvilineal; but the great extent of the radius could not be conveniently applied, and at that small distance would differ little from a right line when viewed separately. Fig. 17. is the support we proposed in point of

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Bridge.

of economy to supply the place of the circles, the flanches resting and coinciding with the curvature of the arch, and all abutting with one another form a covering arch, by which the blocks perhaps might be thought of sufficient strength, although somewhat less than five feet in height, the upright *g*, of such height along, as the beams of the road-way might rest at the distance of five feet, or thereby, from one another.

Our only doubt of the durability of iron bridges is, that the water being blown in by storms, rests on the flats of the iron, and tends to corrode it and waste its parts; and what will be of the worst consequence, find its way into the joints. Perhaps if between these, thin plates of lead were placed, the two pieces might have their joints closed, by abutting upon the lead, and the same precaution being taken with the wrought iron, where inserted into the grooves of the cast metal, the water would be prevented from entering, or settling in the interstice.

Two other bridges we find described, for both of which patents are obtained, the one by Mr Jordan for a suspended bridge, inrolled in December 1796, the patent obtained, and description January 1797, which exhibits the principle of the invention with its advantages, and a perspective drawing. It consists of two suspending ribs, one on each side of the bridge, which are to extend over the whole breadth of the river: if this distance is thought to be too great for one stretch, it is proposed to raise two other ribs on the opposite side, to meet and abut upon one another; on this account a pier is required, upon which the two abutting ends may rest, and as it bears only the perpendicular presure, it may be so thin, as to make little obstruction to the current of the river. The suspending arch being erected, is to be understood to be of such strength as to bear the bridge suspended to it from the arch; bars descend on each side to which cross beams or bars of iron are fixed on each side of the bridge at proper distances; along these others are extended in a direction across the river, and covered in such a way as to form a passage for carriages and passengers of every description. It has this particular advantage, that it admits of a drawbridge.

The advantages proposed by the patentee are: That the span may be greater by this than by other constructions, and that the distances between the abuttresses and intermediate pier, may be greater than heretofore, or if more piers are requisite, between pier and pier: more particularly, 1. A bridge of this construction requires less time to execute, it not being subject to the interruption of tides. 2. That it is done at less expence. 3. The ascent is easier. 4. They are not so liable to decay. 5. They may be repaired with more certainty and facility, and at less expence. 6. They will not be subject to the accidents which have destroyed others. 7. They may be erected at any extent, in regard to length and width. 8. They can be secured so as to form one entire piece. 9. They can be preserved in their parts from decays of an accidental nature, and assisted in their durability, by the application of different preservatives. 10. And lastly, It is clearly evident on inspection of the figure, that bridges of this construction, whatever their length be, are in no respect subject to the continual accidents which arise to bridges on the common construction, from currents, tides, swells, inundations, &c. &c. Bridge.

In this bridge, there is much ingenuity displayed; and very considerable advantages attached to the use of it; as it is a level, the passage over it is easy; it being well adapted for a draw-bridge where requisite, renders it worthy of attention, and in several situations it might be advisable to adopt it; but at the same time, we are not certain, that so many advantages would accrue from the use of it, as is proposed by the patentee; for instance the suspending arch must be raised by scaffolding as well as other arches; and this scaffolding, we apprehend, must be preserved till the whole of the bridge is finished. On the other hand, if piers are to be raised, they may be slender, having only the perpendicular weight to sustain, and will on that account be little interruption to the course of the river.

The other patent is obtained by Mr John Nash, architect, Dover-street, London, for his invention of an iron bridge, Feb. 7. 1797, on a new and improved construction. What the patentee here proposes, is that in forming the arches and piers for a bridge, in place of arch-stones, that boxes of cast iron, or plate iron, be formed to the size and figure of the arch stone; and that these boxes be cast with a bottom, or that the bottom may be put in before using. The piers are raised by like boxes, the first row of boxes being laid for the found of the bridge, and fixed to the bed of the river by piles driven into the ground; the boxes are then filled with clay, sand, sand mixed with lime, stone of any kind, small or great, brick, with or without lime; being thus filled, another row of boxes is placed, and bedded as if stone; filled up in the same manner till prepared for throwing the arch. The arch-boxes being prepared as already mentioned, are placed in the same manner as arch-stones are placed in an arch; and being filled as before directed, the arch is completed and formed of solid materials cased with iron; and that iron may not abut on iron, he proposes plates of lead laid between each box, and in this manner the bridge is finished, forming one solid mass cased with iron.

In some parts of this, and other countries, the situation is such, that neither stone nor lime can be procured, but at an enormous expence; in such a situation the invention would be meritorious; as a bridge could be erected forming a convenient passage, the boxes being filled with such earthy or stony materials as the place could supply, and if filled with small or round stones, the interstices might be filled with mortar, to render them solid. In some places so situated, that although stone is to be got in quantity and quality sufficient, yet lime cannot easily be procured, the invention might succeed; but we suppose that when both stone and lime can be procured, few would think of casing it with iron, which is less durable than stone, when constantly exposed to the air, in wet and dry. A body of solid iron is very different from a thin plate, exposed on both sides to materials different from itself.

We come now to the description of the greatest undertaking of this kind, that ever graced the British annals, or was accomplished in Europe or the world, that we have accounts of, except in China, as formerly mentioned. The London Bridge, which, though clumsily

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Bridge. clumsily executed, and with no great judgment, has performed its service faithfully for near 600 years; but on account of the advance in trade, and necessary improvements, it must now be superseded by this noble fabric, that will even dazzle the eyes of the enlightened world.

This interesting project has so far engaged the attention of the legislature, that a select committee has been appointed of such members as were no ways concerned in any of the plans brought forward; they have made three valuable reports, that respecting this bridge being contained in the third report, viz. the rebuilding of London bridge, by which colliers, and coasting vessels, and all vessels of light burdens, are to be admitted to pass the new London bridge, and to ship and discharge goods immediately at wharfs, and warehouses, to be constructed along the banks of the river, and opposite to the centre of the city; for which purpose this new bridge is to be formed of cast iron 65 feet high, clear above high water, with inclined planes connecting it with the present streets, and such other improvements as may grow out of this alteration. The bed of the river is to be deepened, so as to admit ships of 200 tons lying afloat at low water; and that no incroachment may be made on the property of those connected with the shore, it is proposed to contract the course of the river to 600 feet, according to Mr Jesson's report, by which room will be procured for the inclined plane, or wharfs and warehouses. The plan of the bridge is projected by Messrs Telford and Douglas; the span 600 feet, equal to the width of the river when contracted, which is now accomplished, and we understand the plan is far advanced in the execution; but a plan of so great extent must be subject to many unavoidable interruptions.

A short account of the plan of the bridge will not be unacceptable to our readers, as it will enable them to form a more perfect judgment of this magnificent structure. The whole is of cast iron, which is less liable to corrode than hammered iron; the ribs are cast in as large portions, as can conveniently be moulded; they are connected together by cross and diagonal tie-braces, in such a manner, that any of the pieces of the ribs or braces can be taken out, and replaced, without injuring the whole, or interrupting the passage, thus the bridge can be kept in repair with ease, and convenience; all the frames are so connected vertically and horizontally, from the soffit of the arch to the road way, that the whole will act as one solid frame; and are so disposed from the middle of the arch, to the abutment, as to give a greater width to the bridge at entrance from the shore, from the different inclined planes, which enter to the bridge from three different directions, by which the public will be accommodated by three different bridges, as to entrance and egress.

The inclined planes which afford entrance to the bridge from the shore, and streets, will give ample room for warehouses, vaults, and other conveniences for depositing the goods, before they can be put on board, or after they are unshipped, till they can be conveniently carried off by the proprietors.

We come now, as proposed, to ascertain the strength of an abutment that will support, or counteract the pressure of any number of arches, abutting upon one another, in the manner we have proposed. Throw up the Bridge. contents of the number of feet in all the arch-stones, from the one end of the bridge to the other; divide this between the two abutments, and find what base is necessary to contain a number of feet equal to the half, upon each pier from the spring of the arch to the height of the road-way, with one-fourth or one-third added, for allowance made for superincumbent weight upon the bridge, or any default in equilibration or otherways, care being always taken to secure a proper found to abutments. To find the abutments of iron bridges, being of so great extent as those now raised, or may be raised; take a base that will contain a weight of stone, equal to half the weight of the bridge from the spring to the road-way, with what is thought necessary to add for extra weight upon the bridge; here it is still more necessary to attend to a proper found, and further it may be necessary in large arches of stone, or an iron arch, to belt the stones together according to Mr Mylne's method; as the great pressure is laid upon them before the cement has fastened the stones, this may be the cause of the failure in the abutment in the Shropshire bridges, and also of others. Such magnificent structures are worthy of every attention.

We have already treated, and we hope with satisfaction to our readers, of the principles upon which this theory is founded. We shall now adduce some undeniable instances, from the practice of modern and ancient architects. First, upon a small scale, we find vaults thrown, of 8, 10, or more feet, of arches abutting upon one another, upon thin walls; some not exceeding 10 inches, and 6 feet in height; and arches from 18 to 20 feet, the supporting wall from which the arch springs not exceeding 14 inches, the arches below the semicircle, the main abutments being of sufficient strength. Upon a larger scale, in the Gothic architecture, it has universally been practised to support the arches by abutments on the outside of the wall, but not without exception, and where this exception has been made, we find the arch equally well secured, and with much superior grandeur and elegance. In that superb structure of Gothic architecture, St Giles's Church, commonly known by the name of the High Church, Edinburgh, the steeple stands upon four columns, not stronger in proportion to its weight than the six feet pier we propose for an arch of 75 feet span; this centre part of the building is supported by the parts to the east and west, and by arcades, forming aisles in the other direction, none of them exceeding half its height or thereby; it rises above them with its majestic head, adorned with an imperial crown; and for supporting the stately arches that form this crown, no outside abutments are prepared; in this, the exception above referred to consists; it seems as if by the artist intended for the support of our theory. The weight is laid upon the shoulder at the spring of the arch, but with so much elegance as if it were only intended to form an ornamental part of the proposed figure; and under the appearance of an ornament concealing its real use. Some of the arch-stones likewise are projected outward, in the horizontal direction, ornamented at their extremity, and, at the same time that they enrich the crown with an additional ornament, they are a counterpoise to the arch at that place. To complete the deception,

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Bridge.

ception, to adorn the proposed figure throughout, and to finish a well proportioned and elegant crown, the summit is put upon it, at the same time securing the keystone, which without this precaution would by the side pressure have sprung upwards, and have brought the whole arches to ruin.

That these arches are as well protected by the weight placed at the spring of the arch, as any that are supported by abutments, we need only as a proof produce their stability, in resisting, notwithstanding of its great height and exposure in situation, the boisterous effects of the elements, and the concussion arising from the vibration of large bells, suspended in it, and so frequently rung.

From the principles formerly laid down, and the authority now adduced in support of our theory, we hope that it has received ample confirmation. And we venture to conclude, that we have pointed out a method to every mason, and engineer, how in drawing his plan, he may be able to ascertain the weight to be laid on the shoulder of his arch, to counterpoise the weight, according to the intended span, and what thickness he has occasion to make his pier, without encumbering it, not only with useless matter, but what is materially injurious to the strength of his bridge, by choking the current, and causing it act with ten times more force upon it, than it otherwise would do, as we have formerly shown.

We cannot pass the instance of ancient architecture last mentioned, without observing what attention has been paid to the principles of equilibration; and, although the architects have not communicated the principles upon which they executed their plans, they give evident proofs of their having followed some regular theory. Can we suppose that the projector of St Giles's church, Westminster abbey, and innumerable others, could have produced such elegant and well-proportioned structures accidentally, without a well regulated principle to act upon, or that the projector of this imperial crown we have been describing, had not thoroughly digested all its parts and ornaments, before it began to be erected. The ancient architects have, however, thought proper to leave to posterity to collect their principles from the works that have been executed. The moderns are actuated with more liberality of sentiment, in laying down their principles, as well as executing their projects, many of which will do honour to the age, and leave posterity both principles and examples to follow and improve upon.

After having treated upon the rise and progress of bridges, from what we know, from the most early periods, it may appear somewhat awkward that the foundation is neglected, and the manner of preparing: but when it is considered that this must be regulated by the superstructure to be raised upon it; that although it must be the first part with which we begin, it must be the last in the plan, and in founding a bridge there is indeed much to be considered; and as we propose to offer some methods for founding, which so far as we know have not appeared, we will be attentive to lay them before our readers, under the article FOUNDATION.

We have described bridges of different materials, but have mentioned none of wood; this will come properly to offer itself under the article CENTRE, in which we intend to offer some concise and simple construction, and some forms of wooden bridges, that in point of elegance and strength, may not only vie with, but supersede the use of iron bridges in many instances.

Bridge.

Table referred to in fig. 10.

No	Extent	Sum	Arith. Mean.	No	Extent	Sum.	Arith. Mean
1	6.			10	11.5		
1	6.	12.4	6 2	11	12.1	23.6	11.8
2	6.4			11	12.1		
3	6.8	13.2	6.6	12	13.3	25.4	12.7
3	6.8			12	13 3		
4	7	13.8	6.9	13	14.2	27.5	13.75
4	7						38 25
5	7.5	14.5	7.25				
5	7.5						
6	8.	15.5	7.75				
6	8						
7	8.8	16.8	8.4				
7	8.8						
8	9.5	18.3	9.15				
8	9.5						
9	10	19.5	9.75				
9	10						
10	11.5	21.5	10.75				
			72.75				

	Feet.
Deficiency of 2 feet between 8.9 divisions,	.10
Between 9 and 10, - -	.015
Sum, - - -	.025
Mean, - - -	.0125

.0125 × mean of extent 10.5 = .13125
By the depth - - 3
Solid content, .39375

Deficiency of 2 feet between 10 and 11,	.05
Between 11 and 12 - -	.06
Between 12 and 13 - -	.7
	3).18
Mean, - - -	.06

38.25 × 2 = 76.5 Surface.
3 Depth.
229.5 Solid feet.

Sum of Mean.

Extent 38.25

Mean 12.75 × .06 = .885 Superficial.
3 Depth.
2.655

Explanation.

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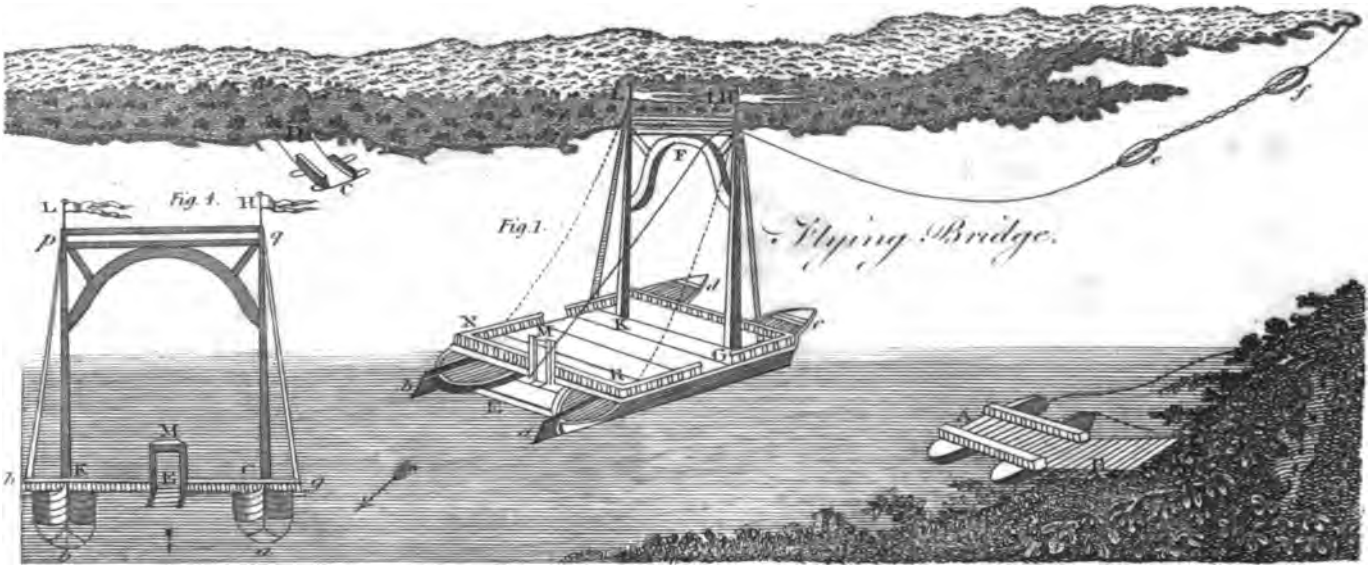
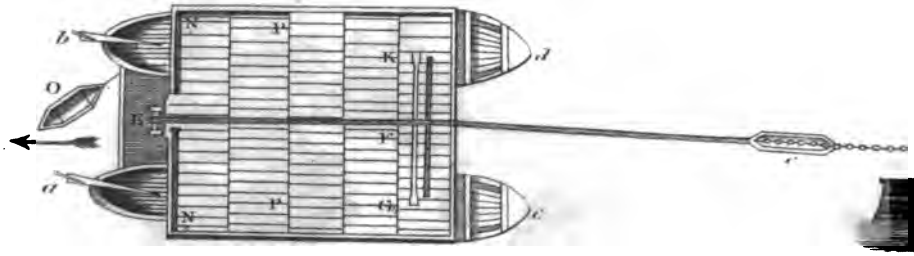


Fig. 2.



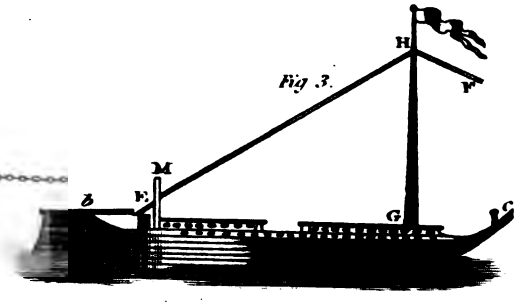


Fig. 7.

Fig. 5.

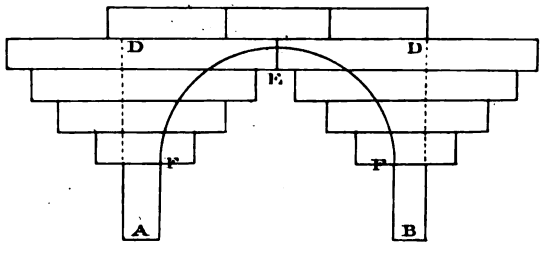
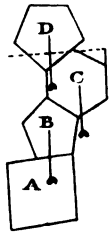


Fig. 6.



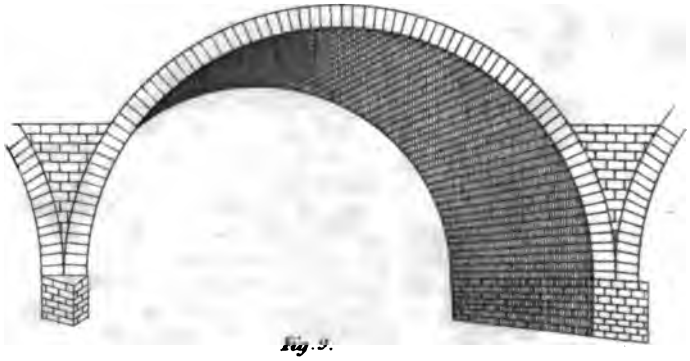


Fig. 8.

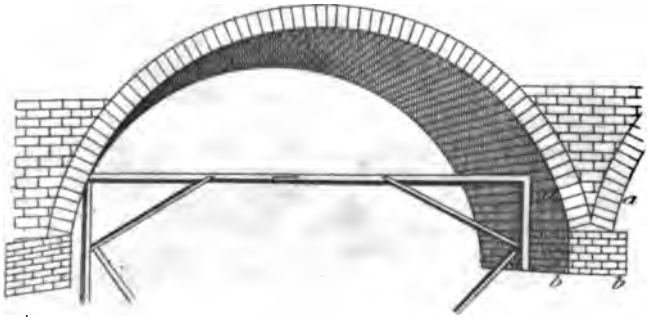


Fig. 9.

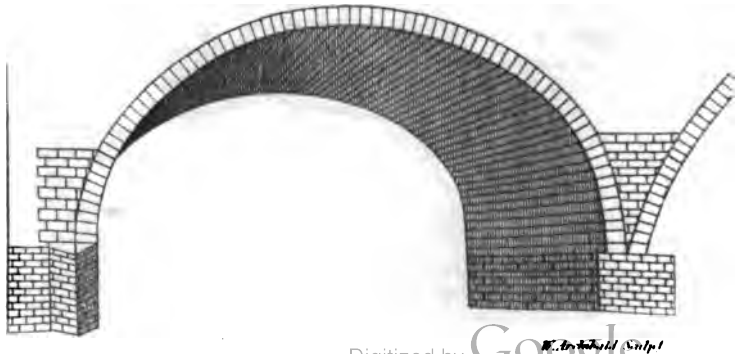


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Fig. 11.

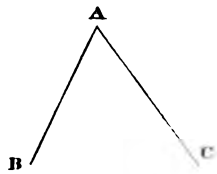
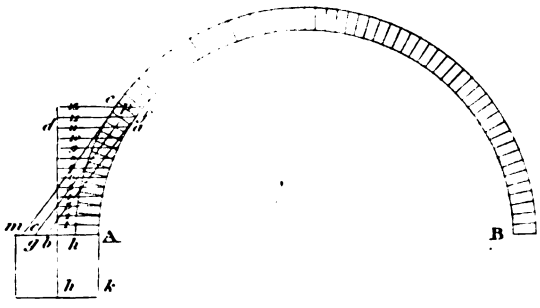


Fig. 12.

Fig. 10.



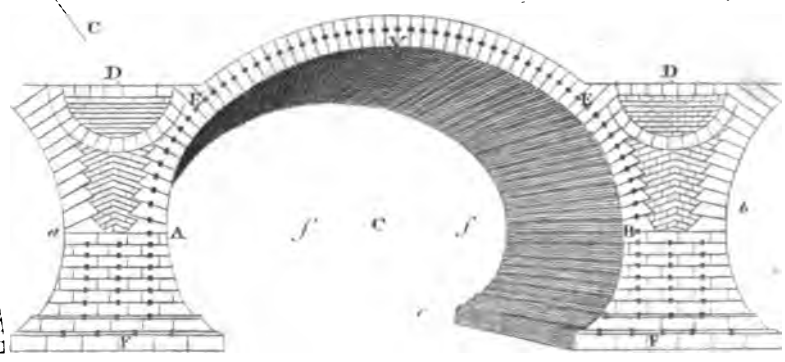


Fig. 13.

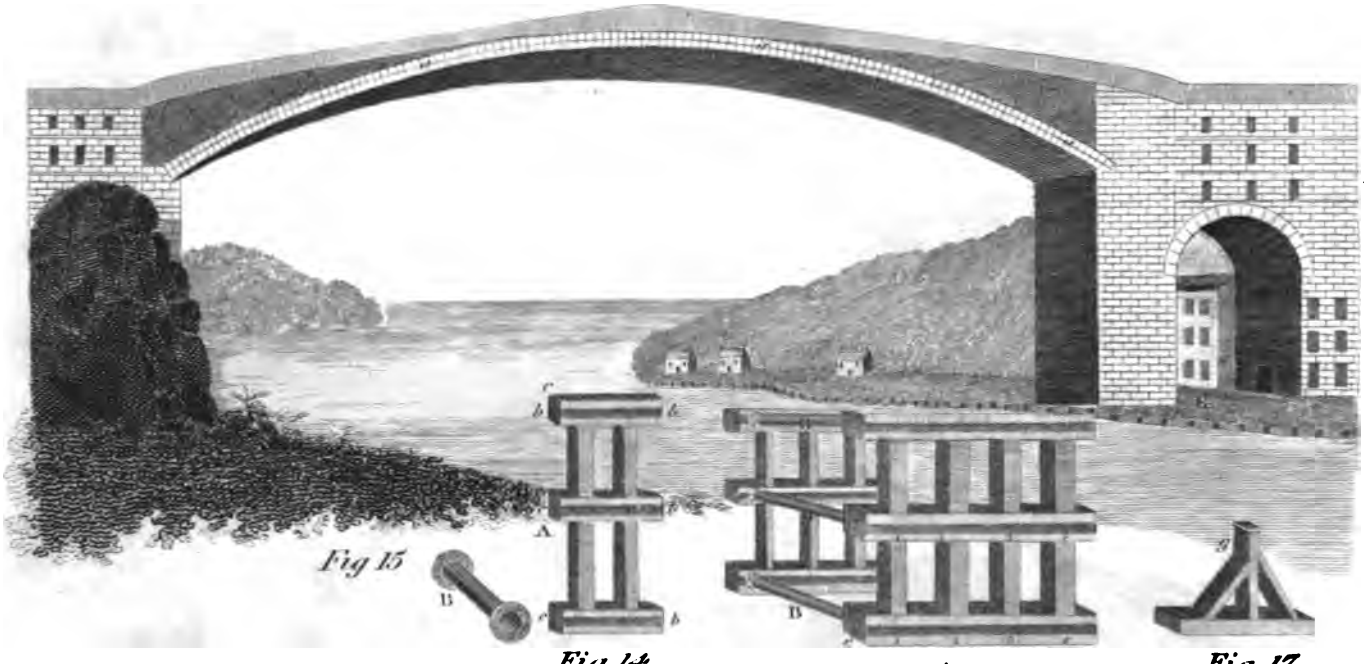


Fig. 14.

Fig. 16.

Fig. 17.

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Bridge, Bridge-town.

Explanation of the above Table referred to in fig. 10.

From the spring of the arch (fig. 10.), parallel lines are drawn from the divisions of the arch, to the perpendicular *db*, being each two feet at the outer part of the arch-stone. These divisions are marked in the figure 1, 2, 3, &c.; the measures of each of these lines are inserted in column 2d; the first and second are added together as marked in column 1st, their sum is inserted in column 3d, the half or arithmetical mean in column 4th. In the same manner the 2d and 3d, the 3d and 4th, &c. The sum of the means when added make 72.75, being each 2 feet distant; 145.5 superficial feet × 3 in depth is 436.5 solid feet; but as these parallel divisions decrease in breadth as they ascend from the spring of the arch, the mean deficiency in solid measure, as above, in the work, .39375, being deducted from the 436.5, leaves the remainder 436.1 solid feet. Between the 10th and 13th division the deficiency is greater, as above, amounting to 2.655 solid feet, to be deducted from 229.5: there remains 226.845 solid feet, which, added to 436.1 is 662.945, the resisting force, to counteract the lateral pressure of the arch-stones 374.75, reckoned from *a*; but reckoned from *c*, which the counterpoise is raised to, there being only 20½ divisions, the lateral pressure only amounts to 347.55 solid feet, little more than one half of the opposing force. The arch then must be sufficiently secured without any addition to the pier, more than furnishing a base for this weight.

We have chosen to express both forces by solid feet, in place of weight, as the weight will differ according to the quality of the stone; whereas the solid foot is applicable to every quality of stone of which an arch is raised, stones from the same quarry being nearly of the same specific gravity, and of consequence a solid foot will be as nearly of the same weight. If from different quarries, the weight of a solid foot of each can be easily ascertained. The above table, and work of means and deficiency, we might have expressed in algebraic and fluxionary equations, the small increment of deficiency being the fluxions. We should have had the appearance of being more learned, but whether we should have been more useful to the generality of our readers, we leave them to judge; but we think it becoming in every learned man, to express himself so, as to be universally understood. See the article BRIDGE in the SUPPLEMENT.

BRIDGE, in *Gunnery*, the two pieces of timber which go between the two transums of a gun-carriage, on which the bed rests.

BRIDGE, in *Music*, a term for that part of a stringed instrument over which the strings are stretched. The bridge of a violin is about one inch and a quarter high, and near an inch and a half long.

BRIDGE-Town, the capital of the island of Barbadoes, situated in W. Long. 61°. N. Lat. 13°. It stands in the inmost part of Carlisle bay. This originally was a most unwholesome situation, and was chosen entirely for its convenience for trade; but is now deemed to be as healthy as any place in the island. The town itself would make a figure in any European kingdom. It is said to contain 1500 houses, and some contend that it is the finest the British possess in America. The houses in general are well built and finished, and their rents as high as such houses would let for in London. The wharfs and quays are well defended from the sea, and very convenient. The harbour is secured from the north-east wind, which is the constant trade-wind there; and Carlisle bay is capable of containing 500 ships, and is formed by Needham and Pelican points. But what renders Bridge-town the finest and most desirable town in the West Indies, is its security against any attacks from foreign enemies. It is defended on the westward by James-fort, which mounts 18 guns. Near this is Willoughby's fort, which is built upon a tongue of land running into the sea, and mounts 12 guns. Needham's fort has three batteries, and is mounted with 20 guns; and St Anne's fort, which is the strongest in the island, stands more within land. In short, according to Mr Douglas, there is all along the lee-shore, a breastwork and trench, in which, at proper places, were 29 forts and batteries, having 308 cannon mounted, while the windward shore is secured by high rocks, steep cliffs, and foul ground. Such was the state of the fortifications in 1717; but since that time they have been much strengthened. Bridgetown is destitute of few elegancies or conveniences of life that any city of Europe can afford. The church of St Michael exceeds many English cathedrals in beauty, largeness, and conveniency; and has a fine organ, bells, and clock. Here also is a free-school for the instruction of poor boys, an hospital, and a college. The latter was erected by the society for propagating the Christian religion, in pursuance of the will of Colonel Christopher Codrington, who left about 2000l. a-year for its endowment, for maintaining professors and scholars to study and practise divinity, surgery, and physic. See CODRINGTON.

Bridge-town, Bridge-north.

BRIDGENORTH, a town of Shropshire in England, seated on the river Severn, which divides it into two parts; but they are united by a handsome stone bridge, and these are called the *upper* and the *lower town*. It is said to have been built by Ethelfleda, widow of Etheldred king of the Mercians, about the year 675. Robert de Belizma, son of Robert de Montgomery, built the castle, and maintained it against King Henry I. by which means it was forfeited to the crown, and remained so till the reign of Richard III. who gave it to John Sutton Lord Dudley. This town has undergone several sieges; and in the civil war it suffered very much, many fine buildings, and the whole town, being almost destroyed by fire, when Sir Lewis Kirke defended the citadel for King Charles. There are now no other remains of the castle than a small part of the towers, and a place yet called the *castle*, within the walls of the old one; within which stands one of the churches, dedicated to St Mary Magdalen, which was made a free chapel, and exempted from episcopal jurisdiction. The other church is at the north end of the town, on the highest part of the hill, near to whose churchyard stood a college, which was destroyed by fire in the civil wars, together with the church just mentioned; which has been since rebuilt by the inhabitants. In this town is a free-school which sends and maintains eighteen scholars at the university of Oxford. On the west banks of the river are the remains of an ancient and magnificent convent, under which were several remarkable vaults and caverns running to a great length.

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Bridge-north Bridport.

length. Part of the Cowgate street is a rock, rising perpendicularly, in which are several houses and tenements that form a very agreeable though grotesque group. In many other places there are also caves and dwellings for families in the rocks; and indeed the whole town has a very singular appearance. This town sends two members to parliament. Population 4179 in 1811. W. Long. 2. 30. N. Lat. 52. 40.

BRIDGEWATER, a town of Somersetshire in England, seated on the river Parret, over which there is a stone-bridge, near which ships of 100 tons burden may ride with ease. It is a large well frequented place, with the title of a duchy, and sends two members to parliament. There are in it several large inns, and the market is well supplied with provisions. Population 4911 in 1811. W. Long. 3. 0. N. Lat. 51. 15.

BRIDLE, in the manege, a contrivance made of straps or thongs of leather and pieces of iron, in order to keep a horse in subjection and obedience.

The several parts of a bridle are the bit or snaffle; the head-stall, or leathers from the top of the head to the rings of the bit; the fillet, over the fore-head and under the fore-top; the throat-band, which buttons from the head-band under the throat; the reins, or long thongs of leather that come from the rings of the bit, and being cast over the horse's head, the rider holds them in his hand; the nose-band, going through loops at the back of the head-stall, and buckled under the cheeks; the trench; the cavesan; the martingal; and the chaff-halter.

Pliny assures us that one Pelethronius first invented the bridle and saddle; though Virgil ascribes the invention to the Lapithæ, to whom he gives the epithet *Pelethronii*, from a mountain in Thessaly named *Pelethronium*, where horses were first begun to be broken.

The first horsemen, not being acquainted with the art of governing horses with bridles, managed them only with a rope or a switch, and the accent of the voice. This was the practice of the Numidians, Getulians, Libyans, and Massilians. The Roman youth also learned the art of fighting without bridles, which was an exercise or lesson in the manege; and hence it is, that on Trajan's column, soldiers are represented riding at full speed without any bridles on.

Scolding BRIDLE. See BRANK.

BRIDLINGTON, a sea-port town in the east riding of Yorkshire in England. It is seated on a creek of the sea near Flamborough-head, having a commodious quay for ships to take in their lading. It has a safe harbour, and contained 3741 inhabitants in 1811. It is more generally known by the name of *Burlington*, as it gave title to an earl of that name, though the earldom is now extinct. E. Long. 0. 10. N. Lat. 54. 15.

BRIDON, or SNAFFLE, after the English fashion, is a very slender bit-mouth without any branches. The English make great use of them, and scarcely use any true bridles except in the service of war. The French call them *bridons*, by way of distinction from bridles.

BRIDPORT, a seaport town of Dorsetshire in England. It has a low situation between two rivers, which unite a little lower down, and fall into the sea. Its inhabitants amounted to 3666 in 1814. It sends two members to parliament, who are chosen by the inhabitants who are house-keepers. It is noted for making of ropes and cables for shipping; whence arises a proverb of a man that is hanged, that he is *stabbed with a Bridport dagger*. W. Long. 3. 0. N. Lat. 50. 40.

Bridport Brieux.

BRIEF, in *Law*, an abridgement of the client's case, made out for the instruction of counsel on a trial at law; wherein the case of the plaintiff, &c. is to be briefly but fully stated: the proofs must be placed in due order, and proper answers made to whatever may be objected to the client's cause by the opposite side; and herein great care is requisite, that nothing be omitted, to endanger the cause.

BRIEF, in *Scots Law*, a writ issued from the chancery, directed to any judge-ordinary, commanding and authorizing that judge to call a jury to inquire into the case mentioned in the brief, and upon their verdict to pronounce sentence.

Apostolical BRIEFS, letters which the pope dispatches to princes, or other magistrates, relating to any public affair.—These briefs are distinguished from bulls, in regard the latter are more ample, and always written on parchment, and sealed with lead or green wax; whereas briefs are very concise, written on paper, sealed with red wax, and with the seal of a fisherman, or St Peter in a boat.

BRIEG, a town of Silesia in Germany, situated in E. Long. 17. 35. N. Lat. 50. 40. It might have passed for a handsome place before the last siege; the castle, the college, and the arsenal, being very great ornaments, and most of the houses very well built. But the Prussians, who besieged it in 1741, threw 2172 bombs into it, and 4714 cannon bullets, which reduced a great part of the town to ashes, and quite ruined a wing of the castle. It was obliged to surrender, after sustaining seven days continual fire. The Prussians, to whom this place was ceded by the peace, have augmented the fortifications, and built a new suburb.—The town stands upon the Oder; on the other side of which there are plenty of fallow-deer, and large forests of beech and oak trees. They have a yearly fair, at which they sell above 12,000 horned cattle. Since 1728, they have begun to manufacture fine cloth.

BRIEL, a maritime town of the United Provinces, and capital of the island of Voorn: It was one of the cautionary towns which were delivered into the hands of Queen Elizabeth, and garrisoned by the English during her reign and part of the next. The Dutch took it from the Spaniards in 1572, which was the foundation of their republic. It is seated at the mouth of the river Meuse, in E. Long. 3. 56. N. Lat. 52. 53.

BRIESCIA, a palatinate in the duchy of Lithuania, in Poland. The name given to it by some is *Polesia*. It is bounded on the north by Novogrode, and Troki; on the west, by those of Bielsko and Lublin; on the south by that of Chelm and Upper Volhinia; and on the east, by the territory of Rziczica. This province is of considerable extent from east to west, and is watered by the rivers Bug and Pripesc: it is full of woods and marshes; and there are lakes that yield large quantities of fish, that are salted by the inhabitants, and sent into the neighbouring provinces.

BRIEUX, ST, a town of France, in Upper Brittany, now called the department of the North Coast, with a bishop's see. It is seated in a bottom, surrounded with mountains, which deprive it of a prospect of the sea, though it is only about a mile and a quarter from

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Brioux || Brigantinus.

from it, and there forms a small port. The churches, streets, and squares, are tolerably handsome; but the town is without walls and ditches. The church of Michael is in the suburb of the same name, and is the largest in the place. The convent of the Cordeliers is well built, and the garden is spacious. The college, which is very near, is maintained by the town for the instruction of youth. Population 6250 in 1815. W. Long. 2. 58. N. Lat. 48. 33.

BRIG, or BRIGANTINE, a merchant-ship with two masts. This term is not universally confined to vessels of a particular construction, or which are masted and rigged in a manner different from all others. It is variously applied, by the mariners of different European nations, to a peculiar sort of vessel of their own marine. Amongst British seamen, this vessel is distinguished by having her main-sails set nearly in the plane of her keel; whereas the main-sails of larger ships are hung athwart, or at right angles with the ship's length, and fastened to a yard which hangs parallel to the deck: but in a brig, the foremost edge of the mainsail is fastened in different places to hoops which encircle the main-mast, and slide up and down it as the sail is hoisted or lowered: it is extended by a gaff above and a boom below.

BRIGADE, in the military art, a party or division of a body of soldiers, whether horse or foot, under the command of a brigadier.—An army is divided into brigades of horse and brigades of foot: a brigade of horse is a body of eight or ten squadrons; a brigade of foot consists of four, five, or six battalions. The eldest brigade has the right of the first line, and the second the right of the second; the two next take the left of the two lines, and the youngest stand in the centre.

Brigade-Major, is an officer appointed by the brigadier, to assist him in the management and ordering of his brigade.

BRIGADIER, is the general officer who has the command of a brigade. The eldest colonels are generally advanced to this post. He that is upon duty is brigadier of the day. They march at the head of their own brigades, and are allowed a serjeant and ten men of their own brigade for their guard.—But the rank of brigadier-general in the British service is now abolished.

BRIGADIERS, or *Sub-brigadiers*, are posts in the horse-guards.

BRIGANDINE, a coat of mail, a kind of ancient defensive armour, consisting of thin jointed scales of plate, pliant and easy to the body.

BRIGANTES, (Tacitus), a people of Britain, reaching from sea to sea, the whole breadth of the island (Ptolemy). Now Yorkshire, Lancashire, Durham, Westmoreland, and Cumberland (Camden.) Also a people of Ireland, of uncertain position.

BRIGANTIA, or BRIGANTIUM, in *Ancient Geography*, a town of Vindelicia; now *Bregentz*, in Tyrol, at the east end of the lake of Constance.—Another *Brigantium* in the Alpes Cottiæ; which last is probably Briançon, a town on the borders of Dauphiny.

BRIGANTINE. See BRIG.

BRIGANTINUS LACUS, in *Ancient Geography*, a lake of Rhætia, or Vindelicia, which Tacitus includes in Rhætia. Ammian calls the lake *Brigantia*. It took its name either from the Brigantii, the people inhabiting on it, or from the adjoining town. Now the lake of *Constance* or *Bodensee*.

Brigantinus || Briggs.

BRIGANTINUS Portus, in *Ancient Geography*, a port of the Hither Spain; so called from Flavium Brigantium. Now *El Puerto de la Cerunna*, commonly the *Groyne*.

BRIGG, by some called *Clamford Bridges*, a town of England, in Lincolnshire, seated on the river Ankam. W. Long. 0. 20. N. Lat. 53. 40.

BRIGGS, HENRY, one of the greatest mathematicians in the 16th century, was born at Warley Wood in the parish of Halifax in Yorkshire, in 1556. In 1592, he was made examiner and lecturer in mathematics, and soon after reader of the physic lecture founded by Dr Linacre. When Gresham college in London was established, he was chosen the first professor of geometry there, about the beginning of March 1596. In 1609, Mr Briggs contracted an intimacy with the learned Mr James Usher, afterwards archbishop of Armagh, which continued many years by letters, two of which, written by our author, are yet extant. In one of these letters, dated in August 1610, he tells his friend he was engaged in the subject of eclipses; and in the other, dated March 10. 1615, he acquaints him with his being wholly employed about the noble invention of logarithms, then lately discovered, in the improvement of which he had afterwards a large share. In 1619, he was made Savilian professor of geometry at Oxford; and resigned his professorship of Gresham college on the 25th of July 1620. Soon after his going to Oxford, he was incorporated master of arts in that university; where he continued till his death, which happened on the 26th of January 1630. Dr Smith gives him the character of a man of great probity; a contemner of riches, and contented with his own station; preferring a studious retirement to all the splendid circumstances of life. He wrote, 1. *Logarithmorum chilias prima*. 2. *Arithmetica logarithmica*. 3. *Trigonometria Britannica*. 4. A small tract on the north-west passage; and some other works.

BRIGGS, *William*, an eminent physician in the latter end of the 17th century, was the son of Augustin Briggs, Esq. four times member for the city of Norwich, where our author was born. He studied at the university of Cambridge; and his genius leading him to the study of physic, he travelled into France, where he attended the lectures of the famous anatomist M. Vieussens at Montpelier. After his return, he published his *Ophthalmographia* in 1676. The year following he was created doctor of medicine at Cambridge, and soon after was made fellow of the college of physicians at London. In 1682, he quitted his fellowship to his brother; and the same year, his Theory of Vision was published by Hooke. The ensuing year he sent to the Royal Society a continuation of that discourse, which was published in their Transactions; and the same year, he was by King Charles II. appointed physician to St Thomas's hospital. In 1684, he communicated to the Royal Society two remarkable cases relating to vision, which were likewise printed in their Transactions; and in 1685 he published a Latin version of his Theory of Vision, at the desire of Mr Newton, afterwards Sir Isaac, professor of mathematics at Cambridge, with a recommendatory epistle from him prefixed

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Briggs ‖ Brihuega.

fixed to it. He was afterwards made physician in ordinary to King William, and continued in great esteem for his skill in his profession till he died, September 4th 1704.

BRIGHTHELMSTONE, a sea-port town of Sussex in England. It is a large and populous town, has a pretty good harbour, and contained 12,012 inhabitants in 1811. W. Long. 0. 10. N. Lat. 50. 50. It was at this place King Charles II. embarked for France in 1651, after the battle of Worcester. It has lately been considerably extended and embellished, in consequence of its having become a place of great resort for sea-bathing. It is a favourite residence of the present king.

BRIGITTINS, or BRIDGETINS, more properly *Brigittins*, a religious order, denominated from their founder, St Bridget or *Birgit*, a Swedish lady in the 14th century; whom some represent as a queen; but Fabricius, on better grounds, as a princess, the daughter of King Birgenes, legislator of Upland, and famous for her revelations. The Brigittins are sometimes also called the *Order of our Saviour*; it being pretended, that Christ himself dictated the rules and constitutions observed by them to St Bridget. In the main, the rule is that of St Augustin; only with certain additions supposed to have been revealed by Christ, whence they also denominate it the *Rule of our Saviour*.—The first monastery of the Bridgetin order was erected by the foundress about the year 1344, in the diocese of Lincopen; on the model of which all the rest were formed. The constitution of these houses was very singular: though the order was principally intended for nuns, who were to pay a special homage to the holy Virgin, there are also many friars of it, to minister to them spiritual assistance. The number of nuns is fixed at 60 in each monastery, and that of friars to 13, answerable to the number of apostles, of whom St Paul made the 13th; besides which there are to be four deacons, to represent the four doctors of the church, St Ambrose, St Augustin, St Gregory, and St Jerome; and eight lay-brothers; making together, says our author, the number of Christ's 72 disciples.—The order being instituted in honour of the Virgin, the direction is committed to an abbess, who is superior not only of the nuns, but also of the friars, who are obliged to obey her. Each house consists of two convents or monasteries, separately enclosed, but having one church in common; the nuns being placed above, and the friars on the ground. The Bridgetins profess great mortification, poverty, and self-denial, as well as devotion; and they are not to possess any thing they can call their own, not so much as a half-penny; nor even to touch money on any account. This order spread much through Sweden, Germany, the Netherlands, &c. In England we read but of one monastery of Brigittins, and this built by Henry V. in 1415, opposite to Richmond, now called *Sion house*; the ancient inhabitants of which, since the dissolution, are settled at Lisbon. The revenues were reckoned at 1495l. per annum.

BRIGNOLES, a town of France, in the department of Var, formerly Provence, famous for its prunes. It is seated among mountains, in a pleasant country, 275 miles S. S. E. of Paris, and had 9000 inhabitants in 1815. E. Long. 6. 15. N. Lat. 43. 24.

BRIHUEGA, a town of Spain, in New Castile, where General Stanhope with the English army were taken prisoners, after they had separated themselves from that commanded by Count Staremberg. It is seated at the foot of the mountain Tajuna, 43 miles north-east of Madrid. W. Long. 3. 20. N. Lat. 41. 0.

Brihuega ‖ Brindisi.

BRIL, MATTHEW and PAUL, natives of Antwerp, and good painters.—Matthew was born in the year 1550, and studied for the most part at Rome. He was eminent for his performances in history and landscape, in the galleries of the Vatican; where he was employed by Pope Gregory XIII. He died in 1584, being no more than 34 years of age.—Paul was born in 1554; followed his brother Matthew to Rome: painted several things in conjunction with him; and, after his decease, brought himself into credit by his landscapes, but especially by those which he composed in his latter time. The invention of them was more pleasant, the disposition more noble, all the parts more agreeable, and painted with a better gusto than his earlier productions in this way; which was owing to his having studied the manner of Hannibal Carrache, and copied some of Titian's works in the same kind. He was much in favour with Pope Sixtus V.; and for his successor Clement VIII. painted the famous piece, about 68 feet long, wherein the saint of that name is represented cast into the sea with an anchor about his neck. He died at Rome the year 1626, aged 72. *Pilkington's Dict.*

BRILLIANT, in a general sense, something that has a bright and lucid appearance.

BRILLIANT, in the *Manege*. A brisk, high-mettled stately horse is called *brilliant*, as having a raised neck, a fine motion, and excellent haunches, upon which he rises, though ever so little put on.

BRILLIANTS, a name given to diamonds of the finest cut. See DIAMOND.

BRIM denotes the outmost verge or edge, especially of round things. The brims of vessels are made to project a little over, to hinder liquors, in pouring out, from running down the side of the vessel. The brimming of vessels was contrived by the ancient potters, in imitation of the supercilium or drip of the cornices of columns: it is done by turning over some of the double matter when the work is on the wheel.

BRIM, in country affairs. A sow is said to *brim*, or *to go to brim*, when she is ready to take the boar.

BRIMSTONE. See SULPHUR, CHEMISTRY *Index*.

Brimstone Medals, Figures, &c. may be cast in the following manner: Melt half a pound of brimstone over a gentle fire: with this mix half a pound of fine vermilion; and, when you have cleared the top, take it off the fire, stir it well together, and it will dissolve like oil: then cast it into the mould, which should be first anointed with oil. When cool, the figure may be taken out; and in case it should change to a yellowish colour, you need only wipe it over with aquafortis, and it will look like the finest coral *.

* *Smith's Labora-tory*, p. 3.

BRIN, a strong town of Bohemia, in Moravia. It is pretty large, and well built: the assembly of the states is held alternately there and at Olmutz. The castle of Spilberg is on an eminence, out of the town, and is its principal defence. It was invested by the king of Prussia in 1742, but he was obliged to raise the siege. It is near the river Swart, in E. Long. 17. 8. N. Lat. 49. 8.

BRINDISI, an ancient celebrated town of Italy, in

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Brindisi. in the Terra d'Otranto, and kingdom of Naples, with an archbishop's see. Its walls are still of great extent, but the inhabited houses do not fill above half the enclosure. The streets are crooked and rough; the buildings poor and ruinous; no very remarkable church or edifice. The cathedral, dedicated to St Theodore, is a work of King Roger, but not equal in point of architecture to many churches founded by that monarch, who had a strong passion for building. Little remains of ancient Brundusium, except innumerable broken pillars fixed at the corners of streets to defend the houses from carts; fragments of coarse mosaic, the floors of former habitations; the column of the light-house; a large marble bason, into which the water runs from brazen heads of deer; some inscriptions, ruins of aqueducts, coins, and other small furniture of an antiquary's cabinet. Its castle, built by the emperor Frederick II. to protect the northern branches of the harbour is large and stately. Charles V. repaired it. The port is double, and the finest in the Adriatic. The outer part is formed by two promontories, which stretch off gradually from each other as they advance into the sea, leaving a very narrow channel at the base of the angle. The island of St Andrew, on which Alphonsus I. built a fortress, lies between the capes, and secures the whole road from the fury of the waves. In this triangular space, large ships may ride at anchor. At the bottom of the bay the hills recede in a semicircular shape, to leave room for the inner haven; which, as it were, clasps the city in its arms, or rather encircles it, in the figure of a stag's head and horns. This form is said to have given rise to the name of *Brundusium*, which, in the old Messapian language, signified *the head of a deer*. In ancient days, the communication between the two havens was marked by lights placed upon columns of the Corinthian order, standing on a rising ground, in a direct line with the channel.

Of these one remains entire upon its pedestal. Its capital is adorned with figures of Syrens and Tritons, intermingled with the acanthus leaf, and upon it a circular vase, which formerly held the fire. A modern inscription has been cut upon the plinth. Near it is another pedestal of similar dimensions, with one piece of the shaft lying on it. The space between these pillars answered to the entrance of the harbour. "The whole kingdom of Naples (says Mr Swinburne) cannot show a more complete situation for trade than Brindisi. Here goodness of soil, depth of water, safety of anchorage, and a central position, are all united; yet it has neither commerce, husbandry, nor populousness. From the obstructions in the channel which communicates with the two havens, arises the tribe of evils that afflict and desolate this unhappy town. Julius Cæsar may be said to have begun its ruin, by attempting to block up Pompey's fleet. He drove piles into the neck of land between the two ridges of hills; threw in earth, trees, and ruins of houses; and had nearly accomplished the blockade, when Pompey sailed out and escaped to Greece. In the 15th century, the prince of Taranto sunk some ships in the middle of the passage, to prevent the royalists from entering the port, and thereby provided a resting place for sea weeds and sand, which soon accumulated, choked up the mouth, and rendered it impracticable for any vessels whatsoever. In 1752 the Brindisi. evil was increased, so as to hinder even the waves from beating through; and all communication was cut off, except in violent easterly winds, or rainy seasons, when an extraordinary quantity of fresh water raises the level. From that period the port became a fetid green lake, full of infection and noxious insects; no fish but eels could live in it, nor any boats ply except canoes made of a single tree. They can hold but one person, and overset with the least irregularity of motion. The low grounds at each end were overflowed and converted into marshes, the vapours of which created every summer a real pestilence; and in the course of very few years, swept off or drove away the largest portion of the inhabitants. From the number of eighteen thousand, they were reduced in 1766 to that of five thousand livid wretches, tormented with agues and malignant fevers. In 1775 above fifteen hundred persons died during the autumn; a woful change of climate! Thirty years ago, the air of Brindisi was esteemed so wholesome and balsamic, that the convents of Naples were wont to send their consumptive friars to this city for the recovery of their health. This state of misery and destruction induced the remaining citizens to apply for relief to Don Carlo Demarco, one of the king's ministers, and a native of Brindisi. In consequence of this application, Don Vito Caravelli was ordered to draw up plans, and fix upon the means of opening the port afresh: Don Andrea Pigonati was last year sent to execute his projects; and, by the help of machines and the labour of galley-slaves, has succeeded in some measure. The channel has been partly cleared, and has now two fathom of water. It can admit large boats, a great step towards the revival of trade; but what is of more immediate importance, it gives a free passage to the sea, which now rushes in with impetuosity, and runs out again at each tide; so that the water of the inner port is set in motion, and once more rendered wholesome. The canal or gut is to be seven hundred yards long, and drawn in a straight line from the column. At present its parapets are defended by piles and fascines; but if the original plan be pursued, stone piers will be erected on both sides. When the canal shall be scooped out to a proper depth, and its piers solidly established, vessels of any burden may once more enter this land-locked port, which affords room for a whole navy. Docks wet and dry may be dug, goods may be shipped at the quay, and convenient watering-places be made with great ease. If merchants should think it a place of rising trade, and worthy of their notice, there is no want of space in the town for any factory whatever. Circulation of cash would give vigour to husbandry, and provisions would soon abound in this market. The sands at the foot of the hills, which form the channel, are to be laid out in beds for muscles and oysters. Some ecclesiastics are raising nurseries of orange and lemon trees; and other citizens intend introducing the cultivation of mulberry-trees, and breeding of silk-worms. The engineer would have done very little for the health of Brindisi, had he only opened a passage, and given a free course to the waters; the marshes at each extremity of the harbour would still have infected the air: he, therefore, at the expence of about a thousand ducats, had the fens filled up with earth, and a dam raised to con-

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Brindisi, Brindley.

fine the waters, and prevent their flowing back upon the meadows. The people of Brindisi, who are sensible of the blessings already derived from these operations, who feel a return of health, and see an opening for commerce and opulence, seem ready to acknowledge the obligation. They intend to erect a statue to the king, with inscriptions on the pedestal in honour of the minister and agents. The workmen, in cleaning the channel, have found some medals and seals, and have drawn up many of the piles that were driven in by Cæsar. They are small oaks stripped of their bark, and still as fresh as if they had been cut only a month, though buried above eighteen centuries seven feet under the sand. The soil about the town is light and good. It produces excellent cotton, with which the Brindisians manufacture gloves and stockings.

"It is impossible to determine who were the founders of Brundusium, or when it was first inhabited. The Romans took early possession of a harbour so convenient for their enterprises against the nations dwelling beyond the Adriatic. In the year of Rome 509, they sent a colony thither. Pompey took refuge here; but finding his post untenable, made a precipitate retreat to Greece. In this city Octavianus first assumed the name of *Cæsar*, and here he concluded one of his short-lived peaces with Antony. Brundusium had been already celebrated for giving birth to the tragic poet Pacuvius, and about this time became remarkable for the death of Virgil. The barbarians, who ravaged every corner of Italy, did not spare so rich a town; and, in 836, the Saracens gave a finishing blow to its fortune. The Greek emperors, sensible of the necessity of having such a port as this in Italy, would have restored it to its ancient strength and splendour, had the Normans allowed them time and leisure. The Greeks struggled manfully to keep their ground; but, after many varieties of success, were finally driven out of Brindisi by William I. The frenzy for expeditions to Palestine, though it drained other kingdoms of their wealth and subjects, contributed powerfully to the re-establishment of this city, one of the ports where pilgrims and warriors took shipping. It was also benefited by the residence of the emperor Frederick, whose frequent armaments for the Holy Land required his presence at this place of rendezvous. The loss of Jerusalem, the fall of the Grecian empire, and the ruin of all the Levant trade after the Turks had conquered the East, reduced Brindisi to a state of inactivity and desolation, from which it has never been able to emerge." E. Long. 18. 5. N. Lat. 40. 52.

BRINDLEY, JAMES, a most uncommon genius for mechanical inventions, and particularly excellent in planning and conducting inland navigations, was born, in 1716, at Tunsted in Derbyshire: Through the mismanagement of his father (for there was some little property in his house) his education was totally neglected; and, at seventeen, he bound himself apprentice to a mill-wright, near Macclesfield, in Cheshire. He served his apprenticeship, and, afterwards, setting up for himself, advanced the mill-wright business, by inventions and contrivances of his own, to a degree of perfection which it had not attained before. His fame, as a most ingenious mechanic, spreading widely, his genius was no longer confined to the business of his profession: for, in 1752, he erected a very extraordinary water-engine at Clifton, in Lancashire, for the purpose of draining coal-mines; and, in 1755, was employed to execute the larger wheels for a new silk mill, at Congleton, in Cheshire. The potteries of Staffordshire were also, about this time, indebted to him for several valuable additions in the mills used by them for grinding flint-stones. In 1756, he undertook to erect a steam-engine near Newcastle under Line upon a new plan; and it is believed that he would have brought this engine to a great degree of perfection, if some interested engineers had not opposed him. Brindisi.

His attention, however, was soon afterwards called off to another object, which, in its consequences, hath proved of high importance to trade and commerce; namely, the projecting and executing "Inland navigations." By these navigations the expence of carriage is lessened; a communication is opened from one part of the kingdom to another, and from each of these parts to the sea; and hence products and manufactures are afforded at a moderate price. The duke of Bridgewater hath, at Worsley, about seven miles from Manchester, a large estate abounding with coal, which had hitherto lain useless, because the expence of land-carriage was too great to find a market for consumption. The duke, wishing to work these mines, perceived the necessity of a canal from Worsley to Manchester; upon which occasion Brindley, now become famous, was consulted; and declaring the scheme practicable, an act for this purpose was obtained in 1758 and 1759. It being, however, afterwards discovered, that the navigation would be more beneficial, if carried over the river Irwell to Manchester, another act was obtained to vary the course of the canal agreeably to the new plan, and likewise to extend a side-branch to Longford bridge in Stretford. Brindley, in the mean time, had begun these great works, being the first of the kind ever attempted in England, with navigable subterraneous tunnels and elevated aqueducts; and as, in order to preserve the level of the water, it should be free from the usual obstructions of locks, he carried the canal over rivers, and many large and deep valleys. When it was completed as far as Barton, where the Irwell is navigable for large vessels, he proposed to carry it over that river, by an aqueduct of thirty-nine feet above the surface of the water; and though this project was treated as wild and chimerical, yet, supported by his noble patron, he began his work in Sept. 1760, and the first boat sailed over it in July 1761. The duke afterwards extended his ideas to Liverpool; and obtained, in 1762, an act for branching his canal to the tideway in the Mersey; this part of the canal is carried over the rivers Mersey and Bolland, and over many wide and deep valleys.

The success of the duke of Bridgewater's undertakings encouraged a number of gentlemen and manufacturers in Staffordshire, to revive the idea of a canal-navigation through that county; and Brindley was, therefore, engaged to make a survey from the Trent to the Mersey. In 1766, this canal was begun, and conducted under Brindley's direction as long as he lived; but finished after his death by his brother-in-law Mr Marshall, of whom he had a great opinion, in May 1777. The prporietors called it, "the canal from the Trent to the Mersey;" but the engineer, more emphatically, "the Grand Trunk Navigation," on

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Brindley. on account of the numerous branches, which, as he justly supposed, would be extended every way from it. It is 93 miles in length; and, besides a large number of bridges over it, has 76 locks and five tunnels. The most remarkable of the tunnels is the subterraneous passage of Harecastle, being 2880 yards in length, and more than 70 yards below the surface of the earth. The scheme of this inland-navigation had employed the thoughts of the ingenious part of the kingdom for upwards of 20 years before; and some surveys had been made: but Harecastle hill, through which the tunnel is constructed, could neither be avoided nor overcome by any expedient the most able engineers could devise. It was Brindley alone who surmounted this and other the like difficulties, arising from the variety of strata and quicksands, as no one but himself would have attempted to conquer.

Brindley was engaged in many other similar undertakings; for a fuller account of which, not being consistent with our plan, we refer the reader to the "Biographia Britannica;" or rather to a curious and valuable pamphlet, published some years since, and entitled, "The History of Inland Navigations, particularly that of the duke of Bridgewater." He died at Turnhurst in Staffordshire, September 27. 1772, in his 56th year; somewhat immaturely, as it should seem: but he is supposed to have shortened his days by too intense application, and to have brought on a hectic fever, which continued on him for some years before it consumed him. For he never indulged and relaxed himself in the common diversions of life, as not having the least relish for them; and though once prevailed on to see a play in London, yet he declared that he would on no account be present at another; because it so disturbed his ideas for several days after, as to render him unfit for business. With any extraordinary difficulty occurred to him in the execution of his works, he generally retired to bed; and has been known to lie there one, two, or three days, till he has surmounted it. He would then get up, and execute his design without any drawing or model: for he had a prodigious memory, and carried every thing in his head.

As his station in life was low, and his education totally neglected, so his exterior accomplishments were suitable to them. He could indeed read and write, but both very indifferently; and he was perhaps, in his way, as *abnormis sapiens*—"of mother-wit, and wise without the schools,"—as any man that ever lived. "He is as plain a looking man as one of the boors in the Peake, or one of his own carters: but when he speaks, all ears listen; and every mind is filled with wonder, at the things he pronounces to be practicable." The same author gives us also no ungracious idea of his moral make: "being great in himself, he harbours no contracted notions, no jealousy of rivals: he conceals not his method of proceeding, nor asks patents to secure the sole use of the machines, which he invents and exposes to public view. Sensible that he must one day cease to be, he selects men of genius, teaches them the power of mechanics, and employs them in carrying on the various undertakings in which he is engaged. It is not to the duke of Bridgewater only that his services are confined; he is of public utility, and employs his talents in rectifying the mistakes of despairing workmen, &c. His powers shine most in the midst of difficulties; when rivers and mountains seem to thwart his designs, then appears his vast capacity, by which he makes them subservient to his will."

Brindley, Brine.

BRINE, or PICKLE; water replete with saline particles.

Brine taken out of brine-pits, or brine-pans, used by some for curing or pickling of fish, without boiling the same into salt, and rock salt, without refining it into white salt, are prohibited by 1 Ann. cap. 21.

Brine is either native, as the sea-water, which by coction turns to salt; or factitious, formed by dissolving salt in water. In the salt-works at Upwick in Worcestershire, there are found, at the same time, and in the same pit, three sorts of brine, each of a different strength. They are drawn by a pump; and that in the bottom, first brought up, is called *first man;* the next, *middle man;* and the third, *last man.*

Leach-Brine, a name given to what drops from the corned salt in draining and drying, which they preserve and boil again; being stronger than any brine in the pit. There is sand found in all the Staffordshire brines after coction: but naturalists observe, it did not pre-exist in the water, but rather is the product of the boiling. Some steep their seed-wheat in brine to prevent the smut. Brine is also commended as of efficacy against gangrenes.

BRINE also denotes a pickle pregnant with salt, wherein things are steeped to keep.

Brine Pans, the pits where the salt-water is retained, and suffered to stand, to bear the action of the sun, whereby it is converted into salt. There are divers sorts of salt pans, as the water-pans, second-pan, sun-pan; the water being transferred only from one to another.

Brine-Pit, in salt-making, the salt spring from whence the water to be boiled into salt is taken. There are of these springs in many places; that at Nampt-wich in Cheshire, is alone sufficient, according to the account of the people of the place, to yield salt for the whole kingdom; but it is under the government of certain lords and regulators, who, that the market may not be overstocked, will not suffer more than a certain quantity of the salt to be made yearly. See the next article.

Brine-Springs, are fountains which flow with salt-water instead of fresh. Of these there are a good number in South Britain, but though not peculiar to this island, are far from being common in the countries on the continent. There are some of them in several different counties; and perhaps, on a due search, others might be discovered *. The most remarkable of these already known are, one at East Chennock in Somersetshire, about 20 miles from the sea. Another at Leamington in Warwickshire, very near the river Leam; which, however, is but weak. Such a spring likewise runs into the river Cherwell in Oxfordshire, and several more in Westmoreland and Yorkshire: but as they are but poor, and the fuel in most of those counties scarce and dear, no salt is prepared from them. At Borrowdale near Grange, three miles from Keswick in Cumberland, a pretty strong spring rises in a level near a moss, 16 gallons of the water of which yield one of pure salt; which is the more remarkable, when

* *Campbell's Political Survey.*

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Brine, Bring.

when it is considered that the same quantity of salt cannot be obtained from less than 22 gallons of the waters of the German ocean. At a place called *Salt-Water Haugh*, near Butterby, in the bishopric of Durham, there is a multitude of salt-springs which rise in the middle of the river Weare, for the space of about 40 yards in length and ten in breadth; but particularly one out of a rock, which is so strong that in a hot summer's day the surface will be covered with a pure white salt. At Weston, in Staffordshire, there are brine pits which afford about a ninth part of very fine white salt. There are others at Enson, St Thomas, and in the parish of Ingestre, but so weak that they are not wrought; though it is believed, that by boring, stronger springs might be found in the neighbourhood. In Lancashire there are several salt springs, but (if we except that at Barton, which is as rich as the spring at Northwich) by no means so famous as those of Cheshire, called in general by the name of the *wiches*. Namptwich on the river Weever, has a noble spring not far from the river, which is so rich as to yield one-sixth part of pure white salt. At six miles distant stands Northwich, at the confluence of the Weever and the Dan; where the brine is still richer, since they obtain six ounces of salt from 16 of water. There are, even at this day, some visible remains of a Roman causeway between these two towns. The inhabitants of Wales, who, before that country was incorporated into England, were supplied chiefly, if not solely, with that necessary commodity from these two towns, called the former *Hellath Wen*, and the latter *Hellath Du*; i. e. the white and black salt pit. In 1670, a rock of salt was discovered at a small distance from Northwich, which has been wrought to a great depth, and to a vast extent, so as to be justly esteemed one of the greatest curiosities in England; and it is highly probable, that there is an immense body of fossil salt in the bowels of the earth, under this whole county; since, upon boring, brine pits have been found in many places on both sides the river Weever. This is the more likely, since at Middlewich, which stands at the confluence of the Croke and the Dan, there are salt springs with a fresh brook running between them. The brines from these pits are of unequal strength; but when mixed, they commonly obtain four ounces of salt from a pound of brine. Experience shows, that in these springs the water is strongest nearest the bottom, richer in dry weather than in wet, and when long drawn than when first wrought. But these are no rules in respect to other salt-springs, since in those of Franche Compte the brine is strongest in wet weather. There are several other bodies dissolved in these brines besides salt; in some a sulphureous substance, which sublimes as the brine heats; a sort of dirty ochre which discolours the brine, but if suffered to stand, speedily subsides; and in most brines a calcareous, or rather selenitic earth, which settles to the bottom of the pans *.

* See *Salt*, and *Spring*.

To BRING-TO, in *Navigation*, to check the course of a ship when she is advancing, by arranging the sails in such a manner, that they shall counteract each other, and prevent her either from retreating or moving forward. In this situation the ship is said to lie by, or to lie to; having, according to the sea-phrase, some of her sails *aback*, to oppose the force of those which are full; or having them otherwise shortened by being *furled*, or *hauled up in the brails*.

Bring || Brisach.

Bringing-to, is generally used to detain a ship in any particular station, in order to wait the approach of some other that may be advancing towards her; or to retard her course occasionally near any port in the course of a voyage.

Bringing-in a Horse, in the manege, the same as to say, keep down the nose of a horse that bores and tosses his nose in the wind: this is done by means of a branch.

BRINING OF CORN, in husbandry, an operation performed on the wheat-seed, in order to prevent the smut. A liquor is to be prepared for this purpose, by putting 70 gallons of water into a tub (like a mash-tub used for brewing, and a corn-bushel of unslaked limestone. This is to be well stirred till the whole is dissolved, and left to stand for 30 hours; after which it is to be drained off into another tub, in the manner practised for beer. In this way about a hogshead of strong lime-water will be obtained, to which must be added three pecks of salt. The wheat must be steeped in this pickle, by running it gently, and in small quantities, into a broad-bottomed basket of about 24 inches in diameter, and 20 inches deep, and stirring it. The light seed that floats must be strained off with a strainer, and must not be sown. When the basket has been drawn up, and drained of the pickle, the wheat will be fit for sowing in two hours after the brining.

Brining of hay-ricks, a practice common in America, of mixing salt with the hay as it is stacked.

BRIONNE, a town of France in Normandy, seated on the river Rille. E. Long. 0. 51. N. Lat. 49. 51.

BRIOUDE, a town of France, in the department of Upper Loire, formerly Lower Auvergne. There are two Brioudes, three quarters of a mile from each other; the one is called *Church Brioude*, the other *Old Brioude*. The houses are built after the antique manner, and are badly disposed. The canons are all temporal lords and counts. It is in no diocese, but depends immediately on the pope. There are several convents; and, among the rest, the church of St Ferrol, which is highly celebrated. Near the Old Town is a stone-bridge on the river Allier, which consists of one arch: this is esteemed a stupendous structure, and is thought to be a work of the Romans. The inhabitants, 5000 in number, have no manufactures. It is situated in E. Long. 3. 25. N. Lat. 45. 14.

BRIQUERAS, a town of Piedmont, seated in the valley of Lucern, three miles from the town of that name, and four south of Pignerol. It had a very strong castle towards the latter end of the 16th century; but when the French got footing in it, it was ruined, that is, before they delivered it up to the duke of Savoy in 1696. E. Long. 7. 24. N. Lat. 44. 41.

BRISACH, a town of Germany, and capital of Brisgaw, now in the territories of Baden. It was twice in the possession of the French; but restored to the house of Austria, by treaties of peace. It was a very strong place, but the fortifications have been demolished. It is seated on the Rhine, where there is a bridge of boats. E. Long. 7. 49. N. Lat. 48. 5.

BRISACH,

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Brisach || Bristol.

BRISACH, *New*, a town of France, in the department of the Upper Rhine, built by order of Louis XIV. over against Old Brisach, and fortified by Vauban. It is 32 miles south of Strasburg. E. Long. 7. 46. N. Lat. 48. 5.

BRISEIS, or HIPPODAMIA, in fabulous history, the wife of Mynes king of Lyrnessa. After Achilles had taken that city, and killed her husband, she became his captive. That hero loved her tenderly; but Agamemnon taking her from him, she became the accidental cause of sad disorders in the Grecian army.

BRISGAW, a territory of Germany, in the circle of Suabia, on the eastern bank of the Rhine, about 50 miles in length, and 30 in breadth, now subject to the grand duke of Baden. The principal places are Old Brisach, New Brisach, Freyburgh, and Rhinmarck.

BRISIACUS MONS, in *Ancient Geography*, a town on the right or east side of the Rhine. Now *Brisach*, situated on a round hill; a fortified town of Suabia, and distinguished by the name of *Old Brisach*. E. Long. 7. 15. N. Lat. 48. 10.

BRISSON, M. J. an eminent French naturalist. See SUPPLEMENT.

BRISSOT, PETER, one of the ablest physicians of the 16th century, was born at Fontenai le Comte in Poictou. He studied at Paris; and, having taken his doctor's degree, bent his thoughts to the reforming of physic, by restoring the precepts of Hippocrates and Galen, and exploding the maxims of the Arabians: for this purpose he publicly explained Galen's works, instead of those of Avicenna, Rhasis, and Messue. He afterwards resolved to travel to acquire the knowledge of plants; and going to Portugal, practised physic in the city of Ebora. His new method of bleeding in pleurisies, on the side where the pleurisy was, raised a kind of civil war among the Portuguese physicians; it was brought before the university of Salamanca, who at last gave judgment, that the opinion ascribed to Brissot was the pure doctrine of Galen. The partizans of Denys, his opponent, appealed in 1529 to the emperor, to prevent the practice, as being attended with destructive consequences; but Charles III. duke of Savoy happening to die at this time of a pleurisy, after having been bled on the opposite side, the prosecution dropped. He wrote an Apology for his practice; but died before it was published, in 1552; but Anthony Luceus, his friend, printed it at Paris three years after. Renatus Moreau procured a new edition of it at Paris, in 1622; and annexed to it a treatise entitled *De missione sanguinis in pleuritide*, together with the Life of Brissot.

BRISSOT, *John Peter*, leader of the Brissotine party in the French revolution. See SUPPLEMENT.

BRISTLE, a rigid glossy kind of hair found on swine, and much used by brush-makers, &c.

BRISTOL, a city of England, and inferior to none, except London, for wealth, trade, and number of inhabitants. Bristol is a corruption of *Brightstow*, as it was called by the Saxons. It is thought to have stood anciently altogether on the west or Somersetshire side of the Avon, before the bridge was built; but after that, it came to be partly in Somersetshire and partly in Gloucestershire, until it was made a county of itself, though even before that, in the parliament rolls, it was always placed in Somersetshire. At present, the east side is by much the largest and most populous. It had anciently a castle, built by Robert earl of Gloucester, natural son to Henry I. which was demolished by Cromwell; and the ground is now laid out into streets. The corporation consists of a mayor; recorder; twelve aldermen, of whom the recorder is one; two sheriffs; and twenty-eight common council men. The recorder is generally a serjeant at law, and sits as judge in capital and all other criminal causes. The mayor, to support his dignity, and defray his extraordinary expence, is entitled to certain fees from ships, which long ago amounted to 500l. or 600l. Bristol is a bishop's see, being one of the six erected by King Henry VIII. out of the spoils of the monasteries and religious houses which that monarch had got dissolved. The cathedral church was the church of the abbey of St Austin in Bristol, founded by Robert Fitzharding son to a king of Denmark, once a citizen here, and by him filled with canons regular in the year 1148. At the reformation King Henry VIII. placed therein a dean and six prebendaries, which mode of government still continues. During a great part of Queen Elizabeth's reign, this see was held *in commendam* by the bishop of Gloucester. This diocese was formed chiefly out of the diocese of Salisbury, with a small part from the dioceses of Wells and Worcester. It contains most of the city of Bristol, and all the county of Dorset, in which are 236 parishes, of which 64 are impropriated. It hath only one archdeaconry, viz. of Dorset; is valued in the king's books at 338l. 8s. 4d. and is computed to be annually worth 1500l. including its *commendams*. The tenths of the clergy are 353l. 18s. 0½d. This see hath yielded to the state one lord privy seal. The revenues of the abbey of St Augustine, or St Austin, in Bristol, were valued at the dissolution at 670l. 13s. 11d. when it was erected into a cathedral by King Henry VIII. by the name of the *Cathedral Church of the Holy Trinity*. To this cathedral belong a bishop, a dean, an archdeacon, a chancellor, six prebendaries, and other inferior officers and servants. Besides the cathedral, there are 18 parish-churches; and here are dissenters of all denominations, of whom the Quakers are very respectable both for their wealth and numbers. Of the parish-churches, St Mary Ratcliff is reckoned one of the finest, not only here, but in the whole kingdom. In this church, besides two monuments of the founder William Cannings, who had been five times mayor of this city, one in the habit of a magistrate, and another in that of a priest (for in his latter days he took orders), there is one of Sir William Penn, father to the famous Quaker. The old bridge over the Avon consisted of four broad arches, with houses on both sides like those formerly on London bridge; but this has been lately pulled down, and another erected in its place. No carts or waggons are admitted into Bristol, for fear of damaging the vaults and gutters made under ground for carrying the filth of the city into the river. Queen's-square, in this city, is larger than any in London, except Lincoln's-Inn Fields, and has in the centre an equestrian statue of King William III. All the gates of the city remain entire, and a part of the walls; the rest were razed in the reign of William Rufus. It is almost as broad as long; and, including the out-parishes, is supposed to contain 100,000 inhabitants. Of the hospitals, the chief

Bristol.

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Bristol. are, 1. That called Queen Elizabeth's, in which 100 boys are taught reading, writing, arithmetic, and navigation; six of whom, when they go out, have 10l. and the rest 8l. 8s. to bind them apprentices: the master is allowed 45ol. a-year, for the maintenance of the boys. 2. Colston's hospital; in which 100 boys are maintained for seven years, and taught and apprenticed, as in Queen Elizabeth's. 3. Another founded by the same gentleman in 1691, for 12 men and 12 women, with an allowance of 3s. per week, and 24 sacks of coals in the year. This charity cost the founder 25,000l. 4. Another founded partly by Mr Colston and partly by the merchants, in which 18 men on account of the merchants, and 12 men and women on account of Mr Colston, are maintained. 5. An infirmary, which was opened in 1736 for the sick, lame, and distressed poor of the city, which is maintained by subscription, besides 5000l. bequeathed to it by John Eldridge, Esq. formerly comptroller of the customs at this port. There are, besides these, a bridewell, several alms-houses, and charity schools. There is also a guildhall for the sessions and assizes; the mayor's and sheriffs courts; a council-house, where the mayor and aldermen meet every day, except Sundays, to administer justice; a handsome new exchange, with three entrances, about two-thirds as large as that in London, and a quay half a mile in length, the most commodious in England for shipping and landing goods, for which purpose it is provided with several cranes. In College-green is a stately high cross, with the effigies of several kings round it. In Winch-street is a guard-house, with barracks for soldiers. As to the trade of this city, it was computed many years ago to be much greater in proportion, especially to America and the West Indies, than that of London. Fifty sail, some of them ships of considerable burthen, have arrived here at one time, or very near one another, from the West Indies. For this trade, and that to Ireland, it is much better situated than London, besides the great advantages it possesses of an inland navigation by the Wye and Severn. Their trade extends to the Baltic, Norway, Holland, Hamburgh, Guinea, and the Straits. The largest ships are discharged at Kingroad, four miles below the city, and the goods are brought to the quay by lighters. For building, equipping, and repairing ships, there are docks, yards, rope-walks, and ship-wrights. In 1809 various improvements were completed upon the harbour, which cost 600,000l. Here are some considerable woollen manufactures; and no less than 15 glass-houses, for which Kingswood and Mendip furnish the coals. The city companies are 13: 1. The merchant adventurers. 2. The merchant tailors. 3. The mercers. 4. The soap boilers. 5. The tobacconists. 6. The butchers. 7. The barbers. 8. The tylers. 9. The holliers, who are the sled-men. 10. Shoemakers. 11. Coopers. 12. Bakers. 13. Smiths. For supplying the city with water there are six public conduits. There are also stage coaches, which set out every day for Bath, London, and other places. A mile below the city, close by the river, is the hot well, whose waters are specific for the diabetes, and good in phthisical, scorbutic, and inflammatory disorders. Hither is a great resort in the summer of invalids, as well as other company; for whose accommodation and entertainment there is a pump-room, ball-room, coffee-house, with taverns, and a great number of elegant lodging houses, both below on a level with the well, and above in the delightful village of Clifton, which is situated on the brow of a hill, from whence there are downs extending several miles, where the company ride out for exercise. Nothing can be more pure and salutary than the air of these downs, which afford a variety of the most romantic and agreeable prospects, comprehending Kingroad, with the ships at anchor, the mouth of the Severn, and the mountains of Wales. In the rocks above the well are found those six-cornered stones called *Bristol-stones*; but they are not so plentiful now as in Camden's days, when, he says, whole bushels might have been easily gathered. In this city is a theatre, where plays are acted almost every night during the recess of the comedians from the metropolis. There are two annual fairs, to which the concourse is so great, that the neighbouring inns have filled 100 beds a piece with their guests. In the winter season there is an assembly every Thursday for the gayer part of the citizens of both sexes. About half way betwixt Bristol and Bath, at a place called *Warmly*, a company of Bristol merchants have erected a noble manufacture of pins and other brass utensils, which employs a great number of hands, including about 200 children of both sexes from seven to twelve or thirteen years of age. All the different operations of melting, plitting, drawing, hammering, turning, &c. are performed by wheels worked with water, which is raised by two fire engines of a very curious mechanism. The city of Bristol gives the title of earl to the family of Hervey, and sends two members to parliament. It is worth observing, that whoever marries a citizen's daughter becomes free of the city. Bristol.

New-Bristol, the capital of the county of Bucks in Pennsylvania, situated on the river Delaware, about 20 miles north of Philadelphia, in W. Long. 75. N. Lat. 40. 45.

Bristol Water. Of the four principal warm waters naturally produced in England, this is the least so. As the Bath waters are proper where the secretions are defective, so the Bristol water is of service where they exceed the requirements of health. The Bath water warms; the Bristol cools. Bath water helps the stomach, intestines, and nerves; the Bristol favours the lungs, kidneys, and bladder. Except a jaundice attend, the Bristol water may be of use in dropsies by its drying and diuretic qualities. Dr Winter asserts, that there is no iron in Bristol water: and that its mineral contents are chalk, lapis calcareus and calaminaris. Five gallons of this water, after evaporation, afforded only ʒ iii. and gr. 2. of mineral substances. The diseases in which this water is useful are internal hæmorrhagies, immoderate menses, internal inflammations, spitting blood, dysentery, purulent ulcers of the viscera, consumption, dropsy, scurvy with heat, stone, gravel, strangury, habitual gout, atrophy, slow fever, scrophula, gleets, and diabetes, in which last it is a specific, and may be drank as freely as the thirst requires it. The hotter months are the best for using it. The Bristol and Matlock waters are of exactly the same qualities. Doctors Mead and Lane first established the reputation of Bristol waters in diseases of the kidneys and bladder.

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BRITAIN.

Britain. BRITAIN, or GREAT BRITAIN, the most considerable of all the European islands, extends from the Lizard Point, in the latitude of about 50°, to Dunesbay-head, in latitude 58. 30. N. or, taking it in a straight line from north to south, about eight degrees or 550 miles; and from Dover-head on the east to Land's-end on the west comprehends about seven degrees of longitude, which may be computed at about 290 miles; but the form being very irregular, and lessening continually towards the north, proper allowances must be made in computing its dimensions.

1 Albion the ancient name. The ancient name of this island was *Albion*, the name *Britain* being then common to all the islands round it. Hence Agathemerus, speaking of the British islands: "They are many in number (says he); but the most considerable among them are Hibernia and Albion." And Ptolemy, to the chapter wherein he describes the island now called *Great Britain*, prefixes the following title: "The situation of *Albion*, a British island." But as this far excelled the other British islands, the name of *Albion* in process of time was laid quite aside, and that of *Britain* used in its stead. By this name it was known in Pliny's time, and even in Cæsar's. The origin of both these names is very uncertain. Some derive that of Albion from the Greek word *alphon*, which, according to Festus, signifies *white*; others from the Hebrew *alben*, *white*, or the Phœnician *alp*, *high*. The origin of the name *Britain* is no less uncertain than that of *Albion*. Nennius and some other British writers derive it from Brutus, whom they likewise call *Brito*, the fifth in descent from the celebrated Æneas. Others derive it from the British words *pryd cain*, that is, a *white form*, softened by degrees into *Britannia*. Camden derives it from the word *brith*, which, in the ancient language, of the island, signifies *painted*; and *tania*, importing, in Greek, a region or country: so that the word *Brithania*, changed in process of time into *Britannia*, expresses what the Britons really were, that is, *painted*. Mr Whittaker, in his History of Manchester, derives it from the word *brith*, *briet*, *brit*, *bris*, or *brig*, which, he says, signifies *divided* or *striped*. Against the first of these etymologies it may be objected, that it is founded on a fable; and against the other three lies one common and unanswerable objection; which is, that the name of *Britain* was given to the island by foreigners, who could not borrow it from the British tongue, with which they were in all likelihood unacquainted. That the island received the name of *Britain* from foreigners is evident, since the natives never styled themselves *Britons*, nor their country *Britain*; their true name being *Cumri*, or *Cumbri*; whence *Cambria* the name of Wales to this day among the Welsh.

2 Origin of the different names.

3 Bochart's opinion. The learned Bochart, speaking of the colonies and language of the Phœnicians, offers a conjecture which most of our modern writers have adopted as the most natural. The Phœnicians, according to that writer, called this island, and some others near it, *Barat Anac*, that is, *the land or country of tin or lead*, and more contractedly *Bratanac*; which name, passing from the Phœnicians to the Greeks, and from these to the Romans, might have been softened into that of *Britannicæ*, and *Britannia*. That the Phœnicians first discovered these islands, which were afterwards by the Greeks called *Cassiterides*, and are proved by Camden to be our Scilly islands, appears both from Strabo and Pliny; of whom the former tells us, that the Phœnicians first brought tin from the Cassiterides, which they sold to the Greeks, but kept the trade to themselves, and the place private; and the latter writes, that Mediocritus was the first who brought lead from the Cassiterides; where Bochart shows that we ought to read *Melichartus*, who is the Phœnician Hercules of Sanchoniatho, to whom that nation ascribes their first western discoveries. But notwithstanding the care of the Phœnicians to conceal these islands, the Greeks at last discovered them; and gave them the name of *Cassiterides*, which, in the Greek tongue, signifies the same with *Barat Anac* in the Phœnician. This name was at first given to the islands of Scilly already mentioned, but by degrees communicated to all the others lying in the same sea. Thus Bochart. But after all, his opinion, however plausible in appearance, may be as foreign to the purpose as any of the rest; many instances of names given to new discovered countries showing that the origin of such names is not always owing to reason, but often to chance or caprice.

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The general division of Britain is into ENGLAND, SCOTLAND, and WALES; for a particular description and history of which, see these articles.

4 James VI. of Scotland succeeds to the crown of England. In the year 1603, the kingdoms of Scotland and England fell under the dominion of one sovereign, by the accession of James VI. of Scotland to the throne of England. He derived his title to the latter from being the grandson of Margaret, eldest daughter to Henry VII. of that kingdom; and, on the failure of all the male line, his hereditary right remained incontestable. Queen Elizabeth, with her latest breath, had recognized him for her successor; so that few sovereigns ever ascended a throne with more approbation of their subjects, or greater hopes of a peaceable and happy reign.

These hopes, however, were soon blasted; and the history of this monarch's reign consists of little else than a detail of disputes and contentions between him and his parliament. A particular and minute account of such transactions could afford very little entertainment; but it is of importance to know their origin, as they are to be reckoned the ultimate causes of those succeeding events which make so conspicuous a figure in the annals of Britain.

5 General state of the nation at that time. In those barbarous ages which preceded the period we are now entering upon, the human mind, enervated by superstition, and obscured by ignorance of every art and science, seemed to have given up all pretensions to liberty, either religious or civil. Unlimited and uncontrouled despotism prevailed everywhere; and though England suffered less in this respect than almost any other nation, the many examples of arbitrary power exerted by her sovereigns, Queen Elizabeth herself, James's immediate predecessor, not excepted, show that they

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they were very far from being then a free people. An incontestable proof of this, and an evidence how little restraint at that time the people could lay upon the authority of the sovereign, is, that the proceedings of parliament were accounted, even by themselves, of so little consequence, that they were not at the trouble to keep journals of them. It was not till the year 1607, four years after the accession of James, that parliamentary journals were kept, at the motion of Sir Edwin Sandys, a member of great authority in the house.

6 Parliaments of little consideration.

The proceedings of the parliament being at that time of so little consequence, it is no wonder that the sessions were not regular, or that little attention was paid to the choice or continuance of the members. In the reign of Elizabeth, and her predecessors, the sessions of parliament did not continue above the twelfth part so long as the vacations. It was then usual, after parliaments had been prolonged beyond one session, for the chancellor to exert a discretionary authority of issuing new writs to supply the place of any members whom he judged incapable of attending, either on account of their employment, sickness, or other impediment. No practice could be more dangerous to liberty than this, as it gave the chancellor, and consequently the sovereign, an opportunity of garbling at pleasure the representatives of the nation: yet so little was liberty at that time understood, that the commons, of their own accord, without the least court influence or intrigue, and contrary to some former votes of their own, confirmed the chancellor's power in this respect in the 23d of Elizabeth. Nor did they proceed any farther in the assertion of their privileges, than to vote, that "during the sitting of parliament there do not, at any time, any writ go out for the choosing or returning any member without the warrant of the house."

7 Origin of the patriotic party.

Towards the end of the 16th or beginning of the 17th century, a great revolution took place, though insensibly, throughout all Europe. Arts and sciences began to flourish, commerce and navigation were greatly extended, and learning of all kinds began to diffuse itself. By more enlarged views, the love of freedom began, in England especially, to take place in the breasts of most people of birth and education; and this was greatly promoted by an acquaintance with the ancient Greek and Latin historians. From the example of the republics of Greece and Rome, whose members had so often sacrificed their lives for the sake of liberty, a patriotic spirit began to arise; and a desire of circumscribing the excessive prerogative and arbitrary proceedings of the crown began secretly to take place throughout the nation.

8 Grievances the nation at that time laboured under.

Nor was the desire unreasonable, or without a solid foundation. During the last years of Queen Elizabeth's reign, the commerce, navigation, and number of seamen in England, had sensibly decayed. A remonstrance from the Trinity-house in 1602 says, that since 1588, the number of seamen and shipping had decayed about a third part. Every species of domestic industry was fettered by monopolies; and by exclusive companies, which are only another species of monopoly, almost all foreign trade, except that to France, was brought into the hands of a few rapacious engrossers, and all prospect of future improvement in commerce was for ever sacrificed to a little temporary advantage of the sovereign. These companies, though arbitrarily erected, had carried their privileges so far, that almost all the commerce of England centered in London; the customs of that port alone amounted to 110,000l. a-year; while those of all the kingdom besides amounted only to 17,000l.; nay, the whole trade of London was confined to about 200 citizens, who were easily enabled, by combining among themselves, to fix whatever price they pleased both on the exports and imports of the nation. Besides this, the subjects were burdened by wardships and purveyances. The latter was an old prerogative of the crown, by which the officers of the household were empowered to take, without consent of the owners, provisions for the king's family, and carts and horses for the removal of his baggage, upon paying a stated price for them. The king had also a power of sending any person, without his consent, on whatever message he pleased; and thus he could easily force any individual to pay him whatever money he chose, rather than be sent out of the country on a disagreeable errand. Money extorted from individuals, by this or any other method, was called a *benevolence*.

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These were some of the grievances under which the nation at this time laboured, and these the rising spirit of patriotism tended to redress. This disposition, however, the severe government of Elizabeth had confined within very narrow bounds: but when James succeeded to the throne; a foreign prince, less dreaded and less beloved; symptoms of a more free and independent genius immediately appeared. Happily James neither perceived the alteration, nor had sufficient capacity to check its early advances. He had established in his own mind a speculative system of absolute government, which few of his subjects, and none but traitors and rebels, he thought, would make any scruple to admit. He considered himself as entitled to equal prerogatives with other European sovereigns, not considering the military force with which their despotism was supported. The almost unlimited power which, for upwards of a century, had been exercised by the English sovereigns, he considered as due to royal birth and title, not to the prudence and spirit of those monarchs, or the conjunctures of the times. In his person, therefore, he imagined all legal power to be centered by an hereditary and a divine right; nay, so fully was he persuaded that he was the absolute proprietor of his subjects, that in his speech to the parliament in 1621, he told them, that he "wished them to have said that their privileges were derived from the grace and permission of him and his ancestors." And when the same parliament protested that "the liberties, franchises, privileges, and jurisdictions of parliament, are the ancient and undoubted birthright and inheritance of the subjects of England," he was so enraged, that sending for the journals of the commons, he, with his own hand, before the council, tore out this protestation; and ordered his reasons to be inserted in the council book.

9 James's arbitrary system of government.

Such were the opposite dispositions of the prince and parliament, at the commencement of the Scottish line; dispositions just beginning to exist and to appear in parliament, but thoroughly established, and openly avowed on the part of the king, throughout his whole reign.

The consequence of such opposite dispositions prevailing in the king and parliament was, that during this

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reign the prerogatives of the crown were violently and openly attacked; but the chief grounds of discontent were money and religion. The king's high notions of the royal prerogative made him imagine he had a right to whatever sums he pleased to demand; and his profusion caused him to dissipate in a short time the scanty supplies he could extort from the parliament, who seem to have behaved as unreasonably on the one hand as James himself did on the other. With regard to religious matters, the nation was at that time greatly infected with puritanism. Though the severities of Elizabeth had almost totally suppressed the Papists, it had been otherwise with the Puritans. So much had they increased by the very means which had diminished the number of Catholics, that no less than 750 clergymen of that persuasion signed a petition to James on his succession. They hoped that the king, having received his education in Scotland, and having always professed an attachment to the church established there, would at least abate the rigour of the laws enacted against the Puritans, if he did not show them particular favour and encouragement. But in this they were mistaken. He had observed in their Scots brethren a violent turn towards republicanism, and a zealous attachment to civil liberty. In the capacities both of monarch and theologian, he had experienced the little complaisance they were disposed to show him. They controuled his commands; disputed his tenets; and to his face, before the whole people, censured his conduct and behaviour. This superiority assumed by the presbyterian clergy, the monarchic pride of James could never digest. Though he had been obliged while in Scotland to court their favour, he treasured up on that account the stronger resentment against them; and was determined to make them feel in their turn the weight of his authority. He therefore not only rejected the petition of the 750 clergymen above mentioned, but throughout his whole reign refused to relax in the least the severity of the laws against Protestant nonconformists, though very often petitioned in their favour by his parliament.

10 Reasons of the dissensions between the king and parliament

11 Aversion of James to the Puritans.

12 He favours the Episcopals and Papists.

The same principles which occasioned in James such an aversion to the Puritans, prompted him greatly to favour the Episcopals, and even the Papists, as being greater friends to despotism. In his youth he had been suspected of a bias towards the religion of the latter; and when he ascended the throne of England, it is certain he often endeavoured to procure some mitigation of the laws against them, if not an absolute toleration. But in this he was constantly opposed by the parliament; and indeed the strong inclination shown by James to establish Episcopacy throughout every corner of his dominions, tended very much to alienate the minds of the generality of his subjects, especially in Scotland, entirely from him.

13 Attempts to establish Episcopacy in Scotland.

In May 1617, the king set out for Scotland, expressly with the design of establishing Episcopacy in that kingdom. He did not, however, propose to abolish Presbytery entirely, and set up absolute Episcopacy in its room. He designed to content himself with establishing the royal authority above the ecclesiastical, and introducing some ceremonies into the public worship, such as kneeling at the sacrament, private communion, private baptism, confirmation of children, and the observance of Christmas, &c. But as his design was fully seen from the beginning, every advance towards Episcopacy gave the greatest discontent, and those trivial ceremonies were rejected as so many mortal sins.

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14 Tyranny of the Scots clergy.

At this time the power of the Scots clergy was exceedingly great; and the gloomy enthusiastic spirit with which they were actuated, prompted them to exercise it in such a manner as to make their tyranny insupportable to those who were of a different way of thinking from themselves. Every ecclesiastical court possessed the power of excommunication; which was then attended with some very serious temporal consequences, besides the spiritual ones which are supposed to flow from it. The person excommunicated was shunned by every one as profane and impious; his whole estate during his life-time, and all his moveables for ever, were forfeited to the crown. A sentence of excommunication was sometimes pronounced in a summary manner, by any ecclesiastical court, however inferior, against any person, whether he lived within the bounds of their jurisdiction or not. And by this means, the whole tyranny of the inquisition, though without its orders, was introduced into Scotland. But the clergymen were not satisfied with this unbounded authority in ecclesiastical matters; they assumed a censorial power over every part of administration; and in all their sermons and even prayers, mingling politics with religion, they inculcated the most seditious and turbulent principles.

15 Anecdotes of some of them.

One Black, a minister of St Andrew's, went so far as to pronounce in one of his sermons, that all kings were the devil's children; and in his prayer for the queen he used these words, "We must pray for her for the fashion's sake, but we have no cause: she will never do us any good." Another minister preaching in the principal church of that capital, said, that the king was possessed with a devil; and that, one devil being expelled, seven worse had entered in his place. To which he added, that the subjects might lawfully rise, and take the sword out of the hands of their sovereign.

16 The king's design misgives in Scotland.

We can scarcely wonder that James should be desirous of subjugating such rebellious and turbulent spirits as these; and, on the other hand, considering the extreme weakness of this monarch's understanding, and that he imagined himself able to manage not only furious religionists, but even the most powerful foreign nations, with no other weapon than mere argumentation, we can as little wonder at his want of success.—In short, so far was James from being able to establish his royal authority above the ecclesiastical, that he found himself unable to introduce a single ceremony. He returned therefore with the mortification not only of seeing his schemes entirely baffled with regard to Scotland, but of having disgusted even the few of that nation over whom religious prejudices did not prevail: for they, considering the ceremonies so much insisted on by the king as trivial and insignificant, could not help thinking the national honour sacrificed by a servile imitation of the modes of worship practised in England, and that their sovereign betrayed equal narrowness of mind, though in an opposite manner, with those he so much condemned.

17 His bad success against the Puritans in England.

The like bad success attended James when he attempted some opposition to the puritanical innovations in England. He had observed in his progress through

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Britain. that kingdom, that a judaical observance of the Sunday gained ground every day; and that by this means, under colour of religion, the people were debarred from such sports and recreations as contributed to their health as well as amusement. Imagining, therefore, that it would be easy to infuse cheerfulness into the dark spirit of devotion which then prevailed, he issued a proclamation to allow and encourage, after divine service, all kinds of lawful games and exercises; and this proclamation his subjects regarded as an instance of the utmost profaneness and impiety. In 1620 a bill was brought in by the commons for the more strict observance of the Sunday, which they affected to call the *sabbath*. One Shepherd opposed this bill, objected to the appellation of *sabbath* as puritanical, and seems even to have justified sports on that day. For this he was expelled the house by the suggestion of Mr Pym; and in the sentence pronounced against Shepherd, his offence is said to be *great*, *exorbitant*, and *unparalleled*.

This sketch, we hope, will be sufficient to give the reader a tolerable idea of the situation of affairs during the reign of James I. We now proceed to give an account of the few remarkable transactions which occurred in this period.

18 Sir Walter Raleigh's conspiracy. The first thing of any consequence was a conspiracy formed, the very year of the king's accession to the throne, to displace him, and bestow the kingdom on Arabella Stuart, a near relation of James's, and equally descended from Henry VII. With regard to this conspiracy every thing remains still mysterious, as it was at the time when the conspiracy itself was discovered. What renders it remarkable is the concern Sir Walter Raleigh was said to have in it; for which he was tried, condemned without sufficient proof, suffered 13 years imprisonment in the Tower, and was afterwards executed out of complaisance to the Spaniards. See RALEIGH.

19 Account of the gunpowder treason. In 1605 was discovered the famous *gunpowder treason*, the anniversary of which discovery hath ever afterwards been celebrated with rejoicings. Its origin was as follows: On the accession of James, great expectations had been formed by the catholics, that he would prove favourable to them, both as that was the religion of his mother, and as he himself had been suspected of a bias towards it in his youth. It is even pretended that he had entered into a positive engagement to grant them a toleration as soon as he should mount the throne of England. Here, however, they found their hopes built on a false foundation. James on all occasions expressed his intention of executing strictly the laws enacted against them, and of persevering in all the rigorous measures of Queen Elizabeth. A plan of revenge was first thought of by one Catesby, a gentleman of good parts, and of an ancient family. He communicated his mind to Percy, a descendant of the house of Northumberland. The latter proposed to assassinate the king; but this seemed to Catesby very far from being adequate to their purpose. He told Percy, that the king would be succeeded by his children, who would also inherit his maxims of government. He told him, that even though the whole royal family were destroyed, the parliament, nobility, and gentry, who were all infected with the same heresy, would raise another Protestant prince to the throne.

Britain. "To serve any good purpose (says he), we must destroy, at one blow, the king, the royal family, the lords and commons; and bury all our enemies in one common ruin. Happily they are all assembled on the first meeting of parliament; and afford us the opportunity of glorious and useful vengeance. Great preparations will not be requisite. A few of us may run a mine below the hall in which they meet; and choosing the very moment when the king harangues both the houses, consign over to destruction those determined foes to all piety and religion. Meanwhile, we ourselves standing aloof, safe and unsuspected, shall triumph in being the instruments of divine wrath, and shall behold with pleasure those sacrilegious walls, in which were passed the edicts for proscribing our church and butchering her children, tossed into a thousand fragments; while their impious inhabitants, meditating perhaps still new persecutions against us, pass from flames above to flames below, there for ever to endure the torments due to their offences."

20 Catesby's speech.

21 Preparations for the execution of the plot. This terrible scheme being approved of, it was resolved to communicate it to a few more. One Thomas Winter was sent over to Flanders in quest of Fawkes, an officer in the Spanish service, of approved zeal and courage. All the conspirators were bound by the most solemn oaths, accompanied with the sacrament; and to such a degree had superstition effaced every principle of humanity from their minds, that not one of them ever entertained the smallest compunction for the cruel massacre they were going to commit. Some indeed were startled at the thoughts of destroying a number of catholics who must necessarily be present as spectators, or attendants on the king, or as having seats in the house of peers. But Tesmond a Jesuit, and Garnet superior of that order in England, removed those scruples, by showing that the interest of religion required in this case the sacrifice of the innocent with the guilty.

This happened in the spring and summer of 1604; when the conspirators also hired a house in Percy's name, adjoining to that in which the parliament was to assemble. Towards the end of that year they began to pierce through the wall of the house, in order to get in below that where the parliament was to sit. The wall was three yards thick, and consequently occasioned a great deal of labour. At length, however, they approached the other side, but were then startled by a noise for which they could not well account. Upon inquiry, they found that it came from a vault below the house of lords; that a magazine of coals had been kept there; and that the coals were then selling off, after which the vault would be let to the highest bidder. Upon this the vault was immediately hired by Percy; 36 barrels of powder lodged in it; the whole covered up with faggots and billets; the doors of the cellar boldly flung open; and every body admitted as if it contained nothing dangerous.

Being now, as they thought, assured of success, the conspirators began to plan the remaining part of their enterprise. The king, the queen, and Prince Henry, were expected to be present at the opening of the parliament. The duke, by reason of his tender age, would be absent, and it was resolved that Percy should seize or murder him. The princess Elizabeth, likewise a child, was kept at Lord Harrington's house in Warwickshire; and some others of the conspirators engaged to

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Britain. to assemble their friends on pretence of a hunting match, when they were to seize that princess, and immediately proclaim her queen. The day so long wished for at last approached; the dreadful secret, though communicated to more than 20 persons, had been religiously kept for near a year and a half; and nothing could be foreseen which could possibly prevent the success of their design. Ten days before the meeting of parliament, however, Lord Monteagle, a catholic, son to Lord Morley, received the following letter, which had been delivered to his servant by an unknown hand.

22 Conspiracy discovered. "My lord, out of the love I bear to some of your friends, I have a care for your preservation. Therefore I would advise you, as you tender your life, to devise some excuse to shift off your attendance on this parliament. For God and man have determined to punish the wickedness of this time. And think not slightly of this advertisement; but retire yourself into the country, where you may expect the event in safety. For though there be no appearance of any stir; yet, I say, they shall receive a terrible blow this parliament; and yet they shall not see who hurts them. This counsel is not to be contemned, because it may do you good, and can do you no harm: for the danger is over as soon as you have burned this letter. And I hope God will give you the grace to make a good use of it, to whose holy protection I commend you."—Though Monteagle imagined this letter to be only a ridiculous artifice to frighten him, he immediately carried it to Lord Salisbury, secretary of state; who laid it before the king on his arrival in town a few days after.

The king looked upon the letter in a more serious light. From the manner in which it was wrote he concluded that some design was forming to blow up the parliament-house with gunpowder, and it was thought advisable to search the vaults below. The lord chamberlain, to whom this charge belonged, purposely delayed the search till the day before the meeting of parliament. He remarked those great piles of wood and faggots which lay in the vault under the upper house; and casting his eye upon Fawkes, who stood in a corner and passed himself for Percy's servant, he took notice of that daring and determined courage, which was conspicuous in his face, and so much distinguished this conspirator even amongst the other heroes in villany that were concerned in the scheme. Such a quantity of fuel, also, for one who lived so little in the town as Percy, appeared somewhat extraordinary; and, upon comparing all circumstances, it was resolved to make a further search. About midnight, Sir Thomas Knevet, a justice of peace, was sent with proper attendants; and before the door

23 Fawkes seized. of the vault, finding Fawkes, who had just finished all his preparations, he immediately seized him, and, turning over the faggots, discovered the powder. The matches and every thing proper for setting fire to the train were taken in Fawkes's pocket; who seeing now no refuge but in boldness and despair, expressed the utmost regret that he had lost the opportunity of firing the powder at once, and of sweetening his own death with that of his enemies. For two or three days he displayed the same obstinate intrepidity; but, on being confined in the Tower, and the rack just shown to him, his courage at last failed, and he made a full discovery of all the conspirators.

Catesby, Percy, and the other criminals, on learning that Fawkes was arrested, hurried away to Warwickshire; where Sir Edward Digby, imagining that his confederates had succeeded, was already in arms to seize the princess Elizabeth. She had escaped into Coventry; and they were obliged to put themselves in a posture of defence against the country-people, who were raised from all quarters and armed by the sheriffs. The conspirators, with all their attendants, never exceeded the number of 80 persons; and being surrounded on every side, could no longer have any hope either of prevailing or escaping. Having therefore confessed themselves, and received absolution, they boldly prepared for death, and resolved to sell their lives as dear as possible. But even this miserable consolation was denied them. Some of their powder took fire and disabled them from defending themselves. The people then rushed in upon them. Percy and Catesby were killed with one shot. Digby, Rookwood, Winter, and others, being taken prisoners, were tried, confessed their guilt, and died, as well as Garnet, by the hands of the common executioner. The lords Stourton and Mordaunt, two catholics, were fined, the former of 4000l. the latter of 10,000l. by the star-chamber; because their absence from parliament had occasioned a suspicion of their being made acquainted with the conspiracy. The earl of Northumberland was fined 30,000l. and detained several years a prisoner in the Tower; because, not to mention other grounds of suspicion, he had admitted Percy into the number of gentlemen pensioners, without his taking the requisite oaths.

Britain. 24 Conspirators punished.

25 James's wise conduct in the legislation of Ireland.

In 1612, James appears in his most advantageous point of view, namely, as legislator of Ireland, and the person who undertook to civilize the barbarous inhabitants of that kingdom, and to render their subjection durable and useful to the crown of England. In this work, James proceeded by a steady, regular, and well-concerted plan. He began with abolishing the ancient Irish customs which supplied the place of laws, and which were exceedingly barbarous and absurd. By the Brehon law, every crime however enormous was punished, not with death, but by a fine. Murder itself was compensated in this way. Every one had a value affixed to him, called his *eric*; and whoever was able to pay this, might kill him when he pleased. As for such slight offences as oppression, extortion, or other things of that nature, no penalty was affixed to them, nor could any redress for them ever be obtained. By the custom of *gavelkinde*, upon the death of any person, his land was divided among all the males of the sept or family, both bastard and legitimate: and after partition made, if any of the sept died, his portion was not shared out among his sons; but the chieftain at his discretion made a new partition of all the lands belonging to that sept, and gave every one his share: as no man, by reason of this custom, enjoyed the fixed property of any land; to build, cultivate, or improve, must have been so much lost labour. Their chieftains were established by election, or, more properly speaking, by force and violence. Their authority was absolute; and, notwithstanding certain lands were assigned to the office, its chief profit resulted from exactions, duces, assessments, for which there was no fixed law, and which were levied at pleasure.

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After abolishing these customs, and substituting English law in their place; James having taken all the natives under his protection, and declared them free citizens, proceeded to govern them by a regular administration, military as well as civil. A sufficient army was maintained, its discipline inspected, and its pay transmitted from England, in order to prevent the soldiery from preying upon the country, as had been usual in former reigns. When O'Doghartie raised an insurrection, a reinforcement was sent over, and the rebellion immediately extinguished. All minds being first quieted by an universal indemnity, circuits were established, justice administered, and crimes of every kind severely punished. As the Irish had been universally engaged in a rebellion against Elizabeth, a resignation of all the rights formerly granted them to separate jurisdictions was rigorously exacted; a resignation to private estates was even required; and when they were restored, the proprietors received them under such conditions as might prevent all future tyranny and oppression over the common people. The whole province of Ulster having fallen to the crown by the attainder of rebels, a company was established in London for planting new colonies in that fertile country. The property was divided into moderate shares, the largest not exceeding 2000 acres; tenants were brought over from England and Scotland: The Irish were removed from the hills and fastnesses, and settled in the open country: Husbandry and the arts were taught them: and by these means Ulster, from being the most wild and disorderly province in Ireland, soon became the best cultivated and most civilized.

26 Death of Henry prince of Wales.

This year was also remarkable for the death of Henry prince of Wales, who died suddenly on the 6th of November, not without strong suspicions of poison, for which the king himself was blamed. On opening his body, however, no symptoms of poison appeared; but his death diffused an universal grief throughout the nation, he being reckoned a prince of extraordinary accomplishments.

27 Marriage of the princess Elizabeth with the elector palatine.

The marriage of the princess Elizabeth with Frederic elector palatine, which was celebrated February 14. 1613, served to dissipate the grief which had arisen on account of Prince Henry's death. But this marriage, in the event, proved unhappy to the king as well as his son-in-law. The elector, trusting to so great an alliance, engaged in enterprises beyond his strength; and James, not being able, and indeed perhaps not willing to assist him in his distress, lost entirely what remained of the affections of his people.

28 The elector chosen king of Bohemia.

These bad consequences did not begin to appear till the year 1619. At that time the states of Bohemia having taken arms against the emperor Matthias, in defence of the Protestant religion, and continued their revolt against his successor Ferdinand II. and being alarmed at his mighty preparations against them, made an offer of their crown to the elector palatine. To this they were induced by the greatness of his connections, as being son-in-law to the king of England, and nephew to Prince Maurice, whose authority in the United Provinces was almost absolute; and the young palatine, stimulated by ambition, without consulting either James or Maurice, whose opposition he foresaw, immediately accepted the offer, and marched all his forces into Bohemia, in support of his new subjects. Britain.

29 Defeated and driven out of his dominions.

The affairs of the new king were not long of coming to an unfortunate crisis. It was known almost at one time in England, that Frederic being defeated in the great and decisive battle of Prague, had fled with his family into Holland; and that Spinola the Spanish general had invaded the palatinate, where meeting with little resistance, except from one body of 2400 Englishmen commanded by the brave Sir Horace Vere, he had in a little time reduced almost the whole principality. In 1621, the ban of the empire was published against the unfortunate elector, and the execution of it was committed to the duke of Bavaria. The upper palatinate was in a little time conquered by that prince; and measures were taken in the empire for bestowing on him the electoral dignity of which the palatine was despoiled. Frederic was now obliged to live with his numerous family in poverty and distress, either in Holland, or at Sedan, with his uncle the duke of Bouillon; and the new conquests of the Catholics throughout all Germany were attended with persecutions against the Protestants.

30 English insist for a war with the house of Austria.

At this news the religious zeal of the English was inflamed to the highest degree; and they would have plunged headlong into a war with the house of Austria, without reflecting in the least on the consequences that might ensue. The sufferings of their Protestant brethren in Germany were the only objects of consideration, and the neutrality and inactive spirit shown by James was loudly exclaimed against. But though James might have defended his pacific measures by very plausible arguments, it is certain that some of his motives were the most ridiculous that can be imagined. Such was the opinion that he himself entertained of his own wisdom, that he imagined himself capable of disarming hostile nations by dint of argument; and that the whole power of Austria, though not awed by the power of England, would submit to his arbitration, merely out of respect to his virtue and moderation.—So much also was he wedded to his opinion concerning the prerogative of kings, that he imagined, wherever there was a contention between any sovereign and his subjects, the latter behoved always to be in the wrong; and for this reason, from the very first he had denied his son-in-law the title of *king of Bohemia*, and forbade him to be prayed for in the churches under the appellation. Besides these reasons, James was on another account extremely averse to come to a rupture with Spain. He had entertained an opinion peculiar to himself, which was, that any alliance below that of a king was unworthy a prince of Wales; and he never would allow any princess but a daughter of France or Spain to be mentioned as a match for his son. This piece of pride, which really implied meanness, as if he could have received honour from any alliance, gave Spain an opportunity of managing this monarch in his most important concerns. With a view to engage him to a neutrality with regard to the succession of Cleves, the elder daughter of the king of Spain had been indirectly offered during the life of Prince Henry. The bait, however, did not then take; James, in consequence of his alliance with the Dutch, marched 4000 men to the assistance of the Protestants, by which means

31 His ridiculous motives for not assisting his son-in-law.

31 He is desirous of a Spanish match for his son.

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the succession was secured to the Protestant line. In 1618, Gondomar the Spanish ambassador made offer of the king's second daughter to Prince Charles; and, that he might render the temptation irresistible to the necessitous James, gave hopes of an immense fortune that should attend the princess. Upon this match James had built great hopes, not only of relieving his own necessities, but of recovering the palatinate for his son-in-law; which last, he imagined, might be procured from the mere motives of friendship and personal attachment.

33 Commons averse to this measure.

This last step was equally disagreeable to the commons with the rest; and, joined to the other pieces of James's conduct, at last blew into a flame the contention which had so long subsisted between their sovereign and them. On the 14th of November 1621, the commons framed a remonstrance which they intended to carry to the king. They represented, that the enormous growth of the Austrian power threatened the liberties of Europe; that the progress of the Catholic religion in England bred the most melancholy apprehensions lest it should again acquire an ascendant in the kingdom; that the indulgence of his majesty towards the professors of that religion had encouraged their insolence and temerity; that the uncontrouled conquests made by the Austrian family in Germany raised mighty expectations in the English Papists; but above all, that the Spanish match elevated them so far as to hope for an entire toleration, if not a final re-establishment, of their religion. They therefore intreated his majesty, that he would immediately undertake the defence of the palatinate, and maintain it by force of arms; that he would turn his sword against Spain, whose armies and treasures were the chief support of the Catholic interest in Europe; that he would enter into no negociation for the marriage of his son but with a Protestant princess; that the children of Popish recusants should be taken from their parents, and committed to the care of Protestant teachers and schoolmasters; and that the fines and confiscations to which the Catholics by law were liable, should be levied with the utmost severity.

34 They frame a remonstrance against it.

35 Contention between the king and commons.

The king, who was then at Newmarket, hearing of the intended remonstrance, wrote a letter to the speaker, in which he sharply rebuked the house for debating on matters far above their reach and capacity; and he strictly forbade them to meddle with any thing that regarded his government, or deep matters of state, and especially not to touch on his son's marriage with the Spanish princess. Upon this the commons framed a new remonstrance, in which they asserted their right of debating on all matters of government, and that they possessed entire freedom of speech in their debates. The king replied, that their remonstrance was more like a denunciation of war, than an address of dutiful subjects; that their pretension to inquire into all state affairs without exception, was such a plenipotence as none of their ancestors, even during the reign of the weakest princes, had ever pretended to; that public transactions depended on a complication of views and intelligence, with which they were entirely unacquainted; that they could not better show their wisdom, as well as duty, than by keeping within their proper sphere; and that in any business which depended on his prerogative, they had no title to interpose with their advice, unless when he pleased to ask it, &c. The commons in return framed the protestation already mentioned, which the king tore out of their journals, and soon after dissolved the parliament. The leading members of the house, Sir Edward Coke and Sir Robert Phillips, were committed to the Tower; three others, Selden, Pym, and Mallory, to other prisons; and, as a lighter punishment, some others were sent into Ireland to execute the king's business. Sir John Saville, however, a powerful man in the house of commons, and a zealous opposer of the court, was made comptroller of the household, a privy counsellor, and soon after a baron. This event is memorable; as being the first instance in the English history, of any king's advancing a man on account of parliamentary interest, and of opposition to his measures.

Britain.

36 Origin of the factions of Whig and Tory.

This breach between the king and parliament soon made politics become a general subject of discourse, and every man began to indulge himself in reasonings and inquiries concerning matters of state; and the factions which commenced in parliament were propagated throughout the nation. In vain did James, by reiterated proclamations, forbid discourses of this kind. Such proclamations, if they had any effect, served rather to inflame the curiosity of the public. In every company or society the late transactions became the subject of argument and debate; some taking the side of monarchy, others of liberty; and this was the origin of the two parties since known by the names of *Whigs* and *Tories*.

37 James gains the favour of the court of Spain.

For five years, James continued the dupe of the court of Spain. Though firmly resolved to contract no alliance with a heretic, the king of Spain had continued to procrastinate and invent one excuse after another, while he pretended to be very willing to conclude the match. At last the king of England, finding out what was really the matter, resolved to remove that obstacle if possible. He issued public orders for discharging all Popish recusants who were imprisoned; and it was daily apprehended that he would forbid, for the future, the execution of the penal laws against them. For this conduct he was obliged to apologize, and even pretend that it was done in order to procure from foreign princes a toleration for the Protestants; the severity of the English laws against Catholics, he said, having been urged as a reason against showing any favour to Protestants residing in catholic kingdoms.

These concessions in favour of the Catholics, however ill relished by his subjects, at last obtained James's end with regard to the marriage. The earl of Bristol, ambassador at the court of Spain, a minister of vigilance and penetration, and who had formerly opposed the alliance with Catholics, being now fully convinced of the Spanish sincerity, was ready to congratulate the king on the completion of his projects. The Spanish princess is represented as very accomplished; she was to bring with her a fortune of 600,000l.; and, what was more, not only Bristol considered this match as an infallible prognostic of the palatine's restoration, but the Spaniards themselves did the same. All things being therefore agreed upon between the parties, nothing was wanting but the dispensation from Rome, which might be considered as a matter of mere formality. The king exulted in his pacific counsels, and boasted of his superior sagacity and penetration; when all his

38 Marriage with the infanta agreed upon.

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flattering prospects were blasted by the temerity of the duke of Buckingham, who governed both court and nation with almost unlimited sway.

This nobleman had suddenly been raised to the highest honours. Though possessed of some accomplishments of a courtier, he was utterly devoid of every talent of a minister; but at once partook of the insolence which attends a fortune newly acquired, and the impetuosity which belongs to persons born in high stations, and unacquainted with opposition. Among those who had experienced the arrogance of this overgrown favourite, the prince of Wales himself had not been entirely spared; and a great coldness, if not enmity, had for that reason taken place between them. Buckingham being desirous of putting an end to this coldness, and at the same time envious of the great reputation of the earl of Bristol, persuaded the prince to undertake a journey to Madrid; which, he said, would be an unexpected gallantry; would equal all the fictions of Spanish romance; and, suiting the amorous and enterprising character of that nation, must immediately introduce him to the princess under the agreeable character of a devoted lover and daring adventurer. Little persuasion was necessary to prevail with Prince Charles to undertake this journey; and the impetuosity of Buckingham having extorted a consent from James, our two adventurers set out, Prince Charles as the knight-errant, and Buckingham as the squire. They travelled through France in disguise, assuming the names of Jack and Tom Smith. They went to a ball at Paris, where the prince first saw the princess Henrietta, whom he afterwards married, who was then in the bloom of youth and beauty, and with whom the novelists of that time say, he then fell in love. On their arrival at Madrid, every body was surprised by a step so little usual among great princes. The Spanish monarch made Charles a visit, expressed the utmost gratitude for the confidence he reposed in him, and made warm protestations of a correspondent confidence and friendship. He gave him a golden key which opened all his apartments, that the prince might, without any introduction, have access to him at all hours: he took the left hand of him on every occasion, except in the apartments assigned to Charles; for there, he said, the prince was at home: Charles was introduced into the palace with the same pomp and ceremony which attended the kings of Spain on their coronation: the council received public orders to obey him as the king himself: Olivarez too, the prime minister, though a grandee of Spain, who has the right of being covered before his own king, would not put on his hat in the prince's presence: all the prisons of Spain were thrown open, and all the prisoners received their freedom, as if an event the most honourable and most fortunate had happened to the monarchy; and every sumptuary law with regard to apparel was suspended during Prince Charles's residence in Spain. The infanta, however, was only shown to her lover in public; the Spanish ideas of decency being so strict, as not to allow any farther intercourse till the arrival of the dispensation. The point of honour was carried so far by these generous people, that no attempt was made, on account of the advantage they had acquired by having the prince of Wales in their power, to impose any harder conditions of treaty: their pious zeal only prompted them on one occasion to desire more concessions in the religious articles; but, on the opposition of Bristol, they immediately desisted. The pope, however, hearing of Charles's arrival in Madrid, tacked some new clauses to the dispensation; and it became necessary to transmit the articles to London, that the king might ratify them. This treaty, which was made public, consisted of several articles, chiefly regarding the exercise of the Catholic religion by the infanta; and, among these, nothing could reasonably be found fault with, except one article, in which the king promised that the children should be educated by the princess till they were ten years of age; which undoubtedly was insisted upon with a view of seasoning their minds with catholic principles. But, besides this public treaty, there were some private articles sworn to by James, which could not have been made public without grievous murmurs. A suspension of the penal laws against the English Catholics was promised, as likewise a repeal of them in parliament, and a toleration for the exercise of that religion in private houses. Meanwhile Gregory XV. who granted the dispensation, died; and Urban VIII. was chosen in his place. Upon this event, the nuncio refused to deliver the dispensation till it should be renewed by Urban. This the crafty pontiff delayed, in hopes that, during the prince's residence in Spain, some expedient might be fallen upon to effect his conversion. The king of England, as well as the prince, became impatient: but, on the first hint, Charles obtained leave to return; and Philip graced his departure with all the circumstances of civility and respect which had attended his arrival. He even erected a pillar on the spot where they took leave of each other, as a monument of mutual friendship: and the prince, having sworn to the observance of all the articles, embarked on board the English fleet at St Andero.

39 Prince Charles and Buckingham resolve on a journey into Spain.

40 Their kind reception in that kingdom.

41 Articles of the marriage treaty.

42 The prince returns.

The modest, reserved, and decent behaviour of Charles, together with his unparalleled confidence in them, and the romantic gallantry he had practised with regard to their princess, had endeared him to the whole court of Madrid. But in the same proportion that Charles was beloved and esteemed, was Buckingham despised and hated. His sallies of passion; his indecent freedoms with the prince; his dissolute pleasures; his arrogant impetuous temper, which he neither could nor would disguise; were to the Spaniards the objects of peculiar aversion. They lamented the infanta's fate, who must be approached by a man whose temerity seemed to respect no laws divine or human. Buckingham, on the other hand, sensible how odious he was become to the Spaniards, and dreading the influence which that nation would naturally acquire after the arrival of the infanta, resolved to employ all his credit in order to prevent the marriage. By what arguments he could prevail on the prince to offer such an insult to the Spanish nation, from whom he had received such generous treatment; by what colours he could disguise the ingratitude and imprudence of such a measure; these are totally unknown to us: certain it is, however, that when the prince left Madrid, he was firmly determined, in opposition to his most solemn promises, to break off the treaty with Spain. On their arrival at London, therefore, the prince and Buckingham assumed the entire direction of the negociation; and it

43 Buckingham prevails on him to resolve against the marriage.

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was their business to seek for pretences by which they could give a colour to their intended breach of treaty. At last, after many fruitless artifices were employed to delay or prevent the espousals, Bristol received positive orders not to deliver the proxy which had been left in his hands, or to finish the marriage, till security was given for the full restitution of the palatinate. Philip understood this language: but being determined to throw the whole blame of the rupture on the English, he delivered into Bristol's hand a written promise, by which he bound himself to procure the restoration of the palatinate either by persuasion or by every other possible means; and when he found that this concession gave no satisfaction, he ordered the infanta to lay aside the title of *princess of Wales*, which she bore after the arrival of the dispensation from Rome, and to drop the study of the English language; and as he knew that such rash counsels as now governed the court of England would not stop at the breach of the marriage-treaty, he immediately ordered preparations for war to be made throughout all his dominions.

44 Philip obliges himself to procure the restitution of the palatinate.

45 Match with Henrietta, princess of France.

A match for Prince Charles was soon after negociated with Henrietta, daughter of the great Henry IV. and this met with much better success than the former. However, the king had not the same allurements in prosecuting this match as the former, the portion promised him being much smaller; but, willing that his son should not be altogether disappointed of a bride, as the king of France demanded only the same terms that had been offered to the court of Spain, James thought proper to comply. In an article of this treaty of marriage, it was stipulated, that the education of the children till the age of 13 should belong to the mother; and this probably gave that turn towards popery which has since proved the ruin of the unfortunate family of Stuart.

46 War declared against Spain.

James now, being deprived of every other hope of relieving his son-in-law but by force of arms, declared war against Spain and the emperor, for the recovery of the palatinate; 6000 men were sent over into Holland to assist Prince Maurice in his schemes against those powers; the people were everywhere elated at the courage of their king, and were satisfied with any war which was to exterminate the Papists. This army was followed by another consisting of 12,000 men, commanded by Count Mansfeldt; and the court of France promised its assistance. But the English were disappointed in all their views: the troops being embarked at Dover, upon sailing to Calais, found no orders for their admission. After waiting for some time, they were obliged to sail towards Zealand, where no proper measures were yet consulted for their disembarkation. Meanwhile, a pestilential disorder crept in among them, so long cooped up in narrow vessels: half the army died while on board; and the other half weakened by sickness, appeared too small a body to march into the palatinate; and thus ended this ill-concerted and fruitless expedition. Whether this misfortune had any effect on the king's constitution or not, is uncertain; but he was soon after seized with a tertian ague, which put an end to his life on the 27th of March 1625, after having lived 59 years, and reigned over England 22, and over Scotland almost as long as he lived.

47 Unsuccessful expedition of Count Mansfeldt.

48 Death of King James.

49 Succeeded by his son Charles I.

James was succeeded by his son Charles I. who ascended the throne amidst the highest praises and caresses of his subjects, for what was perhaps the most blame-worthy action of his life, namely, his breaking off the match with the Spanish princess, and procuring the rupture with the house of Austria. Being young and unexperienced, he regarded these praises as sincere: and therefore was so impatient to assemble the great council of the nation, that he would gladly, for the sake of despatch, have called together the same parliament which sat under his father, and which lay at that time under prorogation. But being told that such a measure would appear unusual, he issued writs for summoning a new parliament on the 7th of May; and it was not without regret that the arrival of the princess Henrietta, whom he had espoused by proxy, obliged him to delay, by repeated prorogations, their meeting till the 18th of June, when they assembled at Westminster for the despatch of business.

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50 His affection for his people.

51 His character.

Charles inherited from his father great distress for money, very high notions of the royal prerogative, and a violent attachment to Episcopacy. As to his character, he seems to have been obstinate, though not resolute; and therefore, though it was scarce ever possible to make him give up his point, he never could carry on his designs with that spirit which was necessary for their success. In other respects, he appears to have possessed every virtue requisite to constitute the character of a good man. At present believing his subjects to be in perfect friendship with him, as he was with them, he resolved that their bounty to him should be entirely unasked, and the genuine effect of mutual confidence and regard. Accordingly, his discourse to the parliament was full of simplicity and cordiality. He lightly mentioned the occasion he had for supply. He employed no intrigue to influence the suffrages of the members. He would not even allow the officers of the crown, who had seats in the house, to mention any particular sum which he had occasion for; but trusted entirely to the wisdom and affection of his parliament, who perfectly well knew his circumstances.

52 His first speech to his parliament.

53 Their scandalous proceedings.

It is almost impossible to read without indignation an account of the return made by the commons to this generous behaviour of their sovereign. They knew that all the money granted by the last parliament had been expended on military and naval preparations; and that great anticipations were likewise made on the revenues of the crown. They were not ignorant that Charles was loaded with a debt contracted by his father, who had borrowed money both from foreign princes, and from his own subjects. They had learned by experience, that the public revenues could with difficulty maintain the dignity of the crown, even under the ordinary charges of government. They were sensible that the present war was, very lately, the result of their own importunate applications and entreaties, and that they had solemnly engaged to support their sovereign in the management of it. They were acquainted with the difficulty of military enterprises directed against the whole house of Austria; against the king of Spain, possessed of the greatest riches and most extensive dominions of any prince in Europe; against the emperor Ferdinand, hitherto the most fortunate monarch of the age, who had subdued and astonished Germany by the rapidity of his victories. Deep impressions they saw must be made by the British sword,

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Britain. sword, and a vigorous offensive war be waged against these mighty potentates, ere they would resign the palatinate which they had now fully subdued, and which they held in secure possession by its being surrounded with all their other territories. To answer, therefore, all these great and important ends; to satisfy their young king in the first request he made them; to prove their sense of the many royal virtues, particularly economy, with which Charles was endued; the commons thought proper to confer on the king a supply of 112,000l. To search for the reasons of such an extravagant piece of conduct would be needless; it is impossible they could be good.

It is not to be supposed that Charles, or any person of common sense, could be insensible of such treatment as this; he behaved, however, with great moderation. He represented in the most explicit manner the necessity there was for a large supply: he even condescended to use entreaties: he said that this request was the first he had ever made them; that he was young, and in the commencement of his reign; and if he now met with kind and dutiful usage, it would endear him to the use of parliaments, and would for ever preserve an entire harmony between him and his people.—To these reasons and entreaties, the commons remained inexorable; they even refused the addition of two fifteenths to the former supply. Instead of this, they renewed their ridiculous complaints against the growth of Popery, which was now their only grievance. They showed their intolerant spirit by demanding a strict execution of the penal laws against the Catholics; and remonstrated against some late pardons granted to priests. They attacked Montague, one of the king's chaplains, on account of a moderate book which he had lately composed, and which, to their great disgust, saved virtuous Catholics as well as other Christians from eternal torments. Charles gave them a gracious and complaisant answer; but firmly resolved to abate somewhat of the rigorous laws against that unfortunate party, which his engagements with France absolutely required. No measure, however, throughout the whole reign of this prince, was more disgustful to his bigotted subjects, or by its consequences more fatal to himself than this resolution. The Puritans had continued to gain ground during the whole reign of James, and now formed the majority of the house of commons; in consequence of which, petitions were presented to the king for placing such *able* clergymen as had been silenced for want of conformity to the ceremonies. They also enacted laws for the strict observance of Sunday, which they affected to call the *sabbath*, and which they sanctified with the most melancholy indolence; and it is worthy of notice, that the different appellations of *Sunday* and *Sabbath* were at that time known symbols of the different parties.

54 King's resolution to favour the Catholics.

55 Parliament dissolved. In consequence of this behaviour in Charles's first parliament, it was dissolved on the 12th of August 1625, and a new one called on February 6. 1626.

56 His scheme to raise money. During this interval Charles had been obliged to borrow from his subjects on privy seals; the advantage of which was but a small compensation for the disgust it occasioned. By means, however, of that supply, and some other expedients, he was enabled to equip his fleet, though with difficulty. It was designed against Spain, but performed nothing worth notice, and its bad success increased the clamours against the court. Britain.

57 Proceedings of his second parliament. Charles's second parliament immediately adopted the same views with the former; however, they voted him a supply of three subsidies (168,000l.), and three fifteenths; but the passing this vote into a law was reserved until the end of the session, that in the mean time they might have an opportunity of forcing the king to make what concessions they pleased. This harsh and undutiful conduct was greatly resented by Charles; but he found himself obliged to submit, and wait the event with patience. In the mean time they attacked the duke of Buckingham, who was become generally obnoxious; and he was also impeached by the earl of Bristol, on account of his conduct with regard to the Spanish negociation. The earl's impeachment, however, was entirely overlooked, and the commons were able to prove nothing otherwise of any consequence against him. The king imagining that Buckingham's greatest crime was the having been so much in favour with his sovereign, commanded the house expressly not to meddle with his minister and servant, but to finish in a few days the bill they had begun for the subsidies; otherwise they must expect to sit no longer.

58 The commons disgusted. Suggestions of this kind had a bad effect; and when the king proceeded further to throw into prison two members of the house who had managed the impeachment against Buckingham, the commons declared that they would proceed no further in business till they had satisfaction in their privileges. Charles alleged as the reason of this measure, certain seditious expressions, which, he said, had, in their accusation of the duke, dropped from these members. Upon inquiry it appeared that no such expressions had been used, and the members were accordingly released. Soon after, the house of lords, moved by the example of the commons, claimed liberty for the earl of Arundel, who had been lately confined in the Tower; and after many fruitless evasions, the king was obliged, though somewhat ungracefully, to comply.

The next attack made by the commons would have proved decisive, had it succeeded, and would have reduced the king to an absolute dependence on his parliament. They were preparing a remonstrance against the levying of tonnage and poundage without consent of parliament: This article, together with the new impositions laid on merchandise by James, constituted near one half of the crown revenues; and after having gained this point, they were to petition the king, which then would have been the same thing with commanding him, to remove Buckingham from his presence and councils. The king, however, being alarmed at the yoke they were preparing for him, dissolved his parliament a second time, June 15. 1626.

59 Parliament dissolved.

Charles having thus made such a breach with his parliament as there was no hopes of repairing, was obliged to have recourse to the exercise of every branch of his prerogative in order to supply himself with money. A commission was openly granted to compound with the Catholics, and agree for dispensing with the penal laws enacted against them; and by this expedient the king, indeed, filled his coffers, but gave universal disgust to his subjects. From the nobility he desired assistance: from the city he required a loan of 100,000l.

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Britain. The former contributed slowly: but the latter, covering themselves under many pretences and excuses, gave at last a flat denial. In order to equip a fleet, a distribution by order of the council was made to all the maritime towns; and each of them was required, with the assistance of the adjacent counties, to arm as many vessels as were appointed them. The city of London was rated at 20 ships: and this is the first appearance, in Charles's reign, of ship-money; a taxation which had once been imposed by Elizabeth, but which, when carried some steps farther by Charles, produced the most violent discontents.—These methods of supply were carried on with some moderation, till news arrived of the king of Denmark being totally defeated by Count Tilly the imperial general; but money then becoming more than ever necessary, it was suggested in council, that the most speedy, equal, and convenient method of supply was by a general loan from the subject, according as every man was assessed in the rolls of the last subsidy. That precise sum was required which each would have paid, had the vote of four subsidies been passed into a law: care, however, was taken, that the sums thus exacted were not to be called subsidies but loans; but it was impossible to avoid observing, that thus the liberty of the subject was entirely destroyed, and all parliaments rendered at once superfluous.

60 Ship-money.

61 A general loan required.

Many people throughout England refused these loans, and some were even active in encouraging their neighbours to insist upon their common rights and privileges. By warrant of the council, these were thrown into prison. Most of them patiently submitted to confinement, or applied by petition to the king, who commonly released them. Five gentlemen, however, Sir Thomas Darnel, Sir John Corbet, Sir Walter Earl, Sir John Heweningham, and Sir Edmond Hambden, demanded release, not as a favour from the court, but as their due by the laws of their country. No particular cause was assigned for their commitment. The special command of the king and council alone was pleaded. And it was alleged, that by law this was not sufficient reason for refusing bail or releasement to the prisoners. The question was brought to a solemn trial before the court of king's bench; and the whole kingdom was attentive to the issue of the cause. By the debates on this subject it appeared, that personal liberty had been secured by no less than six different statutes, and by an article in magna charta itself. It appeared, that, in times of turbulence and sedition, the princes infringed upon these laws; and of this also many examples were produced. The difficulty then lay to determine when such violent measures were necessary; but of that the court pretended to be the supreme judge. As it was legal, therefore, that these five gentlemen should plead the statute, by which they might demand bail, so it was expedient in the court to remand them to prison, without determining on the necessity of taking bail for the present. This was a cruel evasion of justice; and, in fact, satisfied neither party. The court insisted that no bail could be taken: the country exclaimed that the prisoners ought to be set free.

62 Five gentlemen resolve to stand trial.

63 War declared against France.

While the king was thus embroiled with his parliament at home, and with powerful nations abroad, he rashly engaged in a war with France, a kingdom with which he had but lately formed the most natural alliance. All historians agree that this war proceeded from the rivalship of the duke of Buckingham and Cardinal Richelieu; both of whom were in love with the queen of France; and an inveterate enmity being thus produced between these favourites, they resolved to involve their respective nations in the dispute. However this be, war was declared against France; and Charles was taught to hope, that hostilities with that kingdom would be the surest means of procuring tranquillity at home.—The success of this war was proportionable to the wisdom with which it was commenced. Buckingham was appointed commander; and he being entirely unacquainted both with sea and land service, managed matters so ill, that he lost two-thirds of his army, and returned in total discredit both as an admiral and general. Britain.

64 Bad success of Buckingham.

The discontents in England now rose to such a height, that there was reason to apprehend an insurrection or rebellion. Charles was also reduced to the greatest distress for want of money. That which he had levied by virtue of his prerogative came in very slowly, and it was dangerous to renew the experiment on account of the ill humour of the nation in general. A third parliament therefore was called, March 17. 1628; whom Charles plainly told at the beginning of the session, that "if they should not do their duties, in contributing to the necessities of the state, he must, in discharge of his conscience, use those other means which God had put into his hands, in order to save that which the follies of some particular men might otherwise put in danger." This parliament behaved in a much more reasonable manner than either of the two former ones. The nation was now really aggrieved by the late arbitrary proceedings. They began with voting against arbitrary imprisonments and forced loans; after which, five subsidies (280,000l.) were voted to the king. With this sum, though much inferior to his wants, Charles declared himself well satisfied; and even tears of affection started in his eye when informed of this concession: the commons, however, resolved not to pass this vote into a law, before they had obtained from the king a sufficient security that their liberties should be no longer violated as they had formerly been. They resolved to frame a law, which they were to call a *petition of right*, in which they should collect all the arbitrary exertions of the prerogative which Charles had exposed to their view, and these they were to assault at once by their petition. The grievances now complained of were, forced loans, benevolences, taxes without consent of parliament, arbitrary imprisonments, billeting soldiers, and martial law. They pretended not, as they affirmed, to any unusual power or privileges; nor did they intend to infringe the royal prerogative in any respect: they aimed only at securing those rights and privileges derived from their ancestors.

65 A third parliament called.

66 Petition of right framed.

The king, on his part, now began plainly to show, that he aimed at nothing less than absolute power. This reasonable petition he did his utmost to evade, by repeated messages to the house, in which he always offered his royal word that there should be no more infringements on the liberty of the subject. These messages, however, had no effect on the commons: they knew how insufficient such promises were, without further security; and therefore the petition at last passed both houses, and nothing was wanting but the royal assent

67 Duplicity of the king.

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Britain. assent to give it the force of a law. The king accordingly came to the house of peers, sent for the commons, and being seated in the chair of state, the petition was read to him. In answer to it, he said, "The king willeth, that right be done according to the laws and customs of the realm, and that the statutes be put into execution; that his subjects may have no cause to complain of any wrong or oppression contrary to their just rights and liberties, to the preservation whereof he holds himself in conscience as much obliged as of his own prerogative."

This equivocal answer was highly resented. The commons returned in very ill humour. Their indignation would undoubtedly have fallen on the unfortunate Catholics, had not their petition against them already received a satisfactory answer. To give vent to their present wrath, therefore, they fell on Dr Manwaring, who had preached a sermon, and, at the special command of the king, printed it; which was now found to contain doctrines subversive of all civil liberty. It taught, that though property was commonly lodged in the subject, yet, whenever any exigency required supply, all property was transferred to the sovereign; that the consent of parliament was not necessary for the imposition of taxes; and that the divine laws required compliance with every demand, however irregular, which the prince should make upon his subjects. For these doctrines Manwaring was sentenced to be imprisoned during the pleasure of the house; to be fined 1000l. to the king; make submission and acknowledgement for his offence; be suspended three years; be incapable of holding any ecclesiastical dignity or secular office; and that his book be called in and burnt. No sooner, however, was the session ended, than Manwaring received a pardon, and was promoted to a living of considerable value. Some years afterwards he was promoted to the see of St Asaph. At last, the king, seeing it was impossible to carry his point, yielded to the importunities of parliament. He came to the house of peers, and pronouncing the usual form of words, "Let it be law as is desired," gave full sanction and authority to the petition. The house resounded with acclamations, and the bill for five subsidies immediately passed.

68 He at last gives his assent to the petition.

The commons, however, were not yet satisfied; they began again to attack Buckingham, against whom they were implacable; they also asserted, that the levying of tonnage and poundage without consent of parliament was a palpable violation of the ancient liberties of the people, and an open infringement of the petition of right so lately granted. The king, in order to prevent a remonstrance on that subject, suddenly prorogued the parliament, on June 26. 1628.

69 Parliament prorogued.

The commons soon got rid of their enemy Buckingham; who was murdered on the 23d of August this same year, by one Felton, who had formerly served under him as a lieutenant. The king did not appear much concerned at his death, but retained an affection for his family throughout his whole lifetime. He desired also that Felton might be tortured, in order to extort from him a discovery of his accomplices; but the judges declared, that though that practice had been formerly very common, it was altogether illegal.

70 Buckingham murdered.

71 Contentions about tonnage and poundage.

In 1629, the usual contentions between the king and his parliament continued. The great article on which the commons broke with their sovereign, and which finally created in him a disgust at all parliaments, was their claims with regard to tonnage and poundage. The dispute was, whether this tax could be levied without consent of parliament or not. Charles, supported by multitudes of precedents, maintained that it might; and the parliament, in consequence of their petition of right, asserted that it could not. The commons were resolved to support their rights: and the disputes concerning tonnage and poundage went hand in hand with some theological controversies; particularly concerning Arminianism, which the Puritans, who now formed the majority of the nation, opposed with the greatest violence, and which consequently crept in among those who professed Episcopacy, where it hath still maintained its ground more than in any other party. Britain.

The commons began with summoning before them the officers of the custom-house, to give an account by what authority they had seized the goods of those merchants who had refused to pay the duties of tonnage and poundage. The barons of exchequer were questioned with regard to their decrees on that head. The sheriff of London was committed to the Tower for his activity in supporting the officers of the custom-house. The goods of Rolles, a merchant, and member of the house, being seized for his refusal to pay the duties, complaints were made of this violence, as if it were a breach of privilege. Charles, on the other hand, supported his officers in all these measures, and the quarrel between him and the commons became every day higher. Sir John Elliot framed a remonstrance against tonnage and poundage, which he offered to the clerk to read; but it was refused, and he then read it himself. The question being called for, Sir John Finch the speaker said, that he had a command from the king to adjourn, and to put no question; upon which he rose and left the chair. The whole house was in an uproar; the speaker was pushed back into the chair, and forcibly held in it, till a short remonstrance was formed, which was instantaneously passed by almost universal acclamation. Papists and Arminians were now declared capital enemies to the commonwealth. Those who levied tonnage and poundage were branded with the same epithet. And even the merchants, who should voluntarily pay these duties, were declared betrayers of English liberty, and public enemies. The doors being locked, the gentleman-usher of the house of lords, who was sent by the king, could get no admittance till this remonstrance was finished. By the king's order he took the mace from the table, which put an end to their proceedings, and on the 10th of March the parliament was dissolved. Some of the members were imprisoned and fined; but this severity served only to increase the general discontent, and point out the sufferers as proper leaders for the popular party.

72 Parliament dissolved.

Charles being now disgusted with parliaments, resolved to call no more; but finding himself destitute of resources, was obliged to make peace with the two powers with which he was at war. A treaty was signed with France on the 14th of April, and another with Spain on the 5th of November 1630, by which Charles bound himself to observe a neutrality with regard to the affairs on the continent. His conduct to his subjects cannot now appear entirely blameless, nor the general discontent

73 Peace with France and Spain.

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discontent altogether without foundation. As if, however, he had resolved to ruin himself, and to lose the small degree of affection which remained among his subjects, Charles now began to set about making innovations in religion. Archbishop Laud had obtained a prodigious ascendency over the king; and, by his superstitious attachment to foolish ceremonies, led him into a conduct that proved fatal to himself and to the kingdom in general. The humour of the nation ran at that time in a channel perfectly the reverse of superstition. The ancient ceremonies which had been sanctified by the permission and practice of the first reformers, could scarce be retained in divine service. Laud chose this time, of all others the most improper, for renewing the ceremonies of the fourth and fifth century, when the Christian church, as is well known, was sunk into the superstitions which were afterwards continued and augmented by the policy of the church of Rome. So openly were these tenets espoused, that not only the discontented Puritans believed the church of England to be relapsing fast into the Romish superstition, but the court of Rome itself entertained hopes of regaining its authority in this island. To forward Laud's good intentions, an offer was twice made to him, in private, of a cardinal's hat; which he declined accepting. His answer was (as he says himself), that "something dwelt within him which would not suffer his compliance till Rome was other than it is." It must be confessed, however, that though Laud deserved not the appellation of a *Papist*, the genius of his religion was, though in a less degree, the same with that of the Romish. The same profound respect was exacted to the sacerdotal character; the same submission to the creeds and decrees of synods and councils required; the same pomp and ceremony was affected in worship; and the same superstitious regard to days, postures, meats, and vestments. Orders were given, and rigorously insisted on, that the communion table should be removed from the middle of the area where it had hitherto stood in all churches except cathedrals. It was placed at the east end, railed in, and denominated an *altar*; as the clergyman who officiated commonly received the appellation of *priest*. All kinds of ornaments, especially pictures, were introduced. Some of these, upon inquiry, were found to be the very same that were to be met with in the mass-book. The crucifix too, that perpetual consolation of all pious Catholics, and terror to all sound Protestants, was not forgot on this occasion.

74 The king attempts to introduce new religious ceremonies.

In return for Charles's indulgence towards the church, Laud and his followers took care to magnify on every occasion the regal authority, and to treat with the utmost disdain or detestation all puritanical pretensions to a free and independent constitution. From this subjection, however, they took care to exclude themselves, and insisted upon a divine and apostolical charter in preference to a legal and parliamentary one. The sacerdotal character was magnified as sacred and indefeasible; all right to spiritual authority, or even to private judgment in spiritual subjects, was refused to profane laymen: ecclesiastical courts were held by bishops in their own name, without any notice taken of the king's authority: and Charles, though extremely jealous of every claim in popular assemblies, seemed rather to encourage than repress those encroachments of his clergy.

Britain.

The principles which exalted prerogative were put in practice during the whole time that Charles ruled without parliaments. He wanted money for the support of government; and he levied it, either by the revival of obsolete laws, or by violations of the privileges. Though humane and gentle in his nature, he gave way to severities in the star chamber and high commission, which seemed necessary in order to support the present mode of administration, and suppress the rising spirit of liberty throughout the kingdom. Tonnage and poundage were continued to be levied by royal authority alone. The former arbitrary impositions were still exacted; and even new impositions laid upon the different kinds of merchandise. The custom-house officers received orders from the council to enter into any house, warehouse, or cellar; to search any trunk or chest; and to break any bulk whatever, in default of the payment of customs. In order to exercise the militia, each county, by an edict of the council, was assessed in a certain sum for maintaining a muster-master appointed for that service. Compositions were openly made with recusants, and the Popish religion became a regular part of the revenue. A commission was granted for compounding with such as were possessed of crown-lands on defective titles; and on this pretence some money was exacted of the people, &c.

75 His arbitrary and unpopular government.

While the English were in the utmost discontent, and almost ready to break out in open rebellion by these arbitrary proceedings, Charles thought proper to attempt setting up Episcopacy in Scotland. The canons for established ecclesiastical jurisdiction were promulgated in 1635, and were received without much appearance of opposition; yet with great inward apprehension and discontent. The first reading of the liturgy was attempted in the cathedral church of St Giles in Edinburgh, in 1637; but this produced such a tumult, that it was not thought safe to repeat the experiment. An universal combination against the religious innovations began immediately to take place; but Charles, as if obstinately bent on his own destruction, continued inflexible in his purpose, though he had nothing to oppose to the united force of the kingdom, but a proclamation, in which he pardoned all past offences, and exhorted the people to be more obedient for the future, and to submit peaceably to the use of the liturgy. This proclamation hastened forward the insurrection, which had been slowly advancing before. Four *tables*, as they were called, were formed in Edinburgh. One consisted of nobility, another of gentry, a third of ministers, and the fourth of burgesses. The table of gentry was divided into many subordinate ones, according to the different counties. In the hands of the four tables, the authority of the whole kingdom was placed. Orders were issued by them, and everywhere obeyed with the utmost regularity; and among the first acts of their government was the production of the COVENANT.

76 He attempts to establish Episcopacy in Scotland.

77 Which occasions an insurrection.

78 Account of the covenant.

This famous covenant consisted of a renunciation of Popery, formerly signed by James in his youth, and filled with many virulent invectives against that party. A bond of union followed, by which the subscribers obliged themselves to resist all religious innovations, and

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and to defend each other against all opposition whatsoever: And all this for the greater glory of God, and the greater honour and advantage of their king and country. The covenant was subscribed by people of all ranks and conditions. Few disapproved of it in their hearts, and still fewer dared openly to condemn it. The king's ministers and counsellors themselves were mostly of the same way of thinking; and none but rebels to God, and traitors to their country, it was thought, would withdraw themselves from so salutary and pious a combination.

79 Charles attempts to appease the covenanters.

The king now began to be alarmed. He sent the marquis of Hamilton, as commissioner, with authority to treat with the covenanters. He required the covenant to be renounced and recalled; and he thought that on his part he made very satisfactory concessions, when he offered to suspend the canons and liturgy till in a fair and legal way they could be received, and so to model the high commission that it should no longer give offence to his subjects. In answer to this demand the covenanters told him, they would sooner renounce their baptism; and invited the commissioner himself to sign it. Hamilton returned to London; made another fruitless journey with new concessions to Edinburgh; returned again to London, and was immediately sent back with still more satisfactory concessions. The king was now willing to abolish entirely the canons, the liturgy, and the high commission court; he even resolved to limit extremely the power of the bishops, and was content if on any terms he could retain that order in the church of Scotland. And to ensure all these gracious offers, he gave Hamilton authority to summon first an assembly, and then a parliament, where every national grievance should be redressed.—These successive concessions only showed the weakness of the king, and encouraged the malcontents to rise in their demands. The offer, however, of an assembly and a parliament, in which they expected to be entirely masters, was very willingly embraced by the covenanters.

80 Covenant entered into by the royalists.

Charles perceiving what advantage his enemies had reaped from their covenant, resolved to have a covenant also on his side; and he ordered one to be drawn up for that purpose. It consisted of the same violent renunciation of Popery with the other; which, though the king did not approve of it, he thought proper to adopt, in order to remove all the suspicions entertained against him. As the covenanters, in their bond of mutual defence against all opposition, had been careful not to except the king; Charles had formed a bond which was annexed to this renunciation, and which expressed the subscribers loyalty and duty to his majesty. But the covenanters perceiving that this new covenant was only meant to weaken and divide them, received it with the utmost scorn and detestation. And, without delay, they proceeded to model the assembly from which such great achievements were expected.

81 Violent proceedings of the assembly.

The assembly met at Glasgow in 1638. A firm determination had been entered into of utterly abolishing Episcopacy; and, as a preparative to it, there was laid before the presbytery of Edinburgh, and solemnly read in all the churches of the kingdom, an accusation against the bishops, as guilty, all of them, of heresy, simony, bribery, perjury, cheating, incest, adultery, fornication, common swearing, drunkenness, gaming, breach of the sabbath, and every other crime which had occurred to the accusers. The bishops sent a protest, declining the authority of the assembly; the commissioner too protested against that court, as illegally constituted and elected; and, in his majesty's name, dissolved it. This measure was foreseen, and little regarded. The court still continued to sit and do business. All the acts of assembly, since the accession of James to the crown of England, were, upon pretty reasonable grounds, declared null and invalid. The acts of parliaments which affected ecclesiastical affairs were on that very account supposed to have no authority. And thus the whole fabric which James and Charles, in a long course of years, had been rearing with much care and policy, fell at once to the ground. The covenant likewise was ordered to be signed by every one, under pain of excommunication.

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82 Preparations for war by the covenanters.

In 1639, the covenanters prepared in earnest for war. The earl of Argyle, though he long seemed to temporise, at last embraced the covenant; and he became the chief leader of that party. The earls of Rothes, Cassils, Montrose, Lothian, the lords Lindesey, Loudoun, Yester, and Balmerino, also distinguished themselves. Many of their officers had acquired reputation in the German wars, particularly under Gustavus; and these were invited over to assist their country in its present necessity. The command was entrusted to Lesly, a soldier of experience and ability. Forces were regularly enlisted and disciplined. Arms were commissioned and imported from foreign countries. A few castles which belonged to the king, being unprovided of victuals, ammunition, and garrisons, were soon seized. And the whole country, except a small part where the marquis of Huntly still adhered to the king, being in the covenanters hands, was soon put into a tolerable posture of defence.

83 By the king.

Charles, on the other hand, was not deficient in his endeavours to oppose this formidable combination. By regular economy he had not only paid all the debts contracted in the French and Spanish wars, but had amassed a sum of 200,000l.; which he had reserved for any sudden exigency. The queen had great interest with the Catholics, both from the sympathy of religion, and from the favours and indulgencies which she had been able to procure them. She now employed her credit, and persuaded them, that it was reasonable to give large contributions, as a mark of their duty to the king, during this urgent necessity: And thus, to the great scandal of the Puritans, a considerable supply was gained. The king's fleet was formidable and well supplied. Having put 5000 land forces on board, he intrusted it to the marquis of Hamilton, who had orders to sail to the frith of Forth, and cause a diversion in the forces of the malcontents. An army was levied of near 20,000 foot and 3000 horse; and was put under the command of the earl of Arundel, a nobleman of great family, but celebrated neither for military nor political abilities. The earl of Essex, a man of strict honour, and extremely popular, especially among the soldiery, was appointed lieutenant-general: The earl of Holland was general of the horse. The king himself joined the army, and he summoned all the peers of England to attend him. The whole had the

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Britain. the appearance of a splendid court rather than a military armament, and in this situation the camp arrived at Berwick.

The Scottish army was equally numerous with that of the king, but inferior in cavalry. The officers had more experience; and the soldiers, though ill disciplined and armed, were animated, as well by the national aversion to England, and the dread of becoming a province to their old enemy, as by that religious enthusiasm which was the occasion of the war. Yet so prudent were their leaders, that they immediately sent very submissive messages to the king, and craved leave to be admitted to a treaty. Charles, as usual, took the worst course. He concluded a sudden pacification, in which it was stipulated, that he should withdraw his fleet and army; that within 48 hours the Scots should dismiss their forces; that the king's forts should be restored to him, his authority be acknowledged, and a general assembly and parliament be immediately summoned, in order to compose all differences.

84 Peace concluded.

This peace was of no long duration. Charles could not prevail on himself to abandon the cause of Episcopacy, and secretly intended to seize every favourable opportunity to recover the ground he had lost. The assembly, on the other hand, proceeded with the utmost fury and violence. They voted Episcopacy to be unlawful in the church of Scotland: they stigmatized the canons and liturgy as popish: they denominated the high commission tyranny. The parliament, which sat after the assembly, advanced pretensions which tended to diminish the civil power of the monarch; and, what probably affected Charles still more, they were proceeding to ratify the acts of assembly, when by the king's instructions Traquaire the commissioner prorogued them. And on account of these claims, which might have been easily foreseen, war was recommenced the same year.

85 War again declared.

No sooner had Charles concluded the peace, than he found himself obliged to disband his army, on account of his want of money; and as the soldiers had been held together merely by mercenary views, it was not possible, without great trouble, expence, and loss of time, to reassemble them. On the contrary, the covenanters, in dismissing their troops, had been careful to preserve nothing but the appearance of a pacification. The officers had orders to be ready on the first summons: The soldiers were warned not to think the nation secure from an English invasion: And the religious zeal which animated all ranks of men made them immediately fly to their standards, as soon as the trumpet was sounded by their spiritual and temporal leaders.

86 A parliament called.

In 1640, however, the king made shift to draw an army together; but finding himself unable to support them, was obliged to call a parliament after an intermission of about 11 years. As the sole design of the king's calling this parliament was to obtain a supply, and the only reason they had for attending was to procure a redress of grievances, it is not to be supposed there could be any good agreement between them.

87 Dissolved.

The king accordingly insisted for money, and the parliament on their grievances, till a dissolution ensued. —To add to the unpopularity of this measure, the king, notwithstanding his dissolving the parliament, allowed the convocation to sit; a practice of which, since the Reformation, there had been very few examples, and which was now by many deemed very irregular. Besides granting to the king a supply from the spiritualty, the convocation, jealous of innovations similar to those which had taken place in Scotland, imposed an oath on the clergy and the graduates in the universities, by which every one swore to maintain the established government of the church, by archbishops, bishops, deans, chapters, &c. These steps were deemed illegal, because not ratified by consent of parliament; and the oath, containing an &c. in the middle of it, became a subject of general ridicule.

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88 Charles distressed for money.

The king, disappointed of parliamentary subsidies, was obliged to have recourse to other expedients. The ecclesiastical subsidies served him in some stead; and it seemed but just that the clergy should contribute to the expence of a war which had been in a great measure of their own raising. He borrowed money from his ministers and courtiers: and so much was he beloved among them, that above 300,000l. were subscribed in a few days. Some attempts were made towards forcing a loan from the citizens: but still repelled by the spirit of liberty, which was now become unconquerable. A loan of 40,000l. was extorted from the Spanish merchants who had bullion in the Tower. Coat and conduct money for the soldiery was levied on the counties; an ancient practice, but which was supposed to be abolished by the petition of right. All the pepper was bought from the East India Company upon trust; and sold, at a great discount, for ready money. A scheme was proposed for coining two or three hundred thousand pounds of base money. Such were the extremities to which Charles was reduced. The fresh difficulties, which amidst the present distresses were every day raised, with regard to the payment of ship-money, obliged him to exert continual acts of authority, augmented extremely the discontents of the people, and increased his indigence and necessities.

The present expedients, however, enabled the king, though with great difficulty, to march his army, consisting of 19,000 foot and 2000 horse. The earl of Northumberland was appointed general; the earl of Strafford, who was called over from Ireland, lieutenant-general; Lord Conway, general of the horse. A small fleet was thought sufficient to serve the purposes of this expedition. The Scots, though somewhat superior, were sooner ready than the king's army, and marched to the borders of England. Notwithstanding their warlike preparations and hostile attempts, the covenanters still preserved the most submissive language to the king; and entered England with no other design, they said, than to obtain access to the king's presence, and lay their humble petition at his royal feet. At Newburn upon Tyne they were opposed by a detachment of 4500 men under Conway, who seemed resolute to dispute with them the passage of the river. The Scots first entreated them, with great civility, not to stop them in their march to their gracious sovereign; and then attacked them with great bravery, killed several, and chased the rest from their ground. Such a panic seized the whole English army, that the forces at Newcastle fled immediately to Durham; and not yet thinking themselves safe, they deserted that town, and retreated into Yorkshire.

89 Royalists defeated at Newburn.

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The Scots continued to advance: they dispatched messengers to the king, who was now arrived at York. They took care, after the advantage they had gained, to redouble their expressions of loyalty, duty, and submission to his person: and they even made apologies full of sorrow and contrition for their late victory. Charles was in a very distressed condition; and, in order to prevent the further advance of the Scots, agreed to a treaty, and named 16 English noblemen to meet with 11 Scots commissioners at Rippon. Strafford, upon whom, by reason of Northumberland's sickness, the command of the army had devolved, advised Charles rather to put all to hazard, than to submit to such unworthy terms as he saw would be imposed upon him. He advised him to push forward and attack the Scots, and bring the affair to a quick decision; and if he was ever so unsuccessful, nothing worse could befal him than what from his inactivity he would certainly be exposed to; and, to show how easily this project might be executed, he ordered an assault to be made on some quarters of the Scots, and gained an advantage over them. This salutary advice Charles had not resolution to follow. He therefore resolved to call a council of the peers; and as he foresaw that they would advise him to call a parliament, he told them in his first speech, that he had already taken that resolution. In order to subsist both armies (for the king was obliged to pay his enemies, in order to save the northern counties), Charles wrote to the city, desiring a loan of 200,000l. And the peers at York, whose authority was now much greater than that of their sovereign, joined in the same request.

90 Parliament meets.

The parliament met November 3. 1640: the house of commons had never been observed so numerous; and, that they might strike a decisive blow at once against the court, they began with the impeachment of the earl of Strafford. That nobleman, who was considered as prime minister, both on account of the credit he possessed with his master, and his own uncommon vigour and capacity, had now the misfortune of having incurred the hatred of all the three kingdoms. The Scots looked upon him as the capital enemy of their country. He had engaged the parliament of Ireland to advance large subsidies to be employed in a war against them; he had levied an army of 9000 men, with which he had menaced all their western coast: he had obliged the Scots who lived under his government to renounce the covenant, &c.: he had governed Ireland, first as deputy, and then as lord-lieutenant, during eight years, with great vigilance, activity, and prudence, but with very little popularity. In a nation so averse to the English government and religion, these very virtues were sufficient to draw on him the public hatred. His manners, besides, were at bottom haughty, rigid, and severe; and no sooner did adversity begin to seize him, than the concealed aversion blazed up at once, and the Irish parliament used every expedient to aggravate the charge against him.

91 Unhappy situation of Strafford.

The universal discontent which prevailed throughout the English nation was all pointed against the earl of Strafford; though for no other reason but because he was the minister of state whom the king most favoured and trusted. His extraction was honourable, his paternal fortune considerable: yet envy attended his sudden and great elevation; and his former associates in popular counsels, finding that he owed his advancement to the desertion of their cause, represented him as the great apostate of the commonwealth, whom it behoved them to sacrifice as a victim to public justice.

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From so terrible a combination against a single person, nothing else could be expected, than what really happened. Strafford was impeached, most unjustly condemned, and at last executed, in the year 1641. It was not without extreme difficulty that the king could be brought to consent to his execution. He came to the house of lords, where he expressed his resolution never to employ Strafford again in any public business; but with regard to the treason for which he was condemned, he professed himself totally dissatisfied. The commons voted it a breach of privilege for the king to take notice of any bill depending before the house. Charles did not perceive, that his attachment to Strafford was the chief motive for the bill; and the greater proof he gave of this attachment to his favourite minister, the more inevitable did he render his destruction. The house of lords were intimidated, by popular violence, into passing the bill of attainder against the unfortunate earl. The same battery was next employed to force the king's assent. The populace flocked about Whitehall, and accompanied their demand of justice with the loudest clamours and most open menaces. A thousand idle reports of conspiracies, insurrections, and invasions, were spread abroad. On whatever side the king cast his eyes, he saw no resource nor security. All his servants, consulting their own safety rather than their master's honour, declined interposing with their advice between him and his parliament. The queen, terrified at the appearance of so great danger, pressed Charles, with tears, to satisfy his people in this demand, which it was hoped would finally content them. Archbishop Juxon alone had the courage to advise him, if he did not approve of the bill, by no means to consent to it.

92 Unjustly executed.

93 Distress of the king on account of his execution.

Strafford hearing of the king's irresolution and anxiety, wrote to him a letter, in which he desired his own execution, in order to give peace to the nation: and at last, after the most violent anxiety and doubt, Charles granted a commission to four noblemen, in his name, to give the royal assent to the bill; flattering himself perhaps, that as neither his will consented to the deed, nor was his hand immediately engaged in it, he was the more free from all the guilt which attended it. These commissioners he empowered at the same time to give his assent to a bill yet more fatal to himself, viz. That the present parliament should not be dissolved, prorogued, or adjourned, without their own consent.

94 Charles renders the parliament perpetual.

By this last bill Charles rendered the power of his enemies perpetual, as it was already uncontroulable. The reason of this extraordinary step was, that the commons, from policy, more than necessity, had embraced the expedient of paying the two armies by borrowing money from the city. These loans they repaid afterwards by taxes levied on the people. At last the citizens, either of themselves, or by suggestion, began to start difficulties with regard to a farther loan which was demanded. "We make no scruple of trusting the parliament (said they), were we certain that the parliament was to continue till our repayment. But, in the present precarious situation of affairs, what security can

95 His reasons for this step.

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he given us for our money?" In order to obviate this objection, the above-mentioned bill was suddenly brought in, and having passed both houses with great rapidity, was at last brought to the king; who, being oppressed with grief on account of the unhappy fate of Strafford, did not perceive the pernicious consequence of the bill.

All this time the commons had ruled in other respects with an uncontroulable sway. Soon after the impeachment of Strafford, Laud was accused of high treason, and committed to custody. To avoid the like fate, Lord keeper Finch and Secretary Windebank fled, the one into Holland, the other into France. The house instituted a new species of guilt, termed *delinquency*: those who had exercised the powers necessary for the defence of the nation, during the late military operations, were now called *delinquents*. In consequence of this determination, many of the nobility and prime gentry of the nation, while only exerting as they justly thought, the legal powers of magistracy, found themselves unexpectedly involved in this new crime of delinquency. The commons, however, by their institution, reaped this multiplied advantage; they disarmed the crown, they established the maxims of rigid law and liberty, and they spread the terror of their own authority. All the sheriffs who had formerly exacted ship money, though by the king's express command, were now declared delinquents. The farmers and officers of the customs who had been employed during so many years in levying tonnage, poundage, &c. were likewise denominated criminals of the same kind, and were afterwards glad to compound for a pardon, by paying 150,000l. Every discretionary or arbitrary sentence of the star-chamber and high commission courts, which from their very nature were arbitrary, underwent a severe scrutiny; and all those who had concurred in such sentences, were voted to be liable to the penalties of law. No minister of the king, no member of the council, but what found himself exposed by this determination. The judges who had formerly given judgement against Hambden for refusing to pay ship money, were accused before the peers, and obliged to find security for their appearance. Berkley, a judge of the king's bench, was seized by order of the house, even when sitting in his tribunal. The sanction of the lords and commons, as well as that of the king, was declared necessary for the confirmation of ecclesiastical canons. Monopolists and projectors, if of the king's party, were now expelled the house; but one Mildmay, a notorious monopolist, was allowed to keep his seat, because he was of the popular party. In short, the constitution was completely new-modelled; and during the first period of the transactions of this remarkable parliament, if we except Strafford's attainder, their merits in other respects so much overbalance their mistakes, as to entitle them to very ample praises from all lovers of liberty. Not only were former abuses remedied, and grievances redressed; great provision for the future was made, by excellent laws against the return of the like complaints. And if the means by which they obtained such mighty advantages savoured often of artifice, sometimes of violence; it is to be considered, that revolutions of government cannot be effected by mere force of argument and reasoning; and that, factious being once excited, men can neither so firmly regulate the tempers of others, nor their own, as to ensure themselves against all exorbitancies.

96 Laud imprisoned.

97 New crime of delinquency.

98 Partiality and injustice of the parliament.

Had the parliament stopped here it had been happy for the nation; but they were now resolved to be satisfied with nothing less than the total abolition of monarchy. The king had promised to pay a visit, this summer, to his subjects in Scotland, in order to settle their government; and though the English parliament was very importunate with him to lay aside that journey, they could not prevail with him so much as to delay it. Having failed in this, they appointed a small committee of both houses to attend him, in order, as was pretended, to see the articles of pacification executed, but really to be spies upon the king, to extend still farther the ideas of parliamentary authority, as well as eclipse his majesty. Endeavours were even used, before Charles's departure, to have a protector of the kingdom appointed, with a power to pass laws without having recourse to the king. About this time, the king concluded the marriage of the princess Mary with William prince of Orange. He did not conclude this alliance without communicating his intentions to parliament, who were very well satisfied with the proposal. They adjourned from Sept. 9th to October 20th, 1641.

99 Marriage of the princess Mary with the prince of Orange.

100 Charles arrives in Scotland.

Charles arrived in Scotland August 14th 1641, with a design to give full satisfaction if possible to this restless kingdom. Some good regulations were made; the bench of bishops, and lords of articles, were abolished; it was ordained that no man should be created a Scottish peer, who possessed not 10,000 merks (above 500l.) of annual-rent in the kingdom; a law for triennial parliaments was likewise enacted; and it was ordained, that the last act of every parliament should be to appoint the time and place for holding the parliament next ensuing: the king was also deprived of that power, formerly exercised, of issuing proclamations which enjoined obedience under the penalty of treason. But the most fatal blow given to royal authority, and what in a manner dethroned the prince, was an article, that no member of the privy-council, in whose hands, during the king's absence, the whole administration lay, no officer of state, none of the judges, should be appointed but by advice and approbation of parliament. Charles even agreed to deprive of their seats four judges who had adhered to his interests, and their place was supplied by others more agreeable to the ruling party. Several of the covenanters were also sworn of the privy-council; and all the ministers of state, counsellors and judges, were, by law, to hold their places during life or good behaviour. The king, while in Scotland, conformed himself to the established church; he bestowed pensions and preferments on Henderson, Gillespy, and other popular preachers: he practised every art to soften, if not to gain, his greatest enemies; the earl of Argyle was created a marquis, Lord Loudon an earl, and Lesly was dignified with the title of *Lord Leven*. But though Charles was thus obliged to heap favours on his enemies and overlook his friends, the former were not satisfied, as believing all he did proceeded from artifice and necessity; while some of the latter were disgusted, and thought themselves ill rewarded for their past services.

101 His great concessions.

Argyle and Hamilton, being seized with an apprehension, real or pretended, that the earl of Crawford and

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and others meant to assassinate them, left the parliament suddenly, and retired into the country: but, upon invitation and assurances, returned in a few days. This event, which in Scotland had no visible consequence, was commonly denominated the *incident;* but though the incident had no effect in Scotland, it was attended with very serious consequences in England. The English parliament immediately took the alarm; or rather probably were glad of the hint: they insinuated to the people, that the *malignants*, so they called the king's party, had laid a plot at once to murder them and all the godly in both kingdoms. They applied therefore to Essex, whom the king had left general of the south of England; and he ordered a guard to attend them.

102 English parliament desire a guard.

103 Rebellion breaks out in Ireland

In the mean time a most dangerous rebellion broke out in Ireland, with circumstances of unparalleled horror, bloodshed, and devastation. The old Irish, by the wise conduct of James, had been fully subdued, and proper means taken for securing their dependence and subjection for the future; but their old animosity still remained, and only wanted an occasion to exert itself. This they obtained from the weak condition to which Charles was reduced, and this was made use of in the following manner.

One Roger More, a gentleman descended from an ancient Irish family, but of narrow fortune, first formed the project of expelling the English, and asserting the independency of his native country. He secretly went from chieftain to chieftain, and roused up every latent principle of discontent. He maintained a close correspondence with Lord Macguire and Sir Phelim O'Neale, the most powerful of the old Irish: and by his persuasions soon engaged not only them, but the most considerable persons of the nation, into a conspiracy; and it was hoped, the English *of the pale*, as they were called, or the old English planters, being all Catholics, would afterwards join the party which restored their religion to its ancient splendour and authority. The plan was, that Sir Phelim O'Neale, and the other conspirators, should begin an insurrection on one day throughout the provinces, and should attack all the English settlements; and that, on the very same day, Lord Macguire and Roger More should surprise the castle of Dublin. They fixed on the beginning of winter for the commencement of this revolt; that there might be more difficulty in transporting forces from England. Succours to themselves, and supplies of arms, they expected from France, in consequence of a promise made them by Cardinal Richelieu; and many Irish officers who had served in the Spanish troops had given assurances of their concurrence, as soon as they saw an insurrection entered upon by their Catholic brethren. News, which every day arrived from England, of the fury expressed by the commons against all Papists, struck fresh terror into the Irish nation, stimulated the conspirators to execute their fatal purpose, and assured them of the concurrence of their countrymen.

Such a propensity was discovered in all the Irish to revolt, that it was deemed unnecessary as well as dangerous to trust the secret in many hands; and though the day appointed drew nigh, no discovery had yet been made to government. The king, indeed, had received information from his ambassadors, that something was in agitation among the Irish in foreign parts; but though he gave warning to the administration in Ireland, his intelligence was entirely neglected. They were awakened from their security only that very day before the commencement of hostilities. The castle of Dublin, by which the capital was commanded, contained arms for 10,000 men, and 35 pieces of cannon, and a proportionable quantity of ammunition. Yet was this important place guarded, and that too without any care, by no greater force than 50 men. Macguire and More were already in town with a numerous band of their retainers; others were expected that night; and next morning they were to enter upon what they esteemed the easiest of all enterprises, the surprisal of the castle. O'Conolly, however, an Irishman, but a Protestant, discovered the conspiracy. The justices and council fled immediately to the castle, and reinforced the guards. The city was immediately alarmed, and all the Protestants prepared for defence. More escaped, but Macguire was taken; and Mahon, one of the conspirators, being likewise seized, first discovered to the justices the project of a general insurrection.

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104 Horrid cruelties of the rebels.

But though O'Conolly's discovery saved the castle from a surprise, Mahon's confession came too late to prevent the intended insurrection. O'Neale and his confederates had already taken arms in Ulster. The houses, cattle, and goods of the English were first seized. Those who heard of the commotions in their neighbourhood, instead of deserting their habitations, and assembling together for mutual protection, remained at home in hopes of defending their property; and fell thus separately into the hands of their enemies. An universal massacre now commenced, accompanied with circumstances of unequalled barbarity. No age, sex, or condition, was spared. All connections were dissolved, and death was dealt by that hand from which protection was implored and expected. All the tortures which wanton cruelty could devise, all the lingering pains of body, the anguish of mind, the agonies of despair, could not satiate revenge excited without injury, and cruelty derived from no cause. Such enormities, in short, were committed, that though attested by undoubted evidence, they appear almost incredible. The stately buildings or commodious habitations of the planters, as if upbraiding the sloth and ignorance of the natives, were consumed with fire, or laid level with the ground; and where the miserable owners, shut up in their houses, and preparing for defence, perished in the flames, together with their wives and children, a double triumph was afforded to their insulting foes. If anywhere a number assembled together, and resolved to oppose the assasins; they were disarmed by capitulations and promises of safety, confirmed by the most solemn oaths. But no sooner had they surrendered, than the rebels, with perfidy, equal to their cruelty, made them share the fate of their unhappy countrymen. Others tempted their prisoners, by the fond love of life, to imbrue their hands in the blood of friends, brothers, or parents; and having thus rendered them accomplices in their own guilt, gave them that death which they sought to shun by deserving it.

Such were the barbarities by which Sir Phelim O'Neale and the Irish in Ulster signalized their rebellion. More, shocked at the recital of these enormities, flew to

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to O'Neale's camp; but found that his authority, which was sufficient to excite the Irish to a rebellion, was too feeble to restrain their inhumanity. Soon after, he abandoned the cause, and retired to Flanders. From Ulster, the flames of rebellion diffused themselves in an instant over the other three provinces of Ireland. In all places, death and slaughter were not uncommon; though the Irish in these other provinces pretended to act with moderation and humanity. But cruel and barbarous was their humanity! Not content with expelling the English from their houses, they stripped them of their very clothes, and turned them out naked and defenceless to all the severities of the season. The heavens themselves, as if conspiring against that unhappy people, were armed with cold and tempest unusual to the climate, and executed what the sword had left unfinished. By some computations, those who perished by all these cruelties are supposed to amount to 150,000 or 200,000: but by the most reasonable and moderate, they are made to amount only to 40,000; though probably even this account is not free of exaggeration.

The English of the pale, who probably were not at first in the secret, pretended to blame the insurrection, and to detest the barbarity with which it was accompanied. By their protestations and declarations they engaged the justices to supply them with arms, which they promised to employ in defence of government. But in a little time, the interests of religion were found to be more prevalent over them than regard and duty to their native country. They chose Lord Gormonstone their leader; and, joining the old Irish, rivalled them in every act of cruelty towards the English Protestants. Besides many smaller bodies, dispersed over the kingdom, the main army of the rebels amounted to 20,000 men, and threatened Dublin with an immediate siege. Both the English and Irish rebels conspired in one imposture, by which they seduced many of their countrymen. They pretended authority from the king and queen, but especially the latter, for their insurrection; and they affirmed that the cause of their taking arms was to vindicate the royal prerogative, now invaded by the puritanical parliament. Sir Phelim O'Neale, having found a royal patent in the house of Lord Caulfield, whom he had murdered, tore off the seal, and affixed it to a commission which he had forged for himself.

105 Scots refuse to assist in quelling the rebellion.

The king received intelligence of this insurrection while in Scotland, and immediately acquainted the Scots parliament with it. He hoped, as there had all along been such an outcry against Popery, that now, when that religion was appearing in its blackest colours, the whole nation would vigorously support him in the suppression of it. But here he found himself mistaken. The Scots considering themselves now as a republic, and conceiving hopes from the present distresses of Ireland, they resolved to make an advantageous bargain for the succours with which they should supply the neighbouring nation. Except dispatching a small body of forces, to support the Scots colonies in Ulster, they would, therefore, go no farther than to send commissioners to London, in order to treat with the parliament, to whom the sovereign power was in reality transferred. The king, too, sensible of his utter inability to subdue the Irish rebels, found himself obliged, in this exigency, to have recourse to the English parliament, and depend on their assistance for supply. He told them that the insurrection was not, in his opinion, the result of any rash enterprise, but of a formed conspiracy against the crown of England. To their care and wisdom, therefore, he said, he committed the conduct and prosecution of the war, which, in a cause so important to national and religious interests, must of necessity be immediately entered upon, and vigorously pursued.

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106 Infamous conduct of the English parliament.

The English parliament, now re-assembled, discovered in each vote the same dispositions in which they had separated. Nothing less than a total abolition of monarchy would serve their turn. But this project it had not been in the power of the popular leaders to have executed, had it not been for the passion which seized the nation for the presbyterian discipline, and the wild enthusiasm which at that time attended it. By the difficulties and distresses of the crown, the commons, who possessed alone the power of supply, had aggrandized themselves; and it seemed a peculiar happiness, that the Irish rebellion had succeeded, at such a critical juncture, to the pacification in Scotland. That expression of the king's by which he committed to them the care of Ireland, they immediately laid hold of, and interpreted in the most unlimited sense. They had on other occasions been gradually encroaching on the executive power of the crown, which forms its principal and most natural branch of authority; but with regard to Ireland, they at once assumed it, fully and entirely, as if delivered over to them by a regular gift or assignment. And to this usurpation the king was obliged passively to submit, both because of his inability to resist, and lest he should expose himself still more to the charge of favouring the rebels; a reproach eagerly thrown upon him by the popular party as soon as they heard that the Irish pretended to act by his commission. Nay, to complete their character, while they pretended the utmost zeal against the insurgents, they took no steps for their suppression, but such as likewise gave them the superiority in those commotions which they foresaw must be soon excited in England. They levied money under pretence of the Irish expedition, but reserved it for purposes which concerned them more nearly; they took arms from the king's magazines, but still kept them with a secret intention of making use of them against himself: whatever law they deemed necessary for aggrandizing themselves, they voted, under colour of enabling them to recover Ireland; and if Charles withheld his royal assent, the refusal was imputed to those pernicious counsels which had at first excited the Popish rebellion, and which still threatened total ruin to the Protestant interest throughout his dominions. And though no forces were for a long time sent over into Ireland, and very little money remitted during the extreme distress of that kingdom; so strong was the people's attachment to the commons, that the fault was never imputed to those pious zealots, whose votes breathed nothing but death and destruction to the Irish rebels.

The conduct of the parliament towards the king now became exceedingly unreasonable, unjust, and cruel. It was thought proper to frame a general remonstrance of the state of the kingdom; and accordingly the committee, which at the first meeting of the parliament had been

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been chosen for that purpose, were commanded to finish their undertaking. The king returned from Scotland November 25th 1641. He was received in London with the shouts and acclamations of the populace, and with every demonstration of regard and affection. Sir Richard Gournay, lord mayor, a man of great merit and authority, had promoted these favourable dispositions; and had engaged the populace, who so lately insulted the king, and who so soon after made furious war upon him, to give him these marks of their dutiful attachment. But all the pleasure which Charles reaped from this joyful reception was soon damped by the remonstrance of the commons, which was presented to him together with a petition of the like nature. The bad counsels which he followed were there complained of; his concurrence in the Irish rebellion plainly insinuated; the scheme laid for the introduction of popery and superstition was inveighed against; and for a remedy to all these evils, the king was desired to entrust every office and command to persons in whom his parliament should have cause to confide. By this phrase, which was very often repeated in all the memorials and addresses of that time, the commons meant themselves and their adherents. To this remonstrance Charles was obliged to make a civil reply, notwithstanding his subjects had transgressed all bounds of respect, and even good manners, in their treatment of their sovereign.

107 King returns from Scotland.

108 Commons assume the sovereignty.

It would be tedious to point out every invasion of the prerogative now attempted by the commons: but finding themselves at last likely to be opposed by the nobility, who saw their own depression closely connected with that of the crown, they openly told the upper house, that "they themselves were the representatives of the whole body of the kingdom, and that the peers were nothing but individuals, who held their seats in a particular capacity; and therefore, if their lordships would not consent to acts necessary for the preservation of the people, the commons, together with such of the lords as were more sensible of the danger, must join together and represent the matter to his majesty." Every method proper for alarming the populace was now put in practice. The commons affected continual fears of destruction to themselves and to the whole nation. They excited the people by never-ceasing inquiries after conspiracies, by reports of insurrections, by feigned intelligence of invasions from abroad, and by discoveries of dangerous combinations at home, against Papists and their adherents. When Charles dismissed the guard which they had ordered during his absence, they complained; and, upon his promising them a new guard under the command of the earl of Lindesay, they absolutely refused the offer: they ordered halberts to be brought into the hall where they assembled, and thus armed themselves against those conspiracies with which they pretended they were hourly threatened. Several reduced officers, and young gentlemen of the inns of court, during this time of distress and danger, offered their service to the king. Between them and the populace there passed frequent skirmishes, which ended not without bloodshed. By way of reproach, these gentlemen gave the rabble the name of *round-heads*, on account of their short cropt hair; while they distinguished the others by the name of *cavaliers*. And thus the nation, which was before sufficiently provided with religious as well as civil causes of quarrel, was also supplied with party-names, under which the factions might rendezvous and signalize their mutual hatred.

109 *Round-heads* and *Cavaliers*.

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These tumults continued to increase about Westminster and Whitehall. The cry continually resounded against bishops and *rotten-hearted lords*. The former especially, being easily distinguishable by their habit, and being the object of violent hatred to all the sectaries, were exposed to the most dangerous insults. The archbishop of York, having been abused by the populace, hastily called a meeting of his brethren. By his advice a protestation was drawn up and addressed to the king and the house of lords. The bishops there set forth, that though they had an undoubted right to sit and vote in parliament, yet in coming thither they had been menaced, assaulted, affronted, by the unruly multitude, and could no longer with safety attend their duty in the house. For this reason they protested against all laws, votes, and resolutions, as null and invalid, which should pass during the time of their forced absence. This protestation, which, though just and legal, was certainly ill-timed, was signed by twelve bishops, and communicated to the king, who hastily approved of it. As soon as it was presented to the lords, that house desired a conference with the commons, whom they informed of this unexpected protestation. The opportunity was seized with joy and triumph. An impeachment of high treason was immediately sent up against the bishops, as endeavouring to subvert the fundamental law, and to invalidate the authority of the legislature. They were, on the first demand, sequestered from parliament, and committed to custody. No man in either house ventured to speak a word in their vindication: so much was every one displeased at the egregious imprudence of which they had been guilty. One person alone said, that he did not believe them guilty of high treason; but that they were stark mad, and therefore desired they might be sent to bedlam.

110 Bishops retire from the house of lords.

This was a fatal blow to the royal interest; but it soon felt a much greater from the imprudence of the king himself. Charles had long suppressed his resentment, and only strove to gratify the commons by the greatness of his concessions; but finding that all his compliance had but increased their demands, he could no longer contain. He gave orders to Herbert his attorney-general to enter an accusation of high treason, in the house of peers, against Lord Kimbolton, one of the most popular men of his party, together with five commoners, Sir Arthur Haslerig, Hollis, Hambden, Pym, and Strode. The articles were, that they had traitorously endeavoured to subvert the fundamental laws and government of the kingdom, to deprive the king of his regal power, and to impose on his subjects an arbitrary and tyrannical authority; that they had invited a foreign army to invade the kingdom; that they had aimed at subverting the very right and being of parliaments; and had actually raised and countenanced tumults against the king. Men had scarce leisure to wonder at the precipitancy and imprudence of this impeachment, when they were astonished by another measure still more rash and unsupported. A serjeant at arms, in the king's name, demanded of the house the five members, and was sent back without any positive answer.

111 Six members of parliament impeached by the king's order.

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answer. This was followed by a conduct still more extraordinary. The next day, the king himself was seen to enter the house of commons alone, advancing through the hall, while all the members stood up to receive him. The speaker withdrew from his chair, and the king took possession of it. Having seated himself, and looked round him for some time, he told the house, that he was sorry for the occasion that forced him thither; that he was come in person to seize the members whom he had accused of high treason, seeing they would not deliver them up to his serjeant at arms. Then addressing himself to the speaker, he desired to know whether any of them were in the house; but the speaker, falling on his knees, replied, that he had neither eyes to see, nor tongue to speak, in that place, but as the house was pleased to direct him; and he asked pardon for being able to give no other answer. The king sat for some time, to see if the accused were present; but they had escaped a few minutes before his entry. Thus disappointed, perplexed, and not knowing on whom to rely, he next proceeded amidst the invectives of the populace, who continued to cry out, *Privilege! privilege!* to the common council of the city, and made his complaints to them. The common council answered his complaints by a contemptuous silence; and, on his return, one of the populace, more insolent than the rest, cried out, "To your tents, O Israel!" a watch-word among the Jews, when they intended to abandon their princes.

114 He goes in person to seize them.

113 When the commons assembled the next day, they pretended the greatest terror; and passed an unanimous vote that the king had violated their privileges, and that they could not assemble again in the same place, till they should obtain satisfaction, and have a guard for their security. The king had retired to Windsor, and from thence he wrote to his parliament, making every concession, and promising every satisfaction in his power. But they were resolved to accept of nothing unless he would discover his advisers in that illegal measure; a condition to which, they knew, that, without rendering himself for ever vile and contemptible, he could not possibly submit.

Bad consequences of this attempt.

114 The commons had already stript the king of almost all his privileges; the bishops were fled, the judges were intimidated: it now only remained, after securing the church and the law, that they should get possession of the sword also. The power of appointing governors and generals, and of levying armies, was still a remaining prerogative of the crown. Having therefore first magnified their terrors of Popery, which perhaps they actually dreaded, they proceeded to petition that the Tower might be put into their hands; and that Hull, Portsmouth, and the fleet, should be intrusted to persons of their choosing. These were requests, the complying with which subverted what remained of the constitution; however, such was the necessity of the times, that they were first contested, and then granted. At last, every compliance only increasing the avidity of making fresh demands, the commons desired to have a militia, raised and governed by such officers and commanders as they should nominate, under pretence of securing them from the Irish Papists, of whom they were under the greatest apprehension.

Commons demand possession of the executive power of the state.

115 It was here that Charles first ventured to put a stop to his concessions; and that not by a refusal, but a delay. He was at that time in Dover attending the queen and the princess of Orange, who had thought it prudent to leave the kingdom. He replied to the petition, that he had not now leisure to consider a matter of such great importance; and therefore would defer an answer till his return. But the commons were well aware, that though this was depriving him even of the shadow of power, yet they had now gone too far to recede; and they were therefore desirous of leaving him no authority whatever, being conscious that themselves would be the first victims to its fury. They alleged, that the dangers and distempers of the nation were such as could endure no longer delay; and unless the king should speedily comply with their demands, they should be obliged, both for his safety and that of the kingdom, to embody and direct a militia by the authority of both houses. In their remonstrances to the king, they desired even to be permitted to command the army for an appointed time: which so exasperated him, that he exclaimed, "No, not for an hour." This peremptory refusal broke off all further treaty; and both sides were now resolved to have recourse to arms.

Refused by the king.

116 War resolved on between the king and parliament.

Charles, taking the prince of Wales with him, retired to York, where he found the people more loyal, and less infected with the frenzy of the times. He found his cause there backed by a more numerous party among the people than he had expected. The queen, who was in Holland, was making successful levies of men and ammunition by selling the crown-jewels. But before war was openly declared, the shadow of a negociation was carried on, rather with a design to please the people, than with a design of reconciliation. Nay, that the king might despair of all composition, the parliament sent him the conditions on which they were willing to come to an agreement. Their demands were contained in 19 propositions, and amounted to a total abolition of monarchical authority. They required that no man should remain in the council who was not agreeable to parliament: that no deed of the king's should have validity unless it passed the council, and was attested under their hand; and that all the officers of state should be chosen with consent of parliament; that none of the royal family should marry without consent of parliament or council; that the laws should be executed against Catholics; that the votes of Popish lords should be excluded; that the reformation of the liturgy and church-government should take place according to the advice of parliament; that the ordinance with regard to the militia be submitted to; that the justice of parliament may pass upon all delinquents; that a general pardon be granted, with such exceptions as should be advised by parliament; that the forts and castles be disposed of by consent of parliament; and that no peers be made but with consent of both houses. War on any terms was esteemed by the king and all his counsellors, preferable to so ignominious a peace. Charles accordingly resolved to support his authority by force of arms. "His towns (he said) were taken from him; his ships, his army, and his money: but there still remained to him a good cause, and the hearts of his loyal subjects; which, with God's blessing, he doubted not would recover all the rest." Collecting therefore some forces, he advanced southwards, and erected his royal standard at Nottingham.

117 Shameful requisitions of parliament.

118 Rejected by Charles.

The king found himself supported in the civil war by

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by the nobility and more considerable gentry. They, dreading a total confusion of rank from the fury of the populace, inlisted themselves under the banner of their monarch: from whom they received, and to whom they communicated, their lustre. The concurrence of the bishops and church of England also increased the adherents of the king; but it may be safely affirmed, that the high monarchical doctrines so much inculcated by the clergy, had never done him any good. The bulk of the nobility and gentry who now attended the king in his distresses, breathed the spirit of liberty as well as of loyalty: and in the hopes alone of his submitting to a limited and legal government, they were willing to sacrifice their lives and fortunes.

On the other hand, the city of London, and most of the great corporations, took part with the parliament; and adopted with zeal those democratical principles on which these assemblies were founded. The example of the Dutch commonwealth, too, where liberty had so happily supported industry, made the commercial part of the nation desire to see a like form of government established in England. Many families also, who had enriched themselves by commerce, saw with indignation, that, notwithstanding their opulence, they could not raise themselves to a level with the ancient gentry; they therefore adhered to a power by whose success they hoped to acquire rank and consideration.

119 Distressed condition of the royalists.

At first every advantage seemed to lie against the royal cause. The king was totally destitute of money. London, and all the sea-ports, except Newcastle, being in the hands of parliament, they were secure of a considerable revenue; and the seamen naturally following the disposition of the ports to which they belonged, the parliament had the entire dominion of the sea. All the magazines of arms and ammunition they seized at first; and their fleet intercepted the greatest part of those sent by the queen from Holland. The king, in order to arm his followers, was obliged to borrow the weapons of the train bands, under promise of restoring them as soon as peace should be settled. The nature and qualities of his adherents alone gave the king some compensation for all the advantages possessed by his adversaries. More bravery and activity were hoped for from the generous spirit of the nobles and gentry, than from the base disposition of the multitude. And as the landed gentlemen, at their own expence, levied and armed their tenants, besides an attachment to their masters, greater force and courage were to be expected from these rustic troops than from the vicious and enervated populace of cities. Had the parliamentary forces however, exerted themselves at first, they might have easily dissipated the small number the king had been able to collect, and which amounted to no more than 800 horse and 300 foot; while his enemies were within a few days march of him with 6000 men. In a short time the parliamentary army were ordered to march to Northampton; and the earl of Essex, who had joined them, found the whole to amount to 15,000. The king's army too was soon reinforced from all quarters; but still, having no force capable of coping with the parliamentary army, he thought it prudent to retire to Derby, and from thence to Shrewsbury, in order to countenance the levies which his friends were making in those parts. At Wellington, a day's march from Shrewsbury, he made a rendezvous of all his forces, and caused his military orders to be read at the head of every regiment. That he might bind himself by reciprocal obligations, he here protested solemnly before his whole army, that he would maintain the Protestant religion according to the church of England; that he would govern according to the known statutes and customs of the kingdom; and particularly, that he would observe inviolable the laws to which he had given his consent during this parliament, &c.

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120 They gain an advantage over their enemies.

While Charles lay at Shrewsbury, he received the news of an action, the first which had happened in these parts, and wherein his party was victorious. On the appearance of commotions in England, the princes Rupert and Maurice, sons of the unfortunate elector palatine, had offered their service to the king; and the former at that time commanded a body of horse which had been sent to Worcester in order to watch the motions of Essex, who was marching towards that city: No sooner had the prince arrived, than he saw some cavalry of the enemy approaching the gates. Without delay he briskly attacked them, as they were defiling from a lane, and forming themselves. Colonel Sandys their commander was killed, the whole party routed, and pursued above a mile.

121 Battle of Edgehill.

In 1642, October 23d, happened a general engagement at Edgehill, in which, though the royalists were at first victorious, their impetuosity lost the advantage they had gained, and nothing decisive happened. Five thousand men, it is said, were found dead on the field of battle. Soon after, the king took Banbury and Reading; and defeated two regiments of his enemies at Brentford, taking 500 prisoners. Thus ended the campaign in 1642; in which, though the king had the advantage, yet the parliamentary army amounted to 24,000 men, and was much superior to his; notwithstanding which, his enemies had been so far humbled as to offer terms of peace.

In 1643, the treaty was carried on, but without any cessation of hostilities; and indeed the negociation went no farther than the first demand on each side; for the parliament, finding no likelihood of coming to an accommodation, suddenly recalled their commissioners. On the 27th of April, Reading surrendered to the parliamentary forces under the earl of Essex, who commanded a body of 18,000 men. The earl of Northumberland united in a league for the king the counties of Northumberland, Cumberland, Westmoreland, and the bishopric; and engaged some time after other counties in the same association. The same nobleman also took possession of York, and dislodged the forces of the parliament at Tadcaster, but his victory was not decisive. Other advantages were also gained by the royalists; the most important of which was the battle of Stratton, where the poet Waller, who commanded the parliament's army, was entirely defeated, and forced to fly with only a few horse to Bristol. This happened on the 13th of July; and was followed by the siege of that city, which surrendered to Prince Rupert on the 25th of the same month.

122 Association in favour of the king.

123 Parliamentary forces defeated at Stratton.

Though the taking of Bristol had cost the royalists dear, yet such a continual run of success had greatly dispirited the opposite party; and such confusion now prevailed at London, that some proposed to the king to march directly to that city, which it was hoped might be reduced either by an insurrection of the citi-

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zens by victory or by treaty, and thus an end put to the civil disorders at once. This advice, however, was rejected, on account of the great number of the London militia; and it was resolved first to reduce Gloucester, in consequence of which the king would have the whole course of the Severn under his command. The rich and malcontent counties of the west having then lost all protection from their friends, might be enforced to pay large contributions as an atonement for their disaffection; an open communication could be preserved between Wales and these new conquests; and half the kingdom being entirely freed from the enemy, and thus united into one firm body, might be employed in re-establishing the king's authority throughout the remainder.

124 Charles besieges Gloucester.

The siege of this city commenced August 10th; but being defended by Massey a resolute governor, and well garrisoned, made a vigorous defence. The consternation at London, however, was as great as if the enemy had been already at their gates; and in the midst of the general confusion, a design was formed by Waller of forcing the parliament to accept of some reasonable conditions of peace. He imparted his design to some others; but a discovery being made of their proceedings, he and two others were condemned to death. Waller, however, escaped with a fine of 10,000l. The city of Gloucester in the mean time was reduced to the utmost extremity; and the parliament, as their last resource, despatched Essex with an army of 14,000 men, in order to force the king to raise the siege of that city. This he accomplished; and when he entered, found only one barrel of gun-powder left, and their whole provisions nearly exhausted. On his return to London, he was intercepted by the king's army, with whom a desperate battle ensued at Newbury, which lasted till night. Though the victory was left undecided, Essex next morning proceeded on his march, and reached London in safety, where he received the applause for his conduct he deserved. The king followed him on his march; and having taken possession of Reading after the earl left, he there established a garrison, and straitened by that means London and the quarters of the enemy.

125 He is forced to raise the siege.

126 Battle of Newbury.

In the north, during the summer, the earl, now created marquis of Newcastle, had raised a considerable force for the king; and great hopes of success were entertained from that quarter. There appeared, however, in opposition to him, two men on whom the event of the war finally depended, and who began about this time to be remarked for their valour and military conduct: These were, Sir Thomas Fairfax, son to the lord of that name; and Oliver Cromwell. The former gained a considerable advantage over the royalists at Wakefield, and took General Goring prisoner: the latter obtained a victory at Gainsborough over a party commanded by the gallant Cavendish, who perished in the action. But both these defeats were more than compensated by the total rout of Lord Fairfax at Atherton moor, and the dispersion of his army, which happened on the 31st of July. After this victory, the marquis of Newcastle sat down before Hull with an army of 15,000 men; but being beaten off by a sally of the garrison, he suffered so much that he thought proper to raise the siege. About the same time, Manchester, who advanced from the eastern associated counties, having joined Cromwell and young Fairfax, obtained a considerable victory over the royalists at Horn Castle; where the two last-mentioned officers gained renown by their conduct and gallantry. And though fortune had thus balanced her favours, the king's party still remained much superior in those parts of England; and had it not been for the garrison of Hull, which kept Yorkshire in awe, a conjunction of the northern forces with the army of the south might have been made, and had probably enabled the king, instead of entering on the unfortunate, perhaps imprudent enterprise of Gloucester, to march directly to London, and put an end to the war. The battle of Newbury was attended with such loss on both sides, that it put an end to the campaign of 1643, by obliging both parties to retire into winter quarters.

127 Advantages gained by Fairfax and Cromwell.

128 Lord Fairfax defeated at Atherton.

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The event of the war being now very doubtful, the king and parliament began both of them to look for assistance from other nations. The former cast his eyes on Ireland, the latter on Scotland. The parliament of England had ever invited the Scots, from the commencement of the civil dissensions, to interpose their mediation, which they knew would be very little favourable to the king, and which for that reason he had declined. Early in the spring 1643, this offer of mediation had been renewed, with no better success than before. The commissioners were also empowered to press the king to a compliance with the presbyterian worship and discipline. But this he absolutely refused, as well as to call a parliament in Scotland; so that the commissioners, finding themselves unable to prevail in any one of their demands, returned home highly dissatisfied. The English parliament being now in great distress, gladly sent commissioners to Edinburgh, to treat of a more close confederacy with the Scotch nation. The person they principally trusted to on this occasion was Sir Henry Vane, who in eloquence, address, capacity, as well as in art and dissimulation, was not even surpassed by any one in that age so famous for active talents. By his persuasions was framed at Edinburgh the SOLEMN LEAGUE AND COVENANT; which effaced all former protestations and vows taken in both kingdoms, and long maintained its credit and authority. In this covenant, the subscribers, besides engaging mutually to defend each other against all opponents, bound themselves to endeavour, without respect of persons, the extirpation of popery and prelacy, superstition, heresy, and profaneness; to maintain the rights and privileges of parliaments, together with the king's authority; and to discover and bring to justice all incendiaries and malignants. They vowed also to preserve the reformed religion established in the church of Scotland; but by the artifice of Vane, no declaration more explicit was made with regard to England and Ireland, than that those kingdoms should be reformed according to the word of God, and the example of the purest churches.

129 English parliament ask assistance from the Scots.

130 Solemn league and covenant framed.

Great were the rejoicings among the Scots, that they should be the happy instruments of extending their mode of religion, and dissipating the profound darkness in which the neighbouring nations were involved. And being determined that the sword should carry conviction to all refractory minds, they prepared themselves with great vigilance and activity for their military enterprises; so that, having added to their other forces

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forces the troops which they had recalled from Ireland; they were ready about the end of the year to enter England under their old general the earl of Leven, with an army of above 20,000 men. The king, in order to secure himself, concluded a cessation of arms with the Irish rebels, and recalled a considerable part of his army from Ireland. Some Irish Catholics came over with these troops, and joined the royal army, where they continued the same cruelties and disorders to which they had been accustomed. The parliament voted, that no quarter in any action should ever be given them. But Prince Rupert, by making some reprisals, soon repressed this inhumanity.

131 Charles assisted by the Irish.

The campaign of 1644 proved very unfortunate to the royal cause. The forces brought from Ireland were landed at Mostyne in North Wales, and put under the command of Lord Biron. They besieged and took the castles of Hawarden, Beeston, Acton, and Deddington-house. No place in Cheshire or the neighbourhood now adhered to the parliament, except Lantwich; and to this place Biron laid siege in the depth of winter. Sir Thomas Fairfax, alarmed at so great a progress, assembled an army of 4000 men in Yorkshire; and having joined Sir William Brereton, was approaching to the camp of the royalists. Biron and his soldiers, elated with successes in Ireland, entertained a most profound contempt for their enemies. Fairfax suddenly attacked their camp. The swelling of the river by a thaw divided one part of the army from another. That part opposed to Fairfax, being driven from their post, retired into the church at Acton, where being surrounded, they were all taken prisoners. The other retreated with precipitation; and thus was dissipated or rendered useless that body of forces which had come from Ireland. This happened on the 25th of January; and on the 11th of April, Colonel Bellasis was totally defeated at Selby in Yorkshire by Sir Thomas Fairfax, who had returned from Cheshire with his victorious forces. Being afterwards joined by Lord Leven, the two generals sat down before the city of York; but being unable to invest that city completely, they were obliged to content themselves with incommoding it by a loose blockade. Hopeton, having assembled a body of 14,000 men, endeavoured to break into Sussex, Kent, and the southern association, which seemed well disposed to receive him; but was defeated by Waller at Cherington. At Newark, however, Prince Rupert totally defeated the parliamentary army which besieged that place; and thus preserved the communication open between the king's northern and southern quarters.

132 Irish forces dispersed.

The great advantages the parliament had gained in the north, seemed now to second their unwarrantable enterprises, and finally to promise them success. Manchester having taken Lincoln, had united his army to that of Leven and Fairfax; and York was now closely besieged by their numerous forces. That town, though vigorously defended by the marquis of Newcastle, was reduced to the last extremity, when Prince Rupert, having joined Sir Charles Lucas who commanded Newcastle's horse, hastened to its relief with an army of 20,000 men. The Scots and parliamentary generals raised the siege, and drawing up on Marston moor, proposed to give battle to the royalists. Prince Rupert approached the town by another quarter, and interposing the river Ouse between him and the enemy, safely joined his forces to those of Newcastle. The marquis endeavoured to persuade him, that having so successfully effected his purpose, he ought to be contented with the present advantages, and leave the enemy, now much diminished by their losses, and discouraged by their ill success, to dissolve by those mutual dissensions which had begun to take place among them. The prince, however, hurried on by his natural impetuosity, gave immediate orders for fighting. The battle was lost, the royal army entirely pushed off the field, and the train of artillery taken. Immediately after this unfortunate action the marquis of Newcastle left the kingdom, and Prince Rupert retired into Lancashire. The city of York was surrendered in a few days, and Newcastle soon after taken by storm.

133 York besieged by the parliamentary forces.

134 Royalists defeated at Marston moor.

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This was a fatal blow to the royal cause, and far from being balanced by an advantage gained at Cropredy bridge, by the king over Waller, or even by the disarming of Essex's forces, which happened on the 1st of September. On the 27th of October, another battle was fought at Newbury, in which the royalists were worsted, but soon after retrieved their honour at Dennington castle, which finished the campaign in 1644.

In 1645, a negociation was again set on foot, and the commissioners met at Uxbridge on the 30th of January; but it was soon found impossible to come to any agreement. The demands of the parliament were exorbitant; and, what was worse, their commissioners owned them to be nothing but preliminaries. The king was required to attaint, and except from a general pardon, 40 of the most considerable of his English subjects, and 19 of his Scots, together with all the Popish recusants who had borne arms for him. It was insisted that 48 more, with all the members of either house who had sat in the parliament called by the king at Oxford, all lawyers and divines who had embraced the king's party, should be rendered incapable of any office, be forbidden the exercise of their profession, be prohibited from coming within the verge of the court, and forfeit the third of their estates to the parliament. It was required, that whoever had borne arms for the king should forfeit the tenth of their estates, or if that did not suffice, the sixth, for the payment of public debts. As if royal authority were not sufficiently annihilated by these terms, it was demanded that the court of wards should be abolished; that all the considerable officers of the crown, and all the judges, should be appointed by parliament; and that the right of peace and war should not be exercised without consent of parliament. A little before the commencement of this fruitless treaty, the parliament, to show their determined resolution to proceed in the same haughty imperious method in which they had begun, brought to the block Archbishop Laud, who had long been a prisoner in the Tower, and was incapable of giving offence to any.

135 Extravagant demands of the parliament.

136 Execution of Laud.

While the king's affairs thus went into decay in England, they seemed to revive a little in Scotland, through the conduct and valour of the earl of Montrose, a young nobleman newly returned from his travels. He had been introduced to the king; but not meeting with an agreeable reception, had gone over to the covenanters, and been active in forwarding all their

137 Exploits of the earl of Montrose in Scotland.

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Britain. their violence. Being commissioned, however, by the *tables*, to wait upon the king while the army lay at Berwick, he was so gained by the civilities and caresses of that monarch, that he thenceforth devoted himself entirely, though secretly, to his service. For attempting to form an association in favour of the royal cause, Montrose was quickly thrown into prison; but being again released, he found the king ready to give ear to his counsels, which were of the boldest and most daring kind. Though the whole nation of Scotland was occupied by the covenanters, though great armies were kept on foot by them, and every place guarded by a vigilant administration, he undertook by his own credit, and that of a few friends who remained to the king, to raise such commotions, as would soon oblige those malcontents to recal the forces which had so sensibly thrown the balance in the favour of parliament. The defeat at Marston-moor had left him no hopes of any succours from England; he was therefore obliged to stipulate with the earl of Antrim, a nobleman of Ireland, for some supply of men from that country. And he himself having used various disguises, and passed through many dangers, arrived in Scotland, where he lay for some time concealed in the borders of the Highlands.

The Irish did not exceed 1100 foot, very ill armed. Montrose immediately put himself at their head; and being joined by 1300 Highlanders, attacked Lord Elcho, who lay at Perth with 6000 men, utterly defeated him, and killed 2000 of the covenanters. He next marched northwards, in order to rouse again the marquis of Huntly and the Gordons, who had taken arms before, but been suppressed by the covenanters. At Aberdeen, he attacked and entirely defeated Lord Burley, who commanded 2500 men. Montrose, however, by this victory, did not obtain the end he proposed; the marquis of Huntly showed no inclination to join an army where he was so much eclipsed by the general.

Montrose was now in a very dangerous situation. Argyle, reinforced by the earl of Lothian, was behind him with a great army. The militia of the northern counties, Murray, Ross, and Caithness, to the number of 5000, opposed him in front, and guarded the banks of the Spey, a deep and rapid river. In order to save his troops, he turned aside into the hills; and after some marches and countermarches, Argyle came up with him at Faivy castle; and here, after some skirmishes, in which he was always victorious, Montrose got clear of a superior army, and by a quick march through these almost inaccessible mountains put himself absolutely beyond their power.

It was the misfortune of this general, that very good or very ill fortune were equally destructive of his army. After every victory his Scots soldiers went home to enjoy the spoil they had acquired; and had his army been composed of these only, he must have soon been abandoned altogether: but his Irishmen, having no place to which they could retire, adhered to him in every fortune. With these, therefore, and some reinforcements of the Atholmen and Macdonalds, Montrose fell suddenly upon Argyle's country, letting loose upon it all the horrors of war. Argyle, collecting 3000 men, marched in quest of the enemy, who had retired with their plunder; and he lay at Innerlochy, supposing himself to be still at a good distance from them. The earl of Seaforth, at the head of the garrison of Inverness, and a body of 5000 new levied troops, pressed the royalists on the other side, and threatened them with total destruction. By a quick and unexpected march, Montrose hastened to Innerlochy, and presented himself in order of battle before the covenanters. Argyle alone, seized with a panic, deserted his army. They made a vigorous resistance, however; but were at last defeated and pursued with great slaughter: after which Montrose was joined by great numbers of Highlanders; Seaforth's army dispersed of itself; and the lord Gordon, eldest son of the marquis of Huntly, having escaped from his uncle Argyle, who had hitherto detained him, now joined Montrose with a considerable number of his followers, attended by the earl of Aboyne. Britain.

The council at Edinburgh, alarmed at these victories, sent for Baillie, an officer of reputation, from England; and, joining him in command with Urrey, sent them with a considerable army against the royalists. Montrose, with a detachment of 800 men, had attacked Dundee, a town extremely attached to the covenant: and having carried it by assault, had given it up to be plundered by his soldiers; when Baillie and Urrey with their whole force came upon him. He instantly called off his soldiers from the plunder; put them in order; secured his retreat by the most skilful measures; and having marched 60 miles in the face of an enemy much superior, without stopping, or allowing his soldiers the least sleep or refreshment, at last secured himself in the mountains. His antagonists now divided their forces, in order to carry on the war against an enemy who surprised them as much by the rapidity of his marches as by the boldness of his enterprises. Urrey met him with 4000 men, at Alderne near Inverness; and trusting to his superiority in numbers (for Montrose had only 2000 men), attacked him in the post which he had chosen. Montrose, having placed his right wing in strong ground, drew the best of his forces to the other, and left no main body between them; a defect which he artfully concealed by showing a few men through trees and bushes with which that ground was covered. That Urrey might have no leisure to perceive the stratagem, he instantly led his wing to the charge, made a furious attack on the covenanters, drove them off the field, and obtained a complete victory over them. Baillie now advanced, in order to revenge Urrey's defeat; but he himself met with a like fate at Alford. Montrose, weak in cavalry, lined his troops of horse with infantry; and, after putting the enemy's horse to rout, fell with united force upon their foot, which were entirely cut in pieces, though with the loss of the gallant Lord Gordon on the part of the royalists.—Having thus prevailed in so many battles, which his vigour always rendered as decisive as they were successful, he prepared for marching into the southern provinces, in order to put a total period to the power of the covenanters, and dissipate the parliament, which with great pomp and solemnity they had ordered to meet at St Johnstone's.

138 He defeats two armies, each double in number to his own.

While Montrose was thus signalizing his valour in the north, Fairfax, or rather Oliver Cromwell under his name, employed himself in bringing in a *new mo-*

139 Parliamentary army new modelled.

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del into the parliamentary army, and throwing the whole troops into a different shape; and never surely was a more singular army established, than that which was now set on foot by the parliament. To the greatest number of the regiments chaplains were not appointed. The officers assumed the spiritual duty, and united it with their military functions. During the intervals of action, they occupied themselves in sermons, prayers, and exhortations. Rapturous ecstasies supplied the place of study and reflection; and while the zealous devotees poured out their thoughts in unpremeditated harangues, they mistook that eloquence, which to their own surprise, as well as that of others, flowed in upon them, for divine illuminations, and illapses of the Holy Spirit. Wherever they were quartered, they excluded the minister from his pulpit; and usurping his place, conveyed their sentiments to the audience with all the authority that followed their power, their valour, and their military exploits, united to their apparent zeal and fervour. The private soldiers were seized with the same spirit; and in short, such an enthusiasm seized the whole army as was perhaps scarce ever equalled.

The royalists ridiculed this fanaticism of the parliamentary armies, without being sensible how much reason they had to dread it. They were at this time equal, if not superior, in number to their enemies; but so licentious, that they were become more formidable to their friends than their enemies. The commanders were most of them men of dissolute characters; in the west especially, where Goring commanded, universal spoil and havock were committed; and the whole country was laid waste by the rapine of the army; so that the most devoted friends both to the church and state wished there for such success to the parliamentary forces as might put an end to these disorders.

140 Royalists defeated at Naseby.

The natural consequence of such enthusiasm in the parliamentary army, and licentiousness in that of the king, was, that equal numbers of the latter would no longer maintain their ground against the former. This appeared in the decisive battle of Naseby, where the forces were nearly equal; but after an obstinate engagement, Charles was entirely defeated, 500 of his officers and 4000 private men made prisoners, all his artillery and ammunition taken, and his infantry totally dispersed; so that scarce any victory could be more complete.

After this fatal battle, the king retired first to Hereford, then to Abergavenny; and remained some time in Wales, from the vain hope of raising a body of infantry in these quarters, already harassed and exhausted. His affairs now, however, went to ruin in all quarters. Fairfax retook Leicester on the 17th of June. On the 10th of July, he raised the siege of Taunton; and the royalists retired to Lamport, an open town in the county of Somerset. Here they were attacked by Fairfax, and beat from their post, with the loss of 300 killed and 1400 taken prisoners. This was followed by the loss of Bridgewater, which Fairfax took three days after; making the garrison, to the number of 2600 men, prisoners of war. He then reduced Bath and Sharburn; and on the 11th of September Bristol was surrendered to him by Prince Rupert, though a few days before he had boasted in a letter to Charles, that he would defend the place for four months. This so enraged the king, that he immediately recalled all the prince's commissions, and sent him a pass to go beyond sea.

141 Bristol taken.

The Scots in the meantime, having made themselves masters of Carlisle after an obstinate siege, marched southwards and invested Hereford; but were obliged to raise the siege on the king's approach. And this was the last glimpse of success that attended his arms. Having marched to the relief of Chester, which was anew besieged by the parliamentary forces under Colonel Jones, his arrear was attacked by Pointz, and an engagement immediately ensued. While the fight was continued with great obstinacy, and victory seemed to incline to the royalists, Jones fell upon them from the other side, and defeated them with the loss of 600 killed and 1000 taken prisoners. The king with the remains of his army fled to Newark; and from thence escaped to Oxford, where he shut himself up during the winter season.

142 Charles retires to Oxford.

After the surrender of Bristol, Fairfax and Cromwell having divided their forces, the former marched westwards in order to complete the conquest of Devonshire and Cornwall; the latter attacked the king's garrisons which lay to the east of Bristol. Nothing was able to stand before these victorious generals; every town was obliged to submit, and every body of troops that pretended to resist were utterly defeated. At last, news arrived, that Montrose himself, after some more successes, was defeated; and thus the only hope of the royal party was destroyed.

143 Montrose defeated.

When that brave general descended into the southern counties, the covenanters, assembling their whole force, met him with a numerous army, and gave him battle at Kilsyth. Here he obtained his most memorable victory: 6000 of the covenanters were killed on the spot, and no remains of an army left them in Scotland. Many noblemen, who secretly favoured the royal cause, now declared openly for it, when they saw a force able to support them. The marquis of Douglas, the earls of Annandale and Hartfield, the lords Fleming, Seton, Maderty, Carnegy, with many others, flocked to the royal standard. Edinburgh opened its gates, and gave liberty to all the prisoners there detained by the covenanters. Among the rest was Lord Ogilvy, son to Airly, whose family had contributed very much to the victory gained at Kilsyth.—David Lesly was detached from the army in England, and marched to the relief of his distressed party in Scotland. Montrose advanced still further to the south, allured by the vain hopes, both of rousing to arms the earls of Hume, Traquaire, and Roxburgh, who had promised to join him; and of obtaining from England some supply of cavalry, in which he was very deficient. By the negligence of his scouts, Lesly, at Philiphaugh in the Forest, surprised his army, much diminished in numbers from the desertion of the Highlanders, who had retired to the hills, according to custom, to secure their plunder. After a sharp conflict, in which Montrose exerted great valour, his forces were routed by Lesly's cavalry, and he himself forced to fly to the mountains.

Nothing could be more affecting than the situation in which the king now was. He now resolved to grant the parliament their own terms, and sent them

repeated

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repeated messages to this purpose, but they never deigned to make him the least reply. At last, after reproaching him with the blood spilt during the war, they told him that they were preparing some bills, to which, if he would consent, they would then be able to judge of his pacific inclinations. Fairfax, in the mean time, was advancing with a victorious army in order to lay siege to Oxford; and Charles, rather than submit to be taken captive and led in triumph by his insolent subjects, resolved to give himself up to the Scots, who had never testified such implacable animosity against him, and to trust to their loyalty for the rest. After passing through many bye-ways and cross-roads, he arrived in company with only two persons, Dr Hudson and Mr Ashburnham, at the Scots camp before Newark, and discovered himself to Lord Leven their general.

144 Charles surrenders himself to the Scots.

The reception he met with was such as might be expected from these infatuated bigots, destitute of every principle of reason, honour, or humanity. Instead of endeavouring to alleviate the distresses of their sovereign, they suffered him to be insulted by the clergymen. They immediately sent an account of his arrival to the English parliament, and they as quickly entered into a treaty with the Scots about delivering up their prisoner. The Scots thought this a proper time for the recovery of their arrears due to them by the English. A great deal was really due them, and they claimed much more than actually belonged to them. At last, after various debates between them and the parliament, in which they pretended to great honour, and insisted upon many punctilios, it was agreed, that, upon payment of 400,000l. the Scots should deliver up the king to his enemies: and this was cheerfully complied with. Thus the Scots justly fell under the censure of having sold their king, who had thrown himself upon their mercy; a stain peculiar to the nation, and unparalleled in history either ancient or modern. It must, however, be acknowledged, that the infamy of this bargain had such an influence on the Scots parliament, that they once voted that the king should be protected and his liberty insisted on. But the general assembly interposed; and pronounced, that as he had refused to take the covenant which was pressed on him, it became not the godly to concern themselves about his fortunes. In consequence of this, the parliament were obliged to retract their vote. The king, being delivered over to the English commissioners, was conducted under a guard to Holdenby in the county of Northampton, where he was very rigorously confined; his ancient servants being dismissed, himself debarred from visits, and all communication cut off with his friends or family.

145 who sell him to the English.

146 The army begin to usurp the sovereign power.

The civil war being now over, the king absolved his followers from their allegiance, and the parliament had now no enemy to fear but their own troops. From this quarter their danger only arose; and it was not long before they found themselves in the same unfortunate situation to which they had reduced the king. The majority of the house were presbyterians, but the majority of the army were independents. The former, soon after the retreat of the Scots, seeing every thing reduced to obedience, proposed to disband a considerable part of the army, and send the rest over to Ireland. This was by no means relished, and Cromwell took care to heighten the disaffection. Instead of preparing to disband, therefore, the soldiers resolved to petition; and they began by desiring an indemnity, ratified by the king, for any illegal actions which they might have committed during the war. The commons voted that this petition tended to introduce mutiny, &c. and threatened to proceed against the promoters of it as enemies to the state and disturbers of the public peace. The army now began to set up for themselves. In opposition to the parliament at Westminster, a military parliament was formed. The principal officers formed a council to represent the body of peers; the soldiers elected two men out of each company to represent the commons, and these were called the *agitators of the army*; and of this assembly Cromwell took care to be a member. The new parliament soon found many grievances to be redressed; and specified some of the most considerable. The commons were obliged to yield to every request, and the demands of the agitators rose in proportion. The commons accused the army of mutiny and sedition; the army retorted the charge, and alleged that the king had been deposed only to make way for their usurpations. Cromwell, in the mean time, who secretly conducted all the measures of the army, while he exclaimed against their violence, resolved to seize the king's person. Accordingly a party of 500 horse appeared at Holmby castle, under the command of one Joyce, originally a tailor, but now a cornet; and by this man was the king conducted to the army, who were hastening to their rendezvous at Triplo-heath near Cambridge. Next day Cromwell arrived among them where he was received with acclamations of joy, and immediately invested with the supreme command.

147 A military parliament formed.

148 Cromwell seizes the king.

The commons now saw the designs of the army; but it was too late, all resistance was become vain; Cromwell advanced with precipitation, and was in a few days at St Alban's. Even submission was now to no purpose; the army still rose in their demands, in proportion as these demands were gratified, till at last they claimed a right of modelling the whole government, and settling the nation.

Cromwell began with accusing eleven members of the house, the very leaders of the presbyterian party, as guilty of high treason, and being enemies of the army. The commons were willing to protect them; but the army insisting on their dismission, they voluntarily left the house. At last the citizens of London, finding the constitution totally overturned, and a military despotism beginning to take place, instead of the kingly one they were formerly afraid of, began to think seriously of repressing the insolence of the troops. The common council assembled the militia of the city; the works were manned; and a manifesto published, aggravating the hostile intentions of the army. Finding that the commons, in compliance with the request of the army, had voted that the city militia should be disbanded, the multitude rose, besieged the door of the house, and obliged them to reverse that vote they had so lately passed. The assembly was, of consequence, divided into two parties; the greater part siding with the citizens; but the minority, with the two speakers at their head, were for encouraging the army. Accordingly the two speakers, with 62 of the members, secretly,

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secretly retired from the house, and threw themselves under the protection of the army, who were then at Hounslow-heath. They were received with shouts and acclamations; their integrity was extolled; and the whole force of the soldiery, to the number of 20,000 men, now moved forward to reinstate them in their places.

149 Sixty-two members of parliament join the army.

In the mean time, the part of the house which was left, resolved to resist the encroachments of the army. They chose new speakers, gave orders for enlisting troops, ordered the train-bands to man the lines; and the whole city boldly resolved to resist the invasion. But this resolution only held while the enemy was at a distance; for when Cromwell appeared, all was obedience and submission; the gates were opened to the general, who attended the two speakers and the rest of the members peaceably to their habitations. The eleven impeached members being accused as causes of the tumult, were expelled; and most of them retired to the continent. The mayor, sheriff, and three aldermen, were sent to the Tower: several citizens, and officers of the militia, were committed to prison; the lines about the city levelled with the ground; and the command of the Tower was given to Fairfax.

150 The rest submit.

It now only remained to dispose of the king, who remained a prisoner at Hampton-court. The independent army, at the head of whom was Cromwell, on one hand; and the presbyterians, in the name of both houses, on the other; treated with him separately in private. He had sometimes even hopes, that, in these struggles for power, he might have been chosen mediator in the dispute; and he expected that the kingdom at last, being sensible of the miseries of anarchy, would of its own accord be hushed into its former tranquil condition. At this time he was treated with some flattering marks of distinction; he was permitted to converse with his old servants; his chaplains were permitted to attend him, and celebrate divine service their own way. But the most exquisite pleasure he enjoyed was in the company of his children, with whom he had several interviews. The meeting on these occasions was so pathetic, that Cromwell himself, who was once present, could not help being moved, and was heard to declare, that he never beheld such an affecting scene before. But these instances of respect were of no long continuance. As soon as the army had gained a complete victory over the house of commons, the king was treated not only with the greatest disrespect, but even kept in continual alarms for his own personal safety. The consequence of this was, that Charles at last resolved to withdraw himself from the kingdom. Accordingly, on the 11th of November 1647, attended only by Sir John Berkeley, Ashburnham, and Leg, he privately left Hampton-court; and his escape was not discovered till near an hour after; when those who entered his chamber, found on the table some letters directed to the parliament, to the general, and to the officer who had attended him. All night he travelled through the forest, and arrived next day at Titchfield, a seat of the earl of Southampton, where resided the countess dowager, a woman of honour, to whom the king knew he might safely entrust his person. Before he arrived at this place, he had gone to the sea-coast: and expressed great anxiety that a ship which he seemed to look for had not arrived. He could not hope to remain long concealed at Titchfield: the question was, what measure should next be embraced? In the neighbourhood lay the isle of Wight, of which Hammond was governor. This man was entirely dependent on Cromwell, which was a very unfavourable circumstance: yet, because the governor was nephew to Dr Hammond the king's favourite chaplain, and had acquired a good reputation in the army, it was thought proper to have recourse to him in the present exigence, when no other rational expedient could be thought of. Ashburnham and Berkeley were dispatched to the island. They had orders not to inform Hammond of the place where the king lay concealed, till they had first obtained a promise of him not to deliver up his majesty, even though the parliament and army should require him; but restore him to his liberty, if he could not protect him. The promise would have been but a slender security: yet even without exacting it, Ashburnham imprudently, if not treacherously, brought Hammond to Titchfield; and the king was obliged to put himself into his hands, and to attend him to Carisbroke castle in the isle of Wight, where, though he was received with great demonstrations of respect and kindness, he was in reality a prisoner.

151 Charles resolves to leave the kingdom.

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152 He is seized and confined in the isle of Wight.

While the king continued in this forlorn situation, Cromwell found himself upon the point of losing all the fruits of his former schemes, by having his own principles turned against himself. Among the Independents, who in general were for no ecclesiastical subordination, a set of men grew up, called *levellers*, who disallowed all subordination whatsoever, and declared that they would have no other chaplain, king, or general, but Jesus Christ. Though this would have gone down very well with Cromwell, as long as it was only directed against his enemies, he did not so well relish it when applied to himself. Having intimation that the levellers were to meet at a certain place, he unexpectedly appeared before them at the head of his red regiment, which had hitherto been deemed invincible. He demanded in the name of God, what these meetings and murmurings meant? he expostulated with them upon the danger and consequence of their precipitant schemes, and desired them immediately to depart. Instead of obeying, however, they returned an insolent answer; wherefore, rushing on them in a fury, he laid two of them dead at his feet. His guards dispersing the rest, he caused several of them to be hanged upon the spot, and sent others to London; and thus dissipated a faction no otherwise criminal than in having followed his own example.

153 Cromwell in danger from the levellers.

Cromwell's authority was greatly increased by the last-mentioned action; but it became irresistible in consequence of a new and unexpected addition to his successes. The Scots, perhaps ashamed of the reproach of having sold their king, and stimulated farther by the Independents, who took all occasions to mortify them, raised an army in his favour, and the chief command was given to the earl of Hamilton: while Langdale, who professed himself at the head of the more bigotted party who had taken the covenant, marched at the head of his separate body, and both invaded the north of England. Though these two armies amounted to above 20,000 men, yet Cromwell at the head of 8000 of his hardy veterans, feared not to give them battle. He

154 He defeats the Scots.

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He attacked them one after another; routed and dispersed them; took Hamilton prisoner; and, following his blow, entered Scotland, the government of which he settled entirely to his satisfaction. An insurrection in Kent was quelled by Fairfax with the same ease; and nothing but success attended all this usurper's attempts.

155 Negociation between the king and parliament.

During these contentions, the king, who was kept a prisoner at Carisbroke castle, continued to negociate with the parliament for settling the unspeakable calamities of the kingdom. The parliament now saw no other method of destroying the military power, but to depress it by the kingly. Frequent proposals for an accommodation passed between the captive king and the commons; but the great obstacle which had all along stood in the way, still kept them from agreeing. This was the king's refusing to abolish Episcopacy, though he consented to alter the liturgy. However, the treaty was still carried on with vigour, and the parliament for the first time seemed in earnest to conclude their negociations. But all was now too late. The victorious army, with Cromwell at their head, advanced to Windsor, and with furious remonstrances began to demand vengeance on the king. The unhappy monarch had been lately sent under confinement to that place; and from thence he was now conveyed to Hurst castle in Hampshire, opposite to the isle of Wight. The parliament in the mean time began to issue ordinances for a more effectual opposition to these military encroachments, when they were astonished by a message from Cromwell, that he intended paying them a visit next day with his whole army; and in the mean time ordering them to raise him 40,000l. on the city of London.

The commons, though destitute of all hopes of prevailing, had still the courage to resist, and to attempt in the face of the whole army to finish the treaty they had begun with the king. They had taken into consideration the whole of his concessions; and though they had formerly voted them unsatisfactory, they now renewed the consultation with great vigour. After a violent debate which lasted three days, it was carried in the king's favour by a majority of 129 against 83, that his concessions were a foundation for the houses to proceed upon in settling the affairs of the nation.

156 Colonel Pride's purge.

This was the last attempt in his favour; for the next day Colonel Pride, at the head of two regiments, blockaded the house; and seizing in the passage 41 members of the Presbyterian party, sent them to a low room belonging to the house, that passed by the denomination of *Hell*. Above 160 members more were excluded; and none were allowed to enter but the most furious and determined of the Independents, in all not exceeding 60. This atrocious invasion of parliamentary rights commonly passed by the name of *Pride's Purge*, and the remaining members were called the *Rump*. These soon voted, that the transactions of the house a few days before were entirely illegal, and that their general's conduct was just and necessary.

157 Charge against the king brought in.

Nothing now remained, to complete the wickedness of this parliament, but to murder the king. In this assembly, therefore, composed of the most obscure citizens, and officers of the army, a committee was appointed to bring in a charge against the king; and on their report, a vote passed declaring it treason in a king to levy war against his parliament. It was therefore resolved, that a high court of justice should be appointed, to try his majesty for this new invented treason. For form's sake, they desired the concurrence of the few remaining lords in the upper house; but there was virtue enough left in that body unanimously to reject the proposal. The commons, however, were not to be stopped by so small an obstacle. They voted that the concurrence of the house of lords was unnecessary, and that the people were the origin of all just power. To add to their zeal, a woman of Herefordshire, illuminated by prophetical visions, desired admittance, and communicated a revelation she pretended to have received from heaven. She assured them that their measures were consecrated from above, and ratified by the sanction of the Holy Ghost. This intelligence gave them great comfort, and much confirmed them in their present resolutions.

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Colonel Harrison, the son of a butcher, was commanded to conduct the king from Hurst castle to Windsor, and from thence to London. His afflicted subjects, who ran to have a sight of their sovereign, were greatly affected at the change that appeared in his face and person. He had permitted his beard to grow; his hair was become venerably gray, rather by the pressure of anxiety than the hand of time; while the rest of his apparel bore the marks of misfortune and decay. He had long been attended by an old decrepid servant whose name was *Sir Philip Warwick*, who could only deplore his master's fate without being able to revenge his cause. All the exterior symbols of sovereignty were now withdrawn, and his attendants had orders to serve him without ceremony. He could not, however, be persuaded that his adversaries would bring him to a formal trial; but he every moment expected to be despatched by private assassination.

158 His trial.

From the 6th to the 20th of January was spent in making preparations for this extraordinary trial. The court of justice consisted of 133 persons named by the commons; but of these never above 70 met upon the trial. The members were chiefly composed of the principal officers of the army, most of them of very mean birth, together with some of the lower house, and a few citizens of London. Bradshaw a lawyer was chosen president; Coke was appointed solicitor for the people of England; Dorislaus, Steele, and Aske, were named assistants. The court sat in Westminster-hall. When the king was brought forward before the court, he was conducted by the mace-bearer to a chair placed within the bar. Though long detained a prisoner, and now produced as a criminal, he still maintained the dignity of a king. His charge was then read by the solicitor, accusing him of having been the cause of all the bloodshed which had flowed since the commencement of the war; after which Bradshaw directed his discourse to him, and told him that the court expected his answer.

The king began his defence with declining the authority of the court. He represented, that having been engaged in treaty with his two houses of parliament, and having finished almost every article, he expected a different treatment from what he had now received. He perceived, he said, no appearance of an upper house, which was necessary to constitute a just tribunal. He alleged that he was himself the king and

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Britain. and fountain of law, and consequently could not be tried by laws to which he had never given his assent; that having been intrusted with the liberties of the people, he would not now betray them by recognizing a power founded in usurpation; that he was willing, before a proper tribunal, to enter into the particulars of his defence; but that before them he must decline any apology for his innocence, lest he should be considered as the betrayer of, and not a martyr for, the constitution. Bradshaw, in order to support the authority of the court, insisted, that they had received their authority from the people, the source of all right. He pressed the king not to decline the authority of the court that was delegated by the commons of England, and interrupted and overruled him in his attempts to reply. In this manner the king was three times produced before the court, and as often persisted in declining its jurisdiction. The fourth and last time he was brought before this self-created tribunal, as he was proceeding thither, he was insulted by the soldiers and the mob, who cried out, "Justice! justice! Execution! execution!" but he continued undaunted. His judges having now examined some witnesses, by whom it was proved that the king had appeared in arms against the forces commissioned by parliament, they pronounced sentence against him. He seemed very anxious at this time to be admitted to a conference with the two houses, and it was supposed that he intended to resign the crown to his son; but the court refused compliance, and considered his request as an artifice to delay justice.

159 He is insulted by the soldiers.

The behaviour of Charles under all these instances of low-bred malice was great, firm, and equal. In going through the hall from this execrable tribunal, the soldiers and rabble were again instigated to cry out Justice and execution! They reviled him with the most bitter reproaches. Among other insults, one miscreant presumed to spit in the face of his sovereign. He patiently bore their insolence: "Poor souls (cried he), they would treat their generals in the same manner for sixpence." Those of the populace who still retained the feelings of humanity expressed their sorrow in sighs and tears. A soldier, more compassionate than the rest, could not help imploring a blessing on his royal head. An officer overhearing him, struck the honest centinel to the ground before the king; who could not help saying, that the punishment exceeded the offence.

At his return to Whitehall, Charles desired permission of the house to see his children, and to be attended in his private devotions by Dr Juxon late bishop of London. These requests were granted, and also three days to prepare for execution. Every night between his sentence and execution, the king slept sound as usual,

160 His execution.

though the noise of the workmen employed in framing the scaffold continually resounded in his ears. The fatal morning being at last arrived, he rose early; and calling one of his attendants, he bade him employ more than usual care in dressing him, and preparing him for so great a solemnity. The street before Whitehall was the place destined for his execution; for it was intended that this should increase the severity of his punishment. He was led through the banqueting house to the scaffold adjoining to that edifice, attended by his friend and servant Bishop Juxon, a man of the same mild and steady virtues with his master. The scaffold, which was covered with black, was guarded by a regiment of soldiers under the command of Colonel Tomlinson; and on it were to be seen the block, the axe, and two executioners in masks. The people, in crowds, stood at a greater distance. The king surveyed all these solemn preparations with calm composure; and, as he could not expect to be heard by the people at a distance, he addressed himself to the few persons who stood round him. He there justified his own innocence in the late fatal wars: he observed, that he had not taken arms till after the parliament had shown him the example; and that he had no other object in his warlike preparations, than to preserve that authority entire which had been transmitted to him by his ancestors. But, though innocent towards his people, he acknowledged the equity of his execution in the eyes of his Maker: he owned that he was justly punished for having consented to the execution of an unjust sentence against the earl of Strafford. He forgave all his enemies; exhorted the people to return to their obedience, and acknowledge his son as his successor; and signified his attachment to the Protestant religion as professed by the church of England. So strong was the impression made by his dying words on those who could hear him, that Colonel Tomlinson himself, to whose care he had been committed, acknowledged himself a convert. At one blow his head was severed from his body. The other executioner then, holding up the head, exclaimed, "This is the head of a traitor."

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161 Grief of the nation on that account.

It is impossible to describe the grief, indignation, and astonishment, which took place not only among the spectators, who were overwhelmed with a flood of sorrow, but throughout the whole nation, as soon as the report of this fatal execution was conveyed to them. Each blamed himself either with active disloyalty to the king, or a passive compliance with his destroyers. The very pulpits that used to resound with insolence and sedition were now bedewed with tears of unfeigned repentance; and all united in their detestation of those dark hypocrites, who, to satisfy their own enmity, involved a whole nation in the guilt of treason.—Charles was executed on the 30th of January 1649, in the 49th year of his age, and 24th of his reign. He was of a middling stature, robust, and well proportioned. His visage was pleasant, but melancholy; and it is probable that the continual troubles in which he was involved might have made that impression on his countenance.

162 Piety of the king in his last moments.

It being remarked, that the king, the moment before he stretched out his neck to the executioner, had said to Juxon, with a very earnest accent, the single word REMEMBER, great mysteries were supposed to be concealed under that word; and the generals vehemently insisted with the prelate that he should inform them of the king's meaning. Juxon told them, that the king, having frequently charged him to inculcate on his son the forgiveness of his murderers, had taken this opportunity in the last moment of his life, when his commands, he supposed, would be regarded as sacred and inviolable, to reiterate that desire; and that his mild spirit thus terminated its present course by an act of benevolence to his greatest enemies.

163 Dissolution of the English monarchy.

The dissolution of the monarchy in England soon followed the death of the monarch. When the peers met on the day appointed in their adjournment, they entered upon business; and sent down some votes to the

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the commons, of which the latter deigned not to take the least notice. In a few days after, the commons voted, that the house of lords was useless and dangerous; for which reason it was abolished. They voted it high treason to acknowledge Charles Stuart, son of the late king, as successor to the throne. A great seal was made; on one side of which were engraven the arms of England and Ireland, with this inscription: "The great seal of England." On the reverse was represented the house of commons sitting, with this motto: "On the first year of freedon, by God's blessing restored, 1649." The forms of all public business were changed from being transacted in the king's name, to that of the *keepers of the liberties of England*. The court of king's bench was called the court of *public bench*. Nay, so cautious on this head, it is said, were some of the republicans, that, in reciting the Lord's prayer, they would not say, "thy kingdom," but "thy *commonwealth*, come." The king's statue in the Exchange was thrown down; and on the pedestal these words were inscribed: *Exit tyrannus, regum ultimus;* "The tyrant is gone, the last of the kings." The commons, it is said, intended to bind the princess Elizabeth apprentice to a button-maker; the duke of Gloucester was to be taught some other mechanical employment: but the former soon died of grief, as is supposed, for her father's tragical end; the latter was sent beyond sea by Cromwell. The commons next proceeded to punish those who had been most remarkable for their attachment to their late sovereign. The duke of Hamilton, Lord Capel, and the earl of Holland, were condemned and executed; the earl of Norwich and Sir John Owen were also condemned, and afterwards pardoned. These executions irritated the Scots: their loyalty began to return; and the insolence of the independents, with their victories, inflamed them still more. They determined, therefore, to acknowledge Prince Charles for their king, but at the same time to abridge his power by every limitation which they had attempted to impose on his father.

164 Enthusiasm and tyranny of the republicans.

165 Charles II. invited into Scotland.

Charles, after the death of his father, having passed some time at Paris, and finding no likelihood of assistance from that quarter, was glad to accept of any conditions. The Scots, however, while they were thus professing loyalty to their king, were nevertheless cruelly punishing his adherents. Among others, the brave marquis of Montrose was taken prisoner, as he endeavoured to raise the Highlanders in the royal cause; and being brought to Edinburgh, was hanged on a gibbet 30 feet high, then quartered, and his limbs stuck up in the principal towns of the kingdom. Yet, notwithstanding all this severity, Charles ventured into Scotland, and had the mortification to enter the gate of Edinburgh where the limbs of that faithful adherent were still exposed.

166 His hard usage there.

The young king soon found that he had only exchanged his exile for imprisonment. He was surrounded and incessantly importuned by the fanatical clergymen, who having brought royalty under their feet, were resolved to keep it still subservient, and to trample upon it with all the contumely of upstarts. Charles pretended to give ear to their discourses; but, however, made an attempt to escape. He was overtaken and brought back; when he owned the greatness of his fault, and testified his repentance for what he had done. Cromwell, in the mean time, who had been appointed by the parliament to command the army in Ireland, prosecuted the war in that kingdom with his usual success. He had to encounter the royalists commanded by the duke of Ormond, and the native Irish led on by O'Neale. These troops he quickly overcame; and most of the towns, intimidated by his cruelty, opened their gates at his approach. He was on the point of reducing the whole kingdom, when he was recalled by the parliament to defend his country against the Scots, who had raised a considerable army in support of the royal cause.

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167 Cromwell's success in Ireland.

168 Infatuation of the Scots

On the return of Cromwell to England, he was chosen commander in chief of the parliamentary forces, in the room of Fairfax, who declined opposing the presbyterians. The new general immediately set forward for Scotland with an army of 16,000 men, where he was opposed by General Lesly, who formed an excellent plan for his own defence. This prudent commander, knowing his men to be inferior in valour and discipline, however superior in numbers, to those of Cromwell, kept himself carefully in his intrenchments. At last Cromwell was drawn into a very disadvantageous post near Dunbar, where his antagonist waited deliberately to take advantage of him. From this imminent danger, however, he was delivered by the madness of the Scots clergy. They, it seems, had been wrestling in prayer with the Lord night and day, and at last fancied that they had obtained the superiority. Revelations were made to them, that the heretical army, together with Agag their general, would be delivered into their hands. Upon the assurances of these visions, they obliged their general to descend into the plain, and give the English battle. When Cromwell saw this mad action, he assured his followers, that the Lord had delivered them into his hands, and ordered his army to sing psalms, as if already certain of victory. The Scots, though double the number of the English, were soon put to flight, and pursued with great slaughter, while Cromwell did not lose in the action above 40 men.

169 They are defeated by Cromwell.

After this defeat, Charles put himself at the head of the remains of his army; and these he further strengthened by the royalists, who had been for some time excluded from his service by the covenanters. He was so closely pursued by Cromwell, however, that he soon found it impossible to maintain his army. Observing, therefore, that the way was open to England, he immediately directed his march towards that country, where he expected to be reinforced by all the royalists in that part of the kingdom. In this, however, he was deceived: the English, terrified at the name of his opponent, dreaded to join him. But his mortification was greatly increased, when at Worcester he was informed that Cromwell was marching with hasty strides from Scotland with an army of 40,000 men. This news was scarcely arrived, when Cromwell himself was there. He fell upon the town on all sides: the whole Scots army was either killed or taken prisoners; and the king himself, having given many proofs of personal valour, was obliged to fly.

170 Charles defeated at Worcester.

The young king now entered upon a scene of adventures the most romantic that can be imagined. After his hair was cut off, the better to disguise his person, he worked for some days in the habit of a peasant,

171 His adventures afterwards.

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Britain. cutting faggots in a wood. He next made an attempt to retire into Wales, under the conduct of one Pendrel a poor farmer, who was sincerely attached to his cause. In this attempt, however, he was disappointed; every pass being guarded to prevent their escape. Being obliged to return, he met one Colonel Careless, who had escaped the carnage at Worcester. In his company the king was obliged to climb a spreading oak; among the thick branches of which they spent the day together, while they heard the soldiers of the enemy in pursuit of them below. From thence he passed with imminent danger, feeling all the varieties of famine, fatigue, and pain, till he arrived at the house of Colonel Lane, a zealous royalist in Staffordshire. There he deliberated about the means of escaping into France; and Bristol being supposed the properest port, it was resolved that he should ride thither before this gentleman's sister, on a visit to one Mrs Norton, who lived in the neighbourhood of that city. During this journey, he every day met with persons whose faces he knew, and at one time passed through a whole regiment of the enemy's army.

When they arrived at Mrs Norton's, the first person they saw was one of his own chaplains sitting at the door and amusing himself with seeing people play at bowls. The king, after having taken proper care of his horse in the stable, was shown to an apartment which Mrs Lane had provided for him, as it was said he had the ague. The butler, however, being sent to him with some refreshment, no sooner beheld his face, which was very pale with anxiety and fatigue, than he recollected his king and master; and falling on his knees, while the tears streamed down his cheeks, cried out, "I am rejoiced to see your majesty." The king was alarmed; but made the butler promise that he would keep the secret from every mortal, even from his master; and the honest servant punctually obeyed him.

No ship being found that would for a month set sail from Bristol either for France or Spain, the king was obliged to go elsewhere for a passage. He therefore repaired to the house of Colonel Wyndham in Dorsetshire, where he was cordially received. His mother, a venerable matron, seemed to think the end of her life nobly rewarded in having it in her power to give protection to her king. She expressed no dissatisfaction at having lost three sons and one grandchild in the defence of his cause, since she was honoured in being instrumental in his own preservation.

Pursuing from thence his journey to the sea-side, he once more had a very narrow escape at a little inn, where he set up for the night. The day had been appointed for a solemn fast; and a fanatical weaver, who had been a soldier in the parliamentary army, was preaching against the king in a little chapel fronting the house. Charles, to avoid suspicion, was himself among the audience. It happened that a smith, of the same principles with the weaver, had been examining the horses belonging to the passengers, and came to assure the preacher, that he knew by the fashion of the shoes, that one of the strangers horses came from the north. The preacher immediately affirmed, that this horse could belong to no other than Charles Stuart, and instantly went with a constable to search the inn. But Charles had taken timely precautions, and left the inn before the constable's arrival.

At Shoreham, in Sussex, a vessel was at last found, in which he embarked. He was known to so many, that if he had not set sail, at that critical moment, it had been impossible for him to escape. After 41 days concealment, he arrived safely at Feschamp in Normandy. No less than 40 men and women had at different times been privy to his escape. Britain. 1672 He escapes to France.

1673 Cromwell treats Scotland as a conquered province.

Cromwell in the mean time returned in triumph; and his first care was to depress the Scots, on account of their having *withstood the work of the gospel*, as he called it. An act was passed for abolishing royalty in Scotland, and annexing that kingdom as a conquered province to the English commonwealth. It was empowered, however, to send some members to the English parliament. Judges were appointed to distribute justice; and the people of that country, now freed from the tyranny of the ecclesiastics, were not much dissatisfied with the government.

1674 War with the Dutch.

All parts of the British dominions being now reduced to perfect subjection to the parliament, they next resolved to chastise the Dutch, who had given but very slight causes of complaint. It happened that one Dr Dorislaus, who was of the number of the late king's judges, being sent by the parliament as their envoy to Holland, was assassinated by one of the royal party who had taken refuge there. Some time after, also, Mr St John, appointed their ambassador to that court, was insulted by the friends of the prince of Orange. These were thought sufficient reasons for a declaration of war against the Hollanders by the commonwealth of England. The parliament's chief dependence lay in the activity and courage of Blake their admiral; who, though he had not embarked in naval command till late in life, yet surpassed all that went before him in courage and dexterity. On the other side, the Dutch opposed to him their famous admiral Van Tromp, to whom their country never since produced an equal. Many were the engagements between those celebrated admirals, and various was their success. Several dreadful encounters served rather to show the excellency of the admirals than to determine their superiority. At last the Dutch, who felt many great disadvantages by the loss of their trade, and by the total suspension of their fisheries, were willing to treat of a peace. The parliament, however, gave but a very unfavourable answer. They studied to keep their navy on foot as long as they could; rightly judging, that while the force of the nation was exerted by sea, it would diminish the formidable power of Cromwell by land.

1675 Cromwell resolves to seize the sovereignty.

This great aspirer, however, quickly perceived their designs; and therefore, secure in the attachment of the army, resolved to seize the sovereign power. He persuaded the officers to present a petition for payment of arrears, and redress of grievances. His orders were obeyed: a petition was drawn up and presented, in which the officers, after demanding their arrears, desired the parliament to consider how many years they had sat, and what pretensions they had formerly made of their designs to new-model the house, and establish freedom on its broadest basis. They alleged, that it was now full time to give place to others; and however meritorious their actions might have been, yet the rest of the nation had some right, in their turn, to manifest their patriotism in defence of their country. The house was highly offended: they appointed a committee to

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to prepare an act, ordaining that all persons who presented such petitions for the future should be deemed guilty of high treason. To this the officers made a very warm remonstrance, and the parliament as angry a reply. Cromwell, being informed of this altercation, started up in the utmost seeming fury, and turning to Major Vernon, cried out, "that he was compelled to do a thing that made the very hair of his head stand on end." Then hastening to the house with 300 soldiers, and with the marks of violent indignation on his countenance, he entered, took his place, and attended to the debates for some time. When the question was ready to be put, he suddenly started up, and began to load the parliament with the vilest reproaches for their tyranny, ambition, oppression, and robbery of the public. Upon which, stamping with his foot, which was the signal for the soldiers to enter, the place was immediately filled with armed men. Then, addressing himself to the members, "For shame (said he), get you gone. Give place to honester men; to those who will more faithfully discharge their trust. You are no longer a parliament; I tell you, you are no longer a parliament; the Lord has done with you." Sir Harry Vane exclaiming against this conduct, "Sir Harry! (cries Cromwell with a loud voice), O Sir Harry Vane! The Lord deliver me from Sir Harry Vane!" Taking hold then of one of the members by his cloak, "Thou art a whoremaster," cries he; to another, "Thou art an adulterer;" to a third, "Thou art a drunkard;" to a fourth, "Thou art a glutton, &c." "It is you (continued he to the members), that have forced me upon this. I have sought the Lord night and day, that he would rather slay me than put me upon this work." Then pointing to the mace, "Take away that bauble," cried he: after which, turning out all the members, and clearing the hall, he ordered the doors to be locked; and putting the keys in his pocket, returned to Whitehall.

176 He turns out the parliament.

177 and chooses another.

Thus the whole civil and military power centered in Cromwell, who by this bold transaction became, in effect, king of Great Britain, with uncontroulable authority. Being willing, however, to amuse the people with the form of a commonwealth, he proposed to give his subjects a parliament; but such a one as should be altogether obedient to his commands. For this purpose it was decreed, that the sovereign power should be vested in 144 persons, under the denomination of a parliament; and he undertook to make the choice himself. The persons pitched upon were the lowest, meanest, and most ignorant among the citizens, and the very dregs of the fanatics. To go further than others in the absurdities of fanaticism was the chief qualification upon which each of these valued himself. Their very names, borrowed from scripture, and rendered ridiculous by their misapplication, served to show their excess of folly. One of them particularly, who was called *Praise God Barebone*, a canting leather-seller, gave his name to this odd assembly, and it was called *Barebone's Parliament*. They were chiefly composed of Antinomians; a sect that, after receiving the spirit, supposed themselves incapable of error; and the fifth monarchy-men, who every hour expected Christ's second coming on earth. They began by choosing eight of their tribe to seek the Lord in prayer, while the rest calmly sat down to deliberate upon the suppression of the clergy, the universities, and courts of justice; and instead of all this, it was their intention to substitute the law of Moses.

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178 Who are again turned out.

It was impossible such a legislature as this could stand; even the vulgar began to exclaim against it, and Cromwell himself to be ashamed of their absurdities. He had carefully chosen many persons among them who were entirely devoted to his interests, and these he commanded to dismiss the assembly. These accordingly met by concert earlier than the rest of their fraternity; and observing to each other that this parliament had sat long enough, they hastened to Cromwell, with Rouse their speaker at their head, and into his hands resigned the authority with which he had invested them. Cromwell accepted their resignation with pleasure: but being told that some of their number were refractory, he sent Colonel White to clear the house of such as ventured to remain there. They had placed one Moyer in the chair by the time that the colonel had arrived; and he being asked by the colonel, What they did there? Moyer replied very gravely, That they were seeking the Lord. "Then you may go elsewhere (cried White); for, to my certain knowledge, the Lord hath not been here these many years."

179 Cromwell declared protector.

The shadow of a parliament being thus dissolved, the officers, by their own authority, declared Cromwell protector of the commonwealth of England. The mayor and aldermen were sent for to give solemnity to his appointment, and he was instituted into his new office at Whitehall, in the palace of the kings of England. He was to be addressed by the title of *Highness*; and his power was proclaimed in London, and other parts of the kingdom. It was now, indeed, in a great measure necessary that some person should take the supréme command; for affairs were brought into such a situation, by the furious animosities of the contending parties, that nothing but absolute power could prevent a renewal of former bloodshed and confusion.

180 He settles the government.

The government of the kingdom was adjusted in the following manner. A council was appointed, which was not to exceed 21, nor to be under 13 persons. These were to enjoy their offices for life, or during good behaviour; and, in case of a vacancy, the remaining members named three, of whom the protector chose one. The protector was appointed the supreme magistrate of the commonwealth, with such powers as the king was possessed of. The power of the sword was vested in him jointly with the parliament when sitting, or with the council at other times. He was obliged to summon a parliament once every three years, and to allow them to sit five months without adjournment. A standing army was established of 20,000 foot and 10,000 horse; and funds were assigned for their support. The protector enjoyed his office for life; and on his death, the place was to be supplied by the council. Of all these clauses the standing army was sufficient for Cromwell's purpose; for, while possessed of that instrument, he could mould the rest of the constitution to his pleasure at any time. He chose his council from among his officers, who had been the companions of his dangers and victories, to each of whom he assigned a pension of 1000l. a-year. He took care to have his troops, upon whose fidelity he depended for support, paid a month in advance: the magazines were also well provided, and the public treasure managed with frugality

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and care; while his activity, vigilance, and resolution, were so well exerted, that he discovered every conspiracy against his person, and every plot for an insurrection, before they took effect.

131 His vigorous administration.

Thus Cromwell continued to govern, though without assuming the title of *king*, in as absolute a manner as the most despotic prince in Europe. As he was feared at home, so he made himself respected abroad. The Dutch, having been humbled by repeated defeats, were obliged to sue for peace. Cromwell obliged them to pay deference to the British flag. He compelled them to abandon the interests of the king, to pay 85,000l. as an indemnification for former expences, and to restore to the English East India Company a part of those dominions which they had been dispossessed of by the Dutch during the former reign. The ministry of France thought proper to pay deference to the imperious character of the protector; and he having lent that court a body of 6000 men to attack the Spanish dominions in the Netherlands, who obtained a signal victory, the French put Dunkirk into his hands as a reward for his attachment. By means of the celebrated admiral Blake* he humbled Spain prodigiously, as also the Algerines and Tunesines. Penn and Venables, two other admirals, made an attempt on the island of Hispaniola; but failing of this, they steered to Jamaica, which was surrendered to them without a blow. Yet so little was thought of the importance of this conquest, that, on their return, the two admirals were committed to the Tower, on account of the failure of the principal object of their equipment.

* See the article *Blake*.

132 Jamaica conquered.

183 His arbitrary methods of procuring money.

It is not to be supposed that a numerous standing army could be maintained, and so many foreign wars carried on, without incurring extraordinary expences. The protector's revenues were so much exhausted, that he was obliged to have recourse to methods which he probably would not have chosen, had he not been driven to them by necessity. One or two conspiracies entered into by the royalists, which were detected and punished, served him as a pretence to lay a heavy tax upon all that party, of the tenth penny of all their possessions. In order to raise this oppressive imposition, ten major-generals were instituted, who divided the whole kingdom into so many military jurisdictions. These men had power to subject whom they pleased to this tax, and to imprison such as denied their jurisdiction. Under colour of these powers they exercised the most arbitrary authority; the people had no protection against their exactions; the very mask of liberty was thrown off, and all property was at the disposal of a military tribunal. It was in vain that the nation cried out for a free parliament. Cromwell assembled one in consequence of their clamours; but as speedily dissolved it when he found it refractory to his commands. At last, as parliaments were always held in such estimation by the people, he resolved to give them one, but such as should be entirely of his own choosing, and chiefly composed of his creatures. Lest any of a different complexion should enter the house, guards were placed at the door, and none admitted but such as produced a warrant from his council.

184 He convenes a parliament.

185 Who offer him the crown,

The principal design of convening this assembly was, that they should offer him the crown, with the title of *king*, and all the other ensigns of royalty. His creatures, therefore, took care to insinuate the confusion there was in legal proceedings, without the name of a king; that no man was acquainted with the extent or limits of the present magistrates authority, but those of a king had been well ascertained by the experience of ages. The motion was at last formally made in the house, easily carried through, and nothing was now wanting but Cromwell's own consent to have his name enrolled among the kings of England. This consent, however, he never had resolution enough to give. His doubts continued for some days; and the conference carried on with the members who made him the offer, so far as it is on his part intelligible, seems to argue that he was desirous of being compelled to accept the offer: however, the conference ended in his total refusal.

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186 which he refuses.

187 His miserable situation,

With all these proffered honours, and with all his despotic power, the situation of Cromwell was far from being enviable. Perhaps no situation, however mean, or loaded with contempt, could be more truly distressful than his, at the time the nation was loading him with congratulations and addresses. He had at last rendered himself hateful to every party, and he owed his safety to their mutual hatred and diffidence of one another. His arts of dissimulation were exhausted; none could be deceived by them; even those of his own party and principles disdaining the use to which he had converted his zeal and professions. Though the whole nation silently detested his administration, he had not been completely wretched if he could have found domestic consolation. But even his own family had embraced republican principles with so much vehemence, that they could not without indignation behold him invested with uncontroulable power; and Mrs Claypole, his favourite daughter, upbraided him on her death-bed, with all the crimes which led him to trample on the throne. To add to all this, not only were conspiracies formed against him, but he was at last taught, upon reasoning principles, that his death was not only desirable, but his assassination would be meritorious. A book was published by Colonel Titus, a man who had formerly been attached to his cause, entitled *Killing no Murder*. Of all the pamphlets that appeared at that time, or perhaps of those that have since appeared, this was the most eloquent and masterly. Cromwell read it, and is said never to have smiled afterwards.

The usurper now found, that the grandeur to which he had sacrificed his former tranquillity was only an inlet to fresh inquietudes. He was haunted with perpetual fears of assassination. He wore armour under his clothes, and always kept pistols in his pockets. His aspect was clouded by a settled gloom, and he regarded every stranger with suspicion. He was always attended by a numerous guard, and travelled in a hurry. He never returned from any place by the road he went; and never slept above three nights together in the same chamber. At last he was delivered from this life of horror and anxiety by a tertian ague, of which he died September 3. 1658, after having usurped the government nine years.

188 and death.

189 Richard Cromwell protector.

Oliver Cromwell was succeeded in his office of protector by his son Richard, who immediately called a parliament. To this assembly the army presented a remonstrance, desiring some person for their general in whom they could confide. The house voted such meetings

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ings and remonstrances unlawful: upon which the officers, surrounding Richard's house, forced him to dissolve the parliament; and soon after he signed an abdication of the government. His younger brother Henry, who had been appointed to the command in Ireland, followed Richard's example, and resigned his commission without striking a blow.

190 Is deposed.

191 Rump parliament reinstated.

The officers, thus left at liberty, resolved to restore the *rump parliament* as it was called, consisting of that remnant of a parliament which had condemned Charles. They were no sooner reinstated in their authority, however, than they began to humble the army by cashiering some of the officers, and appointing others on whom they could have more dependence. The officers immediately resolved to dissolve the assembly. Lambert, one of the general officers, drew up a chosen body of troops; and placing them in the streets which led to Westminster-hall, when the speaker Lenthal proceeded in his carriage to the house, he ordered the horses to be turned, and very civilly conducted him home. The other members were likewise intercepted; and the army returned to their quarters to observe a solemn fast, which generally either preceded or attended their outrages. A committee was then elected, of 23 persons; of whom seven were officers. These they pretended to invest with sovereign authority; and a military government was established, which gave the nation a prospect of endless servitude and tyranny without redress.

192 Dissolved by the army.

193 Military government established.

194 General Monk's motions.

Upon hearing that the officers had by their own authority dissolved the parliament, General Monk, who was then in Scotland with 8000 veteran troops, protested against the measure, and resolved to defend the national privileges. As soon as he put his army in motion, he found himself eagerly sought after by all parties; but so cautious was he of declaring his mind, that, till the very last, it was impossible to know which side he designed to take. A remarkable instance of this cautious behaviour was, that, when his own brother came to him with a message from Lord Granville in the name of the king, he refused all conversation with him upon hearing that he had told his errand to Mr Price, the general's own chaplain, and a man of known probity and honour.

Hearing that the officers were preparing an army to oppose him, Monk amused them with negociations; and the people, finding themselves not entirely defenceless, began to declare for a free parliament. The *Rump*, finding themselves invited also by the navy and part of the army, again ventured to resume their seats, and to thunder votes in their turn against the officers and that party of the army by which they had been ejected. Without taking any notice of Lambert, they sent orders to the troops to repair immediately to the garrisons appointed for them. The soldiers obeyed; and Lambert at last found himself deserted by his whole army. Monk in the mean time proceeded with his army to London. The gentry, on his march, flocked round him with addresses, expressing their desire of a new parliament; but that general, still continuing his inflexible taciturnity, at last came to St Albans, within a few miles of the capital, leaving all the world in doubt as to his motives and designs. Here he sent the parliament a message, desiring them to remove such forces as remained in London to country quarters. Some of the regiments willingly obeyed this order; and such as did not, Monk turned out by force: after which he took up his quarters with his army in Westminster. The house voted him thanks for his services: he desired them to call a free parliament; and this soon inspired the citizens to refuse submission to the present government. They resolved to pay no taxes until the members formerly excluded by Colonel Pride should be replaced. For this they were punished by Monk, at the desire of the parliament. He arrested 11 of the most obnoxious of the common-council; broke the gates and portcullises; and, having exposed it to the scorn and contempt of all who hated it, he returned in triumph to his quarters at Westminster. The next day, however, he made an apology for this conduct, and promised for the future to co-operate with the mayor and common council in such schemes as they should approve.

195 Rump parliament restored.

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196 Monk takes up his quarters at Westminster.

197 Punishes the city of London.

The commons were now greatly alarmed. They tried every method to gain off the general from his new alliance. Some of them even promised to invest him with the dignity of supreme magistrate, and to support his usurpation. But Monk was too just, or too wise, to hearken to such wild proposals; he resolved to restore the secluded members, and by their means to bring about a new election.

198 Restores the secluded members of parliament.

The restoration of the expelled members was easily effected, and their number was so much superior to that of the *Rump*, that the chiefs of this last party now thought proper to withdraw in their turn. The restored members began with repealing all those orders by which they had been expelled. They renewed and enlarged the general's commission; fixed a proper stipend for the support of the fleet and army; and, having passed these votes, they dissolved themselves, and gave orders for the immediate assembling of a new parliament. Meanwhile, Monk new-modelled his army to the purposes he had in view. Some officers, by his direction, presented him with an address, in which they promised to obey implicitly the orders of the ensuing parliament. He approved of this engagement, which he ordered to be signed by all the different regiments; and this furnished him with a pretence for dismissing all the officers by whom it was rejected.

199 New parliament assembled.

In the midst of these transactions, Lambert, who had been confined in the Tower, escaped from his prison, and began to raise forces; and as his activity and principles were sufficiently known, Monk took the earliest precautions to oppose his measures. He dispatched against him Colonel Ingoldsby, with his own regiment, before Lambert had time to assemble his dependents. That officer had taken possession of Daventry with four troops of horse: but the greater part of them joined Ingoldsby; to whom he himself surrendered, not without exhibiting strong marks of pusillanimity.

All this time Monk still persisted in his reserve; nor would he intrust his secret intentions with any person, except one Morrice, a gentleman of Devonshire. He was of a sedentary and studious disposition; and with him alone did the general deliberate on the great and dangerous enterprise of the restoration. Sir John Granville, who had a commission from the king, applied for access to the general; but he was desired to communicate his business to Morrice. Granville refused, though twice urged, to deliver his message to any but the general himself: so that Monk, now finding he could depend

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pend on this minister's secrecy, opened to him his whole intentions; but with his usual caution, refused to commit any thing to paper. In consequence of these, the king left the Spanish territories, where he very narrowly escaped being detained at Breda by the governor, under pretence of treating him with proper respect and formality. From thence he retired to Holland, where he resolved to wait further advice.

200 Charles II. leaves Spain.

The new parliament being assembled, Sir Harbottle Grimstone was chosen speaker, a man known to be a royalist in his heart. The affections of all were turned towards the king; yet such were their fears, and such dangers attended a freedom of speech, that no one dared for some days to make any mention of his name. At length Monk gave directions to Annesley, president of the council, to inform them that one Sir John Granville, a servant of the king's, had been sent over by his majesty, and was now at the door with a letter to the house of commons. This message was received with the utmost joy. Granville was called in, the letter read, and the king's proposals immediately accepted of. He offered a general amnesty to all persons whatsoever, and that without any exceptions but what should be made by parliament. He promised to indulge scrupulous consciences with liberty in matters of religion; to leave to the examination of parliament the claims of all such as possessed lands with contested titles; to confirm all these concessions by act of parliament; to satisfy the army under General Monk with respect to their arrears, and to give the same rank to his officers when they should be enlisted in the king's army.

201 His message to the parliament.

In consequence of this good agreement between king and parliament, Montague the English admiral waited on his majesty to inform him that the fleet expected his orders at Scheveling. The duke of York immediately went on board, and took the command as lord high admiral. The king embarked, and landing at Dover, was received by the general whom he tenderly embraced. He entered London in 1660, on the 29th of May, which was his birth-day; and was attended by an innumerable multitude of people, who testified their joy by the loudest acclamations.

202 He lands in England.

Charles II. was 30 years of age at the time of his restoration. Being naturally of an engaging countenance, and possessed of an open and affable disposition, he became the favourite of all ranks of his subjects. They had now felt the miseries of anarchy, and in proportion to these miseries was the satisfaction they felt on the accession of their young monarch. His first measures were calculated to give universal satisfaction. He seemed desirous of losing the memory of past animosities, and of uniting every party in affection for their prince and country. He admitted into his council the most eminent men of the nation, without regard to former distinctions. The presbyterians shared this honour equally with the royalists. Calamy and Baxter, presbyterian clergymen, were even made chaplains to the king. Admiral Montague was created earl of Sandwich, and General Monk duke of Albemarle. Morrice, the general's friend, was created secretary of state. But what gave the greatest contentment to the nation was the judicious choice which the king at first made of his principal ministers and favourites. Sir Edward Hyde, created earl of Clarendon, was prime minister and chancellor. The marquis, created duke of Ormond, was steward of the household; the earl of Southampton high-treasurer; Sir Edward Nicholas secretary of state. These men, united together in the strictest friendship, and combining in the same laudable inclinations, supported each others credit, and pursued the interests of the public.

203 His first measures popular.

The parliament having been summoned without the king's consent, received at first only the title of a *convention;* and it was not till after an act passed for that purpose, that they were acknowledged by the name of *parliament.* Both houses owned the guilt of the former rebellion, and gratefully received in their own name, and in that of all the subjects, his majesty's gracious pardon and indemnity. The king had before promised an indemnity to all criminals, but such as should be excepted by parliament: he now issued a proclamation, declaring, that such of the late king's judges as did not surrender themselves within 14 days should receive no pardon. Nineteen surrendered themselves; some were taken in their flight; others escaped beyond sea. The peers seemed inclined to great severity on this occasion; but were restrained by the king, who in the most earnest terms pressed the act of general indemnification.

After repeated solicitations, the act of indemnity passed both houses, with the exception of those who had an immediate hand in the king's death. Even Cromwell, Ireton, and Bradshaw, though dead, were considered as proper objects of resentment: their bodies were dug from their graves; dragged to the place of execution; and, after hanging some time, buried under the gallows. Of the rest who sat in judgment on the late monarch's trial, some were dead, and some thought worthy of pardon. Ten only, out of 80, were doomed to immediate destruction; and these were enthusiasts who had all along acted from principle, and who, in the general spirit of rage excited against them, showed a fortitude that would have done honour to a better cause.

204 Regicides punished.

This was all the blood that was shed at the restoration. The rest of the king's judges were reprieved, and afterwards dispersed into several prisons. The army was disbanded, that had for so many years governed the nation; prelacy, and all the ceremonies of the church of England, were restored; at the same time that the king pretended to preserve the air of moderation and neutrality. In fact, with regard to religion, Charles, in his gayer hours, was a professed deist; but in the latter part of his life he shewed an inclination to the Catholic persuasion, which he had strongly imbibed in his infancy and exile.

On the 13th of September this year, died the young duke of Gloucester, a prince of great hopes. The king was never so deeply affected by any incident in his life. The princess of Orange, having come to England, in order to partake of the joy attending the restoration of her family, with whom she lived in great friendship, soon after sickened and died. The queen-mother paid a visit to her son, and obtained his consent to the marriage of the princess Henrietta with the duke of Orleans, brother to the French king. The parliament having met on the 6th of November, and carried on business with the greatest unanimity and dispatch, were dissolved by the king on the 29th of December 1660.

205 Death of the duke of Gloucester.

206 Parliament dissolved.

During

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207 General state of the nation during Charles II.'s reign.

During the reign of Charles II. the spirit of the people seemed to take a turn quite opposite to that in the time of Charles I. The latter found his subjects animated with a ferocious though ignorant zeal for liberty. They knew not what it was to be free, and therefore imagined that liberty consisted in throwing off entirely the royal authority. They gained their point: the unhappy monarch was dethroned and murdered; but instead of liberty, they found themselves involved in much worse tyranny than before. Being happily freed from this tyranny by the restoration, they ran into the contrary extreme; and instead of an unbounded spirit of opposition, there was nothing now to be found but as unbounded a spirit of submission; and through the slavish submissions and concessions of the people of this reign, Charles found means to render himself at last almost quite absolute, and to govern without requiring, or indeed without having any occasion for parliament.

A like revolution took place with regard to religious matters. During the former reigns a spirit of the most gloomy enthusiasm had overspread the whole island, and men imagined that the Deity was only to be pleased by their denying themselves every social pleasure, and refusing every thing that tended to make life agreeable. The extreme hypocrisy of Cromwell and his associates, and the absurd conduct of others, showed that this was not religion; but, in avoiding this error, they ran into one equally dangerous; and every thing religious or serious was discountenanced. Nothing but riot and dissipation took place everywhere. The court set them the example; nothing but scenes of gallantry and festivity were to be seen; the horrors of the late war became the subject of ridicule; the formality of the sectaries was displayed on the stage, and even laughed at from the pulpit. In short, the best mode of religion now was to have as little as possible; and to avoid not only the hypocrisy of the sectaries, but even the common duties of morality.

208 Ingratitude of Charles.

In the midst of this riot and dissipation, the old and faithful followers of the royal family were left unrewarded. Numbers who had fought both for the king and his father, and who had lost their whole fortunes in his service, still continued to pine in want and oblivion; while in the mean time their persecutors, who had acquired fortunes during the civil war, were permitted to enjoy them without molestation. The wretched royalists petitioned and murmured in vain; the monarch fled from their expostulations to scenes of mirth and festivity; and the act of indemnity was generally said to have been an act of *forgiveness* to the king's enemies, and of *oblivion* to his friends.

209 Submissive disposition of both parliaments.

In 1661, the Scotch and English parliaments seemed to vie with each other in their protestations to the king. In England, monarchy and episcopacy were raised to the greatest splendor. The bishops were permitted to resume their seats in the house of peers; all military authority was acknowledged to be vested in the king. He was empowered to appoint commissioners for regulating corporations, and expelling such members as had intruded themselves by violence, or professed principles dangerous to the constitution. An act of uniformity was passed, by which it was required that every clergyman should be re-ordained, if he had not before received episcopal ordination; that he should declare his consent to every thing contained in the book of Common Prayer, and should take the oath of canonical obedience. In consequence of this law, above 2000 of the presbyterian clergy resigned their cures at once. In Scotland the right of the king was asserted in the fullest and most positive terms to be hereditary, divine, and indefeasible. His power was extended to the lives and possessions of his subjects, and from his original grant was said to come all that they enjoyed. They voted him an additional revenue of 40,000l.; and all their former violences were treated with a degree of the utmost detestation.

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210 The nation disgusted with the king's extravagance.

This intoxication of loyalty, however, began soon to wear off. The king's profusion and extravagance in his pleasures, together with his indolence in administration, furnished opportunities of making very disadvantageous comparisons between him and Oliver Cromwell. These animosities were heightened by the ejected clergy, especially when they saw Dunkirk, which had been acquired during the usurper's vigorous administration, sold to the French for 40,000l. and that merely to supply the king's extravagance. From this time (August 17. 1662) Charles found himself perpetually opposed, and his parliaments granted supplies much more reluctantly than before.

211 Marriage with the infanta of Portugal.

A few months before, the continual exigencies of the king had forced him to conclude a marriage with the infanta of Portugal for the sake of her portion, which was 500,000l. in money, together with the fortress of Tangier in Africa, and of Bombay in the East Indies. The chancellor Clarendon, the dukes of Ormond and Southampton, urged many reasons against this match, particularly the likelihood of her never having any children; but all their objections could not prevail, and therefore Clarendon set himself to promote it as far as lay in his power. Still, however, the king's necessities were greater than his supplies. He therefore resolved to sacrifice his minister the great Clarendon to the resentment of the parliament, to whom he was become obnoxious, in order to procure some more supplies for himself. In 1663, an extraordinary supply was demanded: the king sent for the commons, on the 12th of June, to Whitehall. He complained of their inattention; and by acquainting them of a conspiracy to seize the castle of Dublin, he hoped to furnish a reason for demanding a present supply. Four subsidies were immediately granted, and the clergy in convocation followed the example of the commons. On this occasion the earl of Bristol ventured to impeach the chancellor in the house of peers; but as he did not support his charge, the affair was dropped for the present.

212 War with the Dutch.

With a view probably of having the money to be employed for that purpose in his hands, Charles was induced to declare war against the Dutch in 1664. In this war the English, under the command of Sir Robert Holmes, expelled the Dutch from Cape-Corse castle on the coast of Africa, and likewise seized on their settlements of Cape Verd and the isle of Goree. Sailing from thence to America, the admiral possessed himself of Nova Belgia, since called *New York*; and which has ever since continued subject to Britain. On the other hand, De Ruyter, the Dutch admiral, dispossessed the English of all their settlements in Guinea except Cape Corse. He afterwards sailed to America, where he

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he attacked Barbadoes and Long Island, but was repulsed. Soon after, the two most considerable fleets of each nation met; the one under the duke of York, to the number of 114 sail; the other commanded by Opdam admiral of the Dutch navy, of nearly equal force. The engagement began at four in the morning, and both sides fought with equal intrepidity. The duke of York was in the hottest part of the engagement, and behaved with great spirit and composure, while many of his lords and attendants were killed beside him. In the heat of the action the Dutch admiral's ship blew up; which so discouraged and disheartened them, that they fled towards their own coast, having 30 ships sunk and taken, while the victors lost only one. This success of the English so much excited the jealousy of the neighbouring states, that France and Denmark immediately resolved to protect the republic from such formidable enemies. De Ruyter the great Dutch admiral, on his return from Guinea, was appointed, at the head of 76 sail, to join the duke of Beaufort the French admiral, who it was supposed was then entering the British channel from Toulon. The duke of Albemarle and Prince Rupert now commanded the British fleet, which did not exceed 74 sail. Albemarle detached Prince Rupert with 20 ships to oppose the duke of Beaufort; against which piece of rashness Sir George Ayscue protested in vain. The fleets thus engaging upon unequal terms, a most memorable battle ensued. The first day, the Dutch admiral Evertzen was killed by a cannon-ball, one of their ships was blown up, and three of the English ships taken; the combatants were parted by darkness. The second day they renewed the battle with incredible fury. Sixteen fresh ships joined the Dutch; and the English were so shattered, that their fighting ships were reduced to 28. Upon retreating towards their own coast, the Dutch followed them; where another dreadful conflict was beginning, but parted by the darkness of the night as before. The morning of the third day the English continued their retreat, and the Dutch their pursuit. Albemarle came to the desperate resolution of blowing up his own ship rather than submit to the enemy, when he found himself happily reinforced by Prince Rupert with 16 ships of the line. By this time it was night; and the next day the fleets came again to a close combat, which was continued with great violence, till they were parted by a mist. Sir George Ayscue, having the misfortune to strike on the Galoper sands, was taken, with a ship of 100 guns.

213 Terrible battles at sea.

Both sides claimed the victory, but the Dutch certainly had the advantage in this engagement. A second, however, equally bloody, happened soon after, with larger fleets on both sides, commanded by the same admirals. In this the Dutch were vanquished; but they were soon in a condition to face their enemies, by the junction of Beaufort the French admiral. The Dutch fleet appeared in the Thames, conducted by their great admiral. The English were thrown into the utmost consternation: a chain had been drawn across the river Medway; and some fortifications had been added to the forts along the bank. But all these were unequal to the present force: Sheerness was soon taken; the Dutch passed forward and broke the chain, though fortified by some ships sunk by Albemarle's orders. Destroying the shipping in their passage, they still advanced, with six men of war and five fire-ships, as far as Upnore castle, where they burned the men of war. The whole city of London was in consternation; it was expected that the Dutch might sail up next tide to London bridge, and destroy not only the shipping, but even the buildings of the metropolis. The Dutch, however, were unable to prosecute that project from the failure of the French who had promised them assistance. Spreading therefore an alarm along the coast, and having insulted Norwich, they returned to their own coasts.

214 Dutch fleet appears in the Thames.

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215 Plague and fire at London.

During these transactions abroad, happened a great plague at London, which destroyed 100,000, of the inhabitants. This calamity was soon followed by another, still more dreadful if possible. A fire broke out in a baker's house in Pudding-lane near the bridge, and spread with such rapidity, that no efforts could extinguish it till it laid in ashes the most considerable part of the city. This calamity, though it reduced thousands to beggary, proved in the end both beneficial and ornamental to the city. It rose from its ruins in greater beauty than ever; the streets being widened, and the houses built of brick instead of wood, became thus more wholesome and secure. In so great a calamity it is remarkable that not a single life was lost.

These complicated misfortunes did not fail to excite many murmurs among the people: The blame of the fire was laid on the Papists: the Dutch war was exclaimed against as unsuccessful and unnecessary, as being an attempt to humble that nation who were equal enemies to Popery with themselves. Charles himself also began to be sensible, that all the ends for which he had undertaken the Dutch war were likely to be entirely frustrated. Instead of being able to lay up money for himself, the supplies of parliament had hitherto been so scanty, that he found himself considerably in debt.

216 Peace with Holland concluded.

A treaty therefore was set on foot, which was concluded at Breda on the 21st of July 1667. By this treaty the only advantage gained by Britain was, the cession of the colony of New York. It was therefore judged disgraceful, and the blame of it thrown upon the unhappy earl of Clarendon. Along with this, he was charged with the sale of Dunkirk; the bad payment of the seamen; the disgrace by the Dutch fleet; and his own ambition. His daughter, while yet in Paris, had commenced an amour with the duke of York; and under a solemn promise of marriage had admitted him to her bed. Her lover, however, either of his own accord, or through the persuasions of his brother Charles, afterwards married her; and this was imputed as a crime to Clarendon. On these accusations, the king, who on account of his rigid virtue had never much loved this nobleman, ordered the seals to be taken from him, and given to Sir Orlando Bridgemen. Clarendon was again impeached; and though the charges were manifestly frivolous, yet so strong was the popular torrent against him, that he thought proper to withdraw into France.

217 Clarendon disgraced.

218 Alliance with Holland and Sweden.

Soon after, the king formed an alliance with Holland and Sweden, in order to prevent the French king from completing his conquest of the Netherlands. The greatest part of this country he had already subdued, when he was unexpectedly stopped by this league; in which it was agreed by the contracting powers,

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powers, that they would constitute themselves arbiters of the differences between France and Spain, and check the exorbitant pretensions of either.

219 Arbitrary proceedings of Charles.

The king now began to act in a very arbitrary manner. He had long wished to extend his prerogative, and to be able to furnish himself with whatever sums he might want for his pleasures, and therefore was most likely to be pleased with those ministers who could flatter both his wishes at once. These he found in Clifford, Ashley, Buckingham, Arlington, and Lauderdale,

220 New war with Holland.

a junto distinguished by the name of the *cabal;* a word formed by the initials of their names. The first effects of their advice was a secret alliance with France, and a rupture with Holland. Soon after this the duke of York declared himself a Papist; and liberty of conscience was proclaimed to all sectaries, whether dissenters or Papists: a proclamation was issued containing very rigorous clauses in favour of pressing; another full of menaces against those who should speak undutifully of his majesty's measures; and even against those who heard such discourses, unless they informed in due time against the offenders. All these things gave very great and just offence to the people; but they were especially alarmed at the alliance with France, and justly afraid of the treachery of that nation.

221 A desperate naval engagement.

On the 28th of May 1672, the English fleet under the duke of York was surprised by the Dutch in Southwold bay. About eight in the morning began a most furious engagement. The gallant Sandwich, who commanded the English van, drove his ship into the midst of the enemy, beat off the admiral that ventured to attack him, sunk another ship that attempted to board him, and three fire ships that offered to grapple with him. Though his vessel was torn with shot, and out of 1000 men there only remained 400, he still continued to fight. At last, a fire-ship, more fortunate than the rest, having laid hold of his vessel, her destruction became inevitable, and the earl himself was drowned in attempting to swim to some other ship. Night parted the combatants; the Dutch retired, and were not followed by the English. The loss sustained by the two maritime powers was nearly equal; but the French suffered very little, not having entered into the heat of the engagement. It was even supposed that they had orders for this conduct, and to spare their own ships, while the Dutch and English should weaken each other by their mutual animosities.

222 Success of Louis XIV. against the Dutch.

The combined powers were much more successful against the Dutch by land. Louis conquered all before him, crossed the Rhine, took all the frontier towns of the enemy, and threatened the new republic with a final dissolution. Terms were proposed to them by the two conquerors. Louis offered them such as would have deprived them of all power of resisting an invasion from France by land. Those of Charles exposed them equally to every invasion by sea. At last the murmurs of the English at seeing this brave and industrious people, the supporters of the Protestant cause, totally sunk and on the brink of destruction, were too loud not to reach the king. He was obliged to call the parliament, to take the sense of the nation upon his conduct; and he soon saw how his subjects stood affected.

223 The parliament called.

The parliament met on the 24th of February 1673. They began by repressing some of the king's extraordinary stretches of prerogative, and taking means for uniformity in religious matters. A law was passed, entitled the *test act*, imposing an oath on all who should enjoy any public benefice. Besides the taking the oaths of allegiance and the king's supremacy, they were obliged to receive the sacrament once a year in the established church, and to abjure all belief in the doctrine of transubstantiation. As the dissenters also had seconded the efforts of the commons against the king's declaration of indulgence to Roman Catholics, a bill was passed for their ease and relief, which, however, went with some difficulty through the house of peers. The Dutch, in the mean time continued to defend themselves with such valour, that the commons began to despair of success. They therefore resolved that the standing army was a grievance: they next declared, that they would grant no more supplies to carry on the Dutch war, unless it appeared that the enemy were so obstinate as to refuse all reasonable conditions. To cut short these disagreeable altercations, the king resolved to prorogue the parliament; and with that intention, went unexpectedly to the house of peers, from whence he sent the usher of the black rod to summons the house of commons to attend. It happened that the usher and the speaker met nearly at the door of the house; but the speaker being within, some of the members suddenly shut the door, and cried, "To the chair." Upon which the following motions were instantly made in a tumultuous manner: That the alliance with France was a grievance; that the evil counsellors of the king were a grievance; that the earl of Lauderdale was a grievance: and then the house rose in great confusion. The king soon saw that he could expect no supply from the commons for carrying on the war which was so disagreeable to them; he resolved, therefore, to make a separate peace with the Dutch, on terms which they had proposed by the Spanish ambassador. For form's sake, he asked the advice of his parliament: who concurring heartily in his intentions, a peace was concluded accordingly.

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224 Test act framed.

225 Tumult in the house of commons.

226 National discontents

The prepossession which Charles had all along shewn for France, and his manifest inclination upon all occasions to attach himself to that kingdom, had given great offence to his people. Along with this, other circumstances conspired to raise a general discontent. The toleration of Catholics, so much wished for by the king; the bigotry of the duke of York, the heir apparent to the crown, and his zeal for the propagation of the Catholic religion; excited a consternation not altogether without foundation, as if the Protestant religion was in danger. This fear and discontent was carefully kept up and fomented by wicked and designing men, who to promote their own interests would not scruple to advance the grossest falsehoods. In 1678, an account of a plot, formed by the Papists for destroying the king and the Protestant religion, was given in by one Kirby a chemist, Dr Tong, a weak credulous clergyman, and Titus Oates, who had likewise been a clergyman, but one of the most abandoned miscreants that can be imagined. The circumstances attending this pretended discovery were so perfectly incredible, that it appears amazing how any person of common sense could give ear to them †. Nevertheless, so much were the minds of the nation in general inflamed against the Catholics at this time, that it not only produced the destruction of individuals of the Romish persuasion, but an universal

† See *Oates*.

massacre

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Britain. massacre of that unhappy sect was apprehended. The parliament, who ought to have repressed these delusions, and brought back the people to calm deliberate inquiry, were found more credulous than even the vulgar themselves. The cry of plot was immediately echoed from one house to the other; the country party could not slip so favourable an opportunity of managing the passions of the people; the courtiers were afraid of being thought disloyal if they should doubt the guilt of those who were accused of designs against the king's person. Danby, the prime minister, himself entered into it very furiously, and persisted in his inquiries notwithstanding all the king's advice to the contrary. Charles himself, who was the person that ought to have been most concerned, was the only one who treated it with contempt. Nothing, however, could stop the popular fury; and for a time the king was obliged to give way to it.

227 Lord Danby impeached.

During the time of this general uproar and persecution, the lord treasurer Danby was impeached in the house of commons by Seymour the speaker. The principal charge against him was, his having written a letter to Montague the king's ambassador at Paris, directing him to sell the king's good offices at the treaty of Nimeguen, to the king of France, for a certain sum of money; contrary to the general interests of the confederates, and even of those of his own kingdoms. Though the charge was just, yet Danby had the happiness to find the king resolved to defend him. Charles assured the parliament, that, as he had acted in every thing by his orders, he held him entirely blameless; and though he would deprive him of all his employments, yet he would positively insist on his personal safety. The lords were obliged to submit: however, they went on to impeach him, and Danby was sent to the Tower; but no worse consequences followed.

These furious proceedings had been carried on by a house of commons that had continued undissolved for above 17 years. They were now dissolved, and another parliament was called; which, however, proved as unmanageable as the preceding. The members resolved to check the growth of Popery by striking at the root of the evil; and therefore brought in a bill for the total exclusion of the duke of York from the crown of England and Ireland, which passed the lower house by a majority of 79. They next voted the king's standing army and guards to be illegal. They proceeded to establish limits to the king's power of imprisoning delinquents at will. It was now also that the celebrated statute called the *habeas corpus act* was passed, which confirms the subject in an absolute security from oppressive power.

228 Exclusion bill brought in.

During these troubles, the duke of York had retired to Brussels; but an indisposition of the king led him back to England, to be ready in case of any sinister accident, to assert his right to the throne. After prevailing upon his brother to disgrace his natural son the duke of Monmouth, who was now become very popular, he himself retired to Scotland, under pretence of quieting the apprehensions of the English nation, but in reality to strengthen his interests in that part of the empire. This secession served still more to inflame the country party, who were strongly attached to the duke of Monmouth, and were resolved to support him against the duke of York. Mobs, petitions, pope burnings, were artifices employed to keep up the terrors of Popery, and alarm the court. The parliament had shown favour to the various tribes of informers, and that served to increase the number of these miscreants: but plots themselves also became more numerous. Plot was set up against plot; and the people were kept suspended in the most dreadful apprehension.

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But it was not by plots alone that the adverse parties endeavoured to supplant each other. Tumultuous petitions on the one hand, and flattering addresses on the other, were sent up from all quarters. Wherever the country party prevailed, petitions were sent to the king filled with grievances and apprehensions. Wherever the church or court party prevailed, addresses were framed, containing expressions of the highest regard to his majesty, and the deepest abhorrence of those who endeavoured to disturb the public tranquillity. Thus the nation came to be distinguished into *petitioners* and *abhorrers*. *Whig* and *Tory*, also, were now first used as terms of reproach. The Whigs were so denominated from a cant name given to the sour presbyterian conventiclers, (*whig* being *milk turned sour*). The Tories were denominated from the Irish banditti so called, whose usual manner of bidding people deliver was by the Irish word *Toree*, or "Give me."

229 Petitioners and abhorrers, who.

230 Attempt to establish episcopacy in Scotland.

All this time the king had tyrannized over the Scots in a very cruel manner. Being apprized of the tendency of presbyterian principles to a republican form of government, Charles, like his predecessors, had endeavoured to introduce Episcopacy there, but in a much more violent manner than had been formerly attempted. The rights of patrons had for some years been abolished; and the power of electing ministers had been vested in the kirk-sessions and lay elders: but it was now enacted, that all incumbents who had been admitted upon this title should receive a presentation, and be instituted anew by the bishop, under the penalty of deprivation. In consequence of this, 340 parishes were at once declared vacant. New ministers were sought for all over the kingdom, and none was so vicious or ignorant as to be rejected. The people, as might have been expected, were displeased to the highest degree; they resolved, however, to give no sign of mutiny or sedition, notwithstanding their discontent. This submission made their case still worse; it being foolishly imagined, that, as they did not complain for a little ill usage, they would submit altogether if they were worse treated.

231 Occasions discontent.

232 Presbyterians persecuted.

Affairs remained in a peaceable situation, till, in 1661, a very severe act was passed in England against conventicles, and this severity was imitated by the Scots parliament, who passed an act of the same kind. Military force was next let loose. Wherever the people had generally forsaken their churches, the guards were quartered throughout the country. They were commanded by Sir James Turner, a man of a very furious temper and dissolute life. He went about and received lists from the clergy of those who absented themselves from the churches, or were supposed to frequent conventicles. Without any proof, or legal conviction, he demanded a fine from them; and quartered soldiers on the supposed criminals till he received payment. An insurrection being dreaded during the Dutch war, new forces were levied, and entrusted to the command of Dalziel and Drummond, two men of very cruel dispositions,

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sitions, and the Scots parliament gave full scope to all their enormities.

233 An insurrection.

Representations were now made to the king, who promised some redress. But his lenity came too late. The people, in 1668, rose in arms. They surprised Turner in Dumfries, and resolved to have put him to death; but finding his orders to be more violent than his execution of them, they spared his life. At Lanark they renewed the covenant, and published their manifesto; where they professed their submission to the king, and only desired the re-establishment of presbytery, and of their former ministers. Their force never exceeded 2000 men; and though the country in general bore them great favour, men's spirits were so subdued, that the insurgents could expect no farther increase of numbers. Dalziel took the field to oppose them.

234 Insurgents defeated at Pentland-hills.

The number of the covenanters was now reduced to 800, and these no way capable of contending with regular forces. Having advanced near Edinburgh, they attempted to find their way back into the west by Pentland-hills. Here they were attacked by the king's troops, and received the first charge very resolutely: but that was all the action. Immediately they fell into confusion, and fled. About 40 were killed on the spot, and 130 taken prisoners.

235 Cruelty of Archbishop Sharpe.

So long ago as the year 1661, the presbyterians had deputed one Sharpe to lay their grievances before the king. Instead of this, their deputy abandoned the cause altogether, became their violent enemy, and as a reward of his treachery was made archbishop of St Andrew's. After the battle of Pentland-hills, this man was the foremost to take vengeance on the unhappy insurgents, whose oppressed state and inoffensive behaviour had made them objects of universal compassion. Ten were hanged on one gibbet in Edinburgh; 35 before their own doors in different places. They might all have saved their lives if they would have renounced the covenant; but this they absolutely refused. The executions were going on, when the king wrote a letter to the privy-council, in which he ordered that such of the prisoners as should simply promise to obey the laws for the future should be set at liberty, and that the incorrigible should be sent to the plantations. This letter was brought to the council by Burnet, but was not immediately delivered by Sharpe. What his motives were for this delay, we pretend not to say; but certain it is, that no action of his life will bear a worse construction than this. It had been customary to put these poor creatures to very severe tortures, in order to make them confess that to be falsehood which they believed to be true. By Sharpe's delay, one Hugh Maccail had been tortured, who would otherwise have escaped; and so violent were the torments he endured, that he expired under them. He seemed to die in an ecstasy of joy. His last words were uttered with an accent which struck all the bystanders with astonishment. "Farewell (said he) sun, moon, and stars; farewell world and time; farewell weak frail body: welcome eternity; welcome angels and saints; welcome Saviour of the world; and welcome God the judge of all."

236 Last words of Mr Maccail.

237 Act against conventicles.

In 1670, an act against conventicles was passed, seemingly with a design of mitigating the former persecuting laws; though even this was severe enough. By this act, the hearer in a conventicle (that is, in a dissenting assembly where more than five besides the family were present) was fined 5s. for the first offence, and 10s. for the second; the preacher 20l. for the first offence, and 40l. for the second. The person in whose house the conventicle met was fined in a like sum with the preacher. One remarkable clause was, that if any dispute should arise with regard to the interpretation of any part of the act, the judges should always explain the doubt in the sense least favourable to conventicles, it being the intention of parliament entirely to suppress them.

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238 Schemes of comprehension and indulgence.

As the violent methods used by the king were found ineffectual to obtain his purpose in Scotland, in 1678 a scheme of comprehension was tried, by which it was proposed to diminish greatly the authority of the bishops, to abolish their negative voice in the ecclesiastical courts, and to leave them little more than the right of precedency among the presbyters: but this too was rejected by the people, who well knew its tendency. The next scheme was an indulgence. By this, the most popular of the expelled preachers, without requiring any terms of submission to the established religion, were settled in vacant churches; and small salaries of about 20l. a-year were offered to the rest, till they should be otherwise established. This bounty was rejected as the wages of criminal silence, and the replaced ministers soon repented of their compliance; conventicles multiplied, and the covenanters daily met in arms at their places of worship, though they usually dispersed themselves after divine service.

239 Persecution renewed.

These mild methods being rejected, a renewal of the persecution commenced under the administration of the duke of Lauderdale, and in which Archbishop Sharpe had a principal hand. It was an old law, and but seldom put in execution, that a man who was accused of any crime, and did not appear to take his trial, might be *intercommuned*; that is, he might be publicly outlawed; and whoever afterwards, either on account of business, relation, or charity, had the least intercourse with him, was subjected to the same penalties which the law could inflict on the criminal himself. A great many writs of intercommuning were now issued against the covenanters; by which absurd method of proceeding, crimes and punishments were multiplied to an extreme degree.

Application was made to Charles for some redress of these grievances; but he was too much taken up with his pleasures to take any effectual means of putting a stop to them; nay, even while he retracted them, he was persuaded to avow and praise them in a letter to the privy-council. The consequence of all this was, that the covenanters were at last so much enraged against Sharpe, whom they considered as an apostate, and experienced to be an unrelenting persecutor, that, on the 3d of May 1679, he was way-laid and murdered with all the circumstances of unrelenting cruelty. The murder of Sharpe produced a persecution still more violent, which at last brought on another insurrection.

240 Archbishop Sharpe murdered.

241 Second insurrection.

The covenanters finding themselves obliged to meet in large bodies, and bring arms along with them for their own security, set forth a declaration against prelacy, which they published at Rutherglen, a small borough near Glasgow; and in the market-place there they burned several acts of parliament which had esta-

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Britain. blished that mode of ecclesiastical government, and had prohibited all conventicles. For this purpose they chose the 29th of May, the anniversary of the restoration; and previously extinguished the bonfires that had been kindled on that occasion. Count Graham, afterwards Viscount Dundee, an active and enterprising officer, attacked a great conventicle upon Loudon-hill, but was repulsed with the loss of 30 men. The covenanters then finding themselves unwarily engaged in rebellion, were obliged to persevere; and therefore pushed on to Glasgow, which, though repulsed at first, they afterwards made themselves masters of. Here they dispossessed the established clergy, and issued proclamations, in which they declared that they fought against the king's supremacy, against Popery and Prelacy, and against a Popish successor.

Charles, being now alarmed, dispatched against the covenanters a small body of English cavalry under the duke of Monmouth. He joined the Scots guards, and some regiments of militia levied from the well-affected counties; and with great celerity marched in quest of the insurgents. They had taken post at Bothwell-bridge between Hamilton and Glasgow; where there was no access but by the bridge, and where a small body was able to defend it against the king's army. The whole army of the covenanters never exceeded 8000 men, and they had in reality no other generals than their clergymen. Monmouth attacked the bridge, and the covenanters maintained their post as long as their ammunition lasted. When they sent for more, they received orders to quit their post and retire; and this imprudent measure occasioned an immediate defeat. Monmouth passed the bridge without opposition, and drew up his forces opposite to the enemy. His cannon alone put them to the rout. About 700 were killed in the pursuit; for, properly speaking, there was no action. Twelve hundred were taken prisoners, and treated with humanity by Monmouth. Such as promised to live peaceably under the present government were dismissed: and about 300 who refused this condition were shipped for Barbadoes, but unfortunately perished by the way. Two of their clergymen were hanged. Soon after, an act of indemnity was passed: but Lauderdale took care that it should afford little proctection to the unhappy covenanters; for though orders were given to connive thenceforward at all conventicles, he found means under a variety of pretences to elude the execution of them.

242 Insurgents defeated at Bothwell-bridge.

It is now certainly known, the King Charles II. had formed a scheme of overturning the established religion, and substituting Popery in its place; as also of rendering himself absolute. In this, however, he met with violent opposition from his parliaments; and as this one of 1679 seemed even to surpass their predecessors in violence, the king was induced to dissolve them and call another in 1680. By this step, however, he was no gainer. They voted the legality of petitioning the king; and fell with extreme violence on the abhorrers, who in their addresses to the crown had expressed their disapprobation of those petitions. Great numbers of these were seized by their order in all parts of England, and committed to close custody: the liberty of the subject, which had been so carefully guarded by their own recent law, was every day violated by their arbitrary and capricious imprisonments. One Stowel of Exeter put a stop to their proceedings: he refused to obey the serjeant at arms who was sent to apprehend him; he stood upon his defence, and said he knew no law by which the house of commons pretended to commit him. The house, finding it equally dangerous to proceed or recede, got off by an evasion. They voted that Stowel was indisposed: and a month's time was allowed him for his recovery. It is happy for the nation, that should the commons at any time overleap the bounds of their authority, and capriciously order men to be put in prison, there is no power, in case of resistance, that can compel the prisoners to submit to their decrees.

243 Violent proceedings of parliament.

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The chief point, however, laboured by the present parliament, was, to obtain the seclusion bill, which, though the former house had voted, was never yet passed into a law. It passed by a great majority in the house of commons, but was thrown out by the house of peers. All the bishops except three voted against it; for they were of opinion that the church of England was in much greater danger from the prevalence of Presbyterianism than Popery. The commons were extremely mortified at the rejection of their favourite bill: in revenge they passed several other disagreeable acts, among which one was, That, till the exclusion bill was passed, they could not, consistent with the trust reposed in them, grant the king any manner of supply; and that whoever should hereafter lend, by way of advance, any money upon the branches of the king's revenue, should be responsible to parliament for his conduct. Charles, therefore, finding that there was no hopes either of extorting money or obedience from the commons, came to a resolution of once more dissolving the parliament. His usher of the black rod accordingly came to dissolve them while they were voting that the dissenters should be encouraged, and that the Papists had burned the city of London.

244 Parliament dissolved.

It was for some time a doubt whether the king would ever call another parliament: his necessities, however, surmounted all his fears of their violence; and, in 1681, he summoned his parliament to meet him at Oxford, that he might thus have an opportunity of punishing the city of London by showing his suspicions of their loyalty. In this, as in all former parliaments, the country party predominated; and they trode exactly in the same paths with their predecessors. The same speaker was chosen, and the exclusion bill urged more fiercely than before. Ernely, one of the king's ministers, proposed that the duke should be banished 500 miles from England; and that on the king's decease, the next heir should be constituted regent with regal power. Yet even this expedient, which left the duke the bare title of *king*, could not obtain the attention of the house. Nothing but a total exclusion could satisfy them.

245 New one called at Oxford.

Each party had now for some time reviled and ridiculed each other in pamphlets and libels; and this practice at last was attended with an incident that deserves notice. One Fitzharris, an Irish papist, employed a Scotsman named *Everhard* to write a libel against the king and the duke of York. The Scot was actually a spy for the contrary party; and supposing this a trick to entrap him, he discovered the whole to Sir William Waller, an eminent justice of the peace; and, to convince them of the truth of his information, posted the magistrate and two other persons privately, where they heard

246 Case of Fitzharris.

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heard the whole conference between Fitzharris and himself. The libel composed between them was replete with the utmost rancour and scurrility. Waller carried the intelligence to the king, and obtained a warrant for committing Fitzharris, who happened at that very time to have a copy of the libel in his pocket. Seeing himself in the hands of a party from whom he expected no mercy, he resolved to side with them, and throw the odium of the libel upon the court, who, he said, were willing to draw up a libel which should be imputed to the exclusioners, and thus render them hateful to the people. He enhanced his services to the country-party by a new Popish plot more tremendous than any of the foregoing, and in which he brought in the duke of York as a principal accomplice.

The king imprisoned Fitzharris; the commons avowed his cause. They voted that he should be impeached by themselves, to screen him from the ordinary forms of justice; the lords rejected the impeachment; the commons asserted their right: a commotion was likely to ensue; and the king, to break off the contest,

247 Parliament dissolved. went to the house and dissolved the parliament, with a fixed resolution never to call another.

248 Arbitrary proceedings of the king. From this moment the king ruled with despotic power. His temper, which had always been easy and merciful, now became arbitrary and cruel; he entertained spies and informers round the throne, and imprisoned all such as he thought most daring in their designs. He resolved to humble the Presbyterians: they were divested of their employments and their places; and their offices given to such as held with the court, and approved the doctrine of non-resistance. The clergy began to testify their zeal and their principles by their writings and sermons; but though among these the partizans of the king were the most numerous, those of the opposite faction were the most enterprising. The king openly espoused the cause of the former; and thus placing himself at the head of a faction, he deprived the city of London, which had long headed the

249 London deprived of its charter. popular party, of their charter. It was not till after an abject submission that he restored it to them, having previously subjected the election of their magistrates to his immediate authority.

Terrors also were not wanting to confirm this new species of monarchy. Fitzharris was brought to a trial before a jury, and condemned and executed. The whole gang of spies, witnesses, informers, suborners, which had long been encouraged and supported by the leading patriots, finding now that the king was entirely master, turned short upon their ancient drivers, and offered their evidence against those who first put them in motion. The king's ministers gave them encouragement; and in a short time the same injustice and the same cruelties were practised against Presbyterian schemes that had formerly been practised against Catholic treasons. The king's chief resentment was levelled against the earl of Shaftesbury; and, indeed, not without reason, as he had had a very active hand in the late disturbances. No sums were spared to seek for evidence, or even to suborn witnesses, against this intriguing and formidable man. A bill of indictment being presented to the grand jury, witnesses were examined, who swore to such incredible circumstances as must have invalidated their testimony, even if they had not been branded as perjured villains. Among his papers, indeed, a draught of an association was found, which might have been construed into treason; but it was not in the earl's hand-writing, nor could it be proved that he had ever communicated this scheme to any body, or signified his approbation of any such project. The sheriffs had summoned a jury, whose principles coincided with those of the earl; and that probably, more than any want of proof, procured his safety.

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In 1683, the city of London was deprived of its charter; which was restored only upon terms of the utmost submission, and giving up the nomination of their own magistrates. This was so mortifying a circumstance, that all the other corporations in England soon began to fear the same treatment, and were successively induced to surrender their charters into the hands of the king. Considerable sums were exacted for restoring these charters; and all the offices of power and profit were left at the disposal of the crown. Resistance now, however justifiable, could not be safe; and all prudent men saw no other expedient but submitting patiently to the present grievances.

250 Other corporations resign theirs.

251 Conspiracy against the king. There was a party, however, in England, that still cherished their former ideas of freedom, and resolved to restore liberty to their country by dethroning the king who acted in such a despotic manner. The principal conspirators were Monmouth, Shaftesbury, Russel, Essex, Howard, Algernon Sidney, and John Hampden grandson to the great man of that name. Monmouth engaged the earl of Macclesfield, Lord Brandon, Sir Gilbert Gerard, and other gentlemen in Cheshire. Lord Russel fixed a correspondence with Sir William Courtney, Sir Francis Knowles, and Sir Francis Drake, who promised to raise the west. Shaftesbury, with one Ferguson, an independent clergyman, and a restless plotter, managed the city, upon which the confederates chiefly relied. These schemes had been laid in 1681: but the caution of Lord Russel, who induced the duke of Monmouth to put off the enterprise, saved the kingdom from the horrors of a civil war; while Shaftesbury was so struck with a sense of his impending danger, that he left his house, and lurking about the city, attempted, but in vain, to drive the Londoners to an open insurrection. At last, enraged at the numberless cautions and delays which clogged and defeated his projects, he threatened to begin with his own friends singly. However, after a long struggle between fear and rage, he abandoned all hopes of success, and fled to Amsterdam, where he soon after died.

The loss of Shaftesbury, though it retarded, did not suppress, the designs of the conspirators. The remaining six formed a council; they corresponded with Argyle and the malecontents in Scotland; and resolved to prosecute the scheme of the insurrection, though they widely differed in principles from one another. Monmouth aspired to the crown; Russel and Hampden proposed to exclude the duke of York from the succession, and redress the grievances of the nation; Sidney was for restoring the republic, and Essex joined in the same wish. Lord Howard was an abandoned man, who, having no principles, sought to embroil the nation, to gratify his private interest in the confusion.

252 Design of assassinating him formed. Besides these, there was a set of subordinate conspirators, who frequently met together, and carried on projects quite unknown to Monmouth and his council.

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cil. Among these was Colonel Rumsey, an old republican officer; Lieutenant-colonel Walcot, of the same stamp; Goodenough, under-sheriff of London, a zealous and noted party-man; Ferguson, an independent minister; and several attorneys, merchants, and tradesmen of London. But Rumsey and Ferguson were the only persons that had access to the great leaders of the conspiracy. These men undertook the desperate resolution of assassinating the king in his way to Newmarket; Rumbold, one of the party, possessed a farm upon that road, called the *Rye-house*, and from thence the conspiracy was called the *Rye-house plot*. They deliberated on a scheme of stopping the king's coach by overturning a cart on the highway at this place, and shooting him through the hedges. The house in which the king lived at Newmarket accidentally took fire, and he was obliged to leave Newmarket eight days sooner than was expected; to which circumstance he owed his safety. Soon after this the conspiracy was discovered; Russel, Sidney, and Walcot, were executed; Essex cut his own throat; Hampden was fined 40,000l.; and scarce one escaped who had been in any manner concerned, except the duke of Monmouth, who was the most culpable of all.

253 It miscarries,

This was the last blood that was shed on account of plots or conspiracies, which continued during the greatest part of this reign. Severe punishments, however, were inflicted on many who treated the duke of York unworthily. The famous Titus Oates was fined 100,000l. for calling him a Popish traitor; and he was imprisoned till he should pay it, which he was absolutely incapable of. A similar sentence was passed upon Dutton Colt. Sir Samuel Barnadiston was fined 10,000l. for having in some private letters reflected on the government. The government of Charles was now as absolute as that of any prince in Europe; but to please his subjects by an act of popularity, he judged it proper to marry the lady Anne, his niece, to Prince George brother to the king of Denmark. This was the last remarkable transaction of this extraordinary reign.

254 Death of Charles II.

On February 2. 1685, about eight in the morning, the king was seized with a fit of the apoplexy; being dressed, and just come out of his closet, where he had been for some time after he rose from bed. By being blooded, he was restored perfectly to his senses; and there were great hopes of his recovery the next day. On the fourth day the physicians despaired of his life, and therefore sent for the queen. He was in his perfect senses when she arrived. She threw herself on her knees, and asked his pardon for all her offences. He replied, that she had offended in nothing; but that he had been guilty of offences against her, and asked her pardon. He spoke with great affection to the duke of York, and gave him excellent counsel for his future conduct. He advised him to adhere to the laws with strictness, and invariably to support the church of England. The duke seemed anxious to convince him before he died how little he intended to follow his advice. Having removed the bishops, and several of the lords who attended the bed of the king, he sent for Huddleston a Romish priest. In the presence of the duke, the earl of Bath, and Trevannion a captain in the guards, Huddleston gave the extreme unction to the king, and administered to him the sacrament according to the rites of the church of Rome. All this was done in the space of half an hour. The doors were then thrown open. Six prelates, who had before attended the king, were sent to give him the sacrament. Kenn, bishop of Bath and Wells, read the visitation of the sick; and after he said that he repented of his sins, the absolution. The king assisted with seeming devotion at the service; but his mouth being distorted with fits, and his throat contracted, he could not swallow the elements. He professed, however, his satisfaction in the church of England; and expired on the 6th of February between 11 and 12 o'clock: having reigned 25 years, and lived 55.

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The first act of James II.'s reign was to assemble the privy council: where, after some praises bestowed on the memory of his predecessor, he made professions of his resolution to maintain the established government both in church and state; and as he had heretofore ventured his life in defence of the nation, he would still go as far as any man in maintaining all its just rights and privileges.

255 Servile addresses to James II.

This discourse was received with great applause, not only by the council, but by the whole nation. Addresses came from all quarters, full of duty, nay of the most servile adulation. From this charge, however, we must except that of the Quakers, which is remarkable for its good sense and simplicity. "We are come (said they) to testify our sorrow for the death of our good friend Charles, and our joy for thy being made our governor. We are told that thou art not of the persuasion of the church of England no more than we: wherefore we hope that thou will grant us the same liberty which thou allowest thyself. Which doing, we wish thee all manner of happiness."

256 Quakers address.

257 Imprudent behaviour of the new king.

The king, however, soon showed, that he either was not sincere in his promises, or that he entertained so lofty an idea of his own regal power, that even his utmost sincerity could tend very little to the security of the liberties of the people. All the customs, and the greater part of the excise, which had been voted to the late king for his life only, were levied by James without a new act for that purpose. He went openly to mass with all the ensigns of his dignity; and even sent one Caryl as his agent to Rome to make submissions to the pope, and to pave the way for the readmission of England into the bosom of the Catholic church. From the suggestions of these men all his measures were undertaken. One day when the Spanish ambassador ventured to advise his majesty against putting too much confidence in such kind of people, "Is it not the custom in Spain (said James) for the king to consult with his confessor?" "Yes (answered the ambassador), and that is the reason why our affairs succeed so very ill."

James's first parliament, which was composed mostly of zealous tories, was strongly inclined to comply with the measures of the crown. They voted unanimously, that they should settle on the present king, during life, all the revenue enjoyed by the late king till the time of his decease. For this favour, James assured them, that he would secure them in the full enjoyment of their laws; but with regard to religion, no answer could be extorted, for that he was resolved to alter. In every thing, however, religion excepted, James merited every praise. He applied himself to business with unremitting attention. He managed his revenue with the strictest

258 In some respects he behaves well.

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strictest economy. He retrenched superfluous expences, and showed himself zealous for the glory of the nation. He endeavoured to expel from court the vice which had prevailed so much during the former reign, and to restore decency and morality. He presided daily at the council, at the boards of admiralty and treasury. He even entered into the whole detail of the concerns of the great departments of the state. But his bigotry for the Romish religion sullied all his good qualities, and rendered him feared for his violence, where he was not despised for his weakness.

259 Monmouth's conspiracy.

But whilst every thing was submitted in tranquillity to James at home, a storm was gathering abroad to disturb his repose. For a long time the prince of Orange had entertained hopes of ascending the British throne, and had even used all his endeavours to exclude James from it. Monmouth, who, since his last conspiracy, had been pardoned, but ordered to depart the kingdom, had retired to Holland. He was received by the prince of Orange with the highest marks of distinction, and even became his chief favourite, through whom all favours were to be obtained. When the news of Charles's death arrived, indeed, the prince made a show of altering his note, and dismissed Monmouth, though he still kept a close correspondence with him. The duke retired to Brussels, where, under the auspices of the prince of Orange, he resolved to invade England, with a design of seizing the crown for himself. He was seconded by the duke of Argyle, who formed the scheme of an insurrection in Scotland; and while Monmouth attempted to make a rising in the west of England, it was resolved that Argyle should also try his endeavours in the north. The generosity of the prince of Orange, however, did not correspond with the warmth of his professions. The unfortunate duke derived from his own plate and jewels his whole supply for the war; and the enthusiasm of a rich widow supplied Argyle with 10,000l. wherewith he purchased three vessels, which he loaded with arms and ammunition.

260 Defeat and death of Argyle.

Argyle was the first who landed in Scotland, where he published his manifestoes, put himself at the head of 2500 men, and strove to influence the people in his favour. But a formidable body of the king's forces coming against him, his army fell away; and he himself, after being wounded in attempting to escape, was taken prisoner by a peasant who found him standing up to the neck in water. He was from thence carried to Edinburgh, where, after suffering many indignities, he was publicly executed.

261 Monmouth lands in England.

By this time Monmouth had landed in Dorsetshire with scarcely 100 followers. His name, however, was so popular, and so great was the hatred of the people to James on account of his religion, that in four days he had assembled a body of above 2000 men. They were indeed all of them the lowest of the people, and his declarations were suited entirely to their prejudices. He called the king the duke of York; and denominated him a traitor, a tyrant, a murderer, and a Popish usurper. He imputed to him the fire of London, and even affirmed that he had poisoned the late king.

Monmouth continued to make a rapid progress, and in a short time found himself at the head of 6000 men; but was daily obliged to dismiss great numbers for want of arms. The king was not a little alarmed at his invasion. Six regiments of British troops were called over from Holland; and a body of regulars, to the number of 3000, was sent, under the command of the earl of Feversham and Churchill, to check the progress of the rebels. They took post at Sedgemore, a village in the neighbourhood of Bridgewater, and were joined by considerable numbers of the country militia. Here Monmouth resolved, by a desperate effort, to lose his life or gain the kingdom. He drove the royal infantry from their ground, and was on the point of gaining a complete victory, when the cowardice of Gray, who commanded the horse, brought all to ruin. This nobleman fled at the first onset; and the rebels, being charged in flank, gave way after a three hours contest. About 300 were killed in the engagement, and 1000 in the pursuit. Monmouth fled above 20 miles from the field of battle, till his horse sunk under him. He then alighted; and, exchanging clothes with a shepherd, fled on foot, attended by a German count who had accompanied him from Holland. Being quite exhausted with hunger and fatigue, they both lay down in a field, and covered themselves with fern. The shepherd being found in Monmouth's clothes by the pursuers, increased the diligence of the search; and by the means of blood-hounds he was detected in his miserable situation, with raw pease in his pocket, on which he had lived for some days. He burst into tears when seized by his enemies; and petitioned, with the most abject submissions, for his life. On his way to London, he wrote a submissive letter to the king, promising discoveries, should he be admitted into his presence. The curiosity of James being excited by the letter, he sent Sheldon a gentleman of his bed-chamber to meet Monmouth. In his conversation with Sheldon, he asked who was in chief confidence with the king? and being answered that it was Sunderland, Monmouth knocked his breast in a surprise, and said, "Why then, as I hope for salvation, he promised to meet ME." He desired Sheldon to inform the king, that several of his accomplices in rebellion were in the confidence of his majesty; and he gave him a particular account of the part which the prince of Orange had acted in this whole affair.

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262 Defeated at Sedgemore.

263 Is taken in a most miserable situation.

264 Attempts in vain to obtain mercy.

Sheldon, on his return from the duke of Monmouth, began to give an account to the king of what he had learned from the unhappy prisoner. Sunderland, pretending business, came into the room. Sheldon stopped, and signified his desire to speak in private with the king. James told him he might say any thing before that lord. Sheldon was in great perplexity; but being urged, he told all that Monmouth had asserted. Sunderland appeared for some time confused: at length he said, with a laugh, "If that is all he can discover to save his life, he will derive little good from his information." Monmouth himself was soon after brought before the king. Sunderland by an artifice ensured the death of the unfortunate duke, to save himself and the other adherents of the prince of Orange. When he saw Monmouth's letter to James, and heard the discoveries made by Sheldon, he is said to have advised him, that, as he could assure him of the certainty of a pardon, he ought to deny what he had said in prejudice of his friends, who could serve him on some other more favourable occasion. The credulous duke, swayed by the advice of Sunderland, suppressed what he

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Britain. he had said to Sheldon, when he was examined by the king. He mentioned nothing of the concern which the prince of Orange had taken in the invasion; though a point on which James was already sufficiently informed. D'Avaux, the French minister to the States, had given a circumstantial account of the whole conduct of the prince to Louis XIV. who had ordered it to be privately communicated to the king of England. The minister who had been sent from Holland to congratulate James on the suppression of Argyle's rebellion, was in a grievous agony when he heard that the king was resolved to see Monmouth. "Though he found that he said nothing of his master (said James), he was never quiet till Monmouth was dead."

The unfortunate duke made various attempts to obtain mercy. He wrote to the queen dowager; he sent a letter to the reigning queen, as well as to the king himself. He begged his life, when admitted into his presence, with a meanness unsuitable to his pretensions and high rank. But all his intreaties and submissions were of no avail. James told him, that he was much affected with his misfortunes, but that his crime was too dangerous in its example to be left unpunished. In his last moments he behaved with a magnanimity worthy of his former courage. When he came to the scaffold, he behaved with decency and even with dignity. He spoke little; he made no confession: nor did he accuse any of his friends. Circumstances are said to have attended his death that created a horror among the spectators. The executioner missed his blow, and struck him slightly on the shoulder. Monmouth raised his head from the block, and looked him full in the face, as if reproaching him for his mistake. He struck him twice again, but with feeble strokes; and then threw the axe from his hands. The sheriff forced him to renew his attempt; and the head of the duke, who seemed already dead, was at last severed from his body.

265 Terribly mangled by the executioner.

266 Rebels cruelly treated.

Those concerned in the duke of Monmouth's conspiracy were punished with the utmost severity. Immediately after the battle of Sedgemore, Feversham hanged up above 20 prisoners; and was proceeding in his executions, when the bishop of Bath and Wells informed him that these unhappy men were now by law entitled to a trial, and that their execution would be deemed a real murder. Nineteen were put to death in the same manner at Bridgewater by Colonel Kirke, a man of a savage and bloody disposition. This vile fellow, practised in the arts of slaughter at Tangiers, where he served in garrison, took pleasure in committing instances of wanton barbarity. He ravaged the whole country, without making any distinction between friend and foe. His own regiment, for their peculiar barbarity, went under the ironical title of *Kirke's lambs*. It doth not, however, appear, that these cruelties were committed by the direction, or even with the approbation, of James; any more than the legal slaughters that were committed by Judge Jefferies, who was sent down to try the delinquents. The natural brutality of this man's temper was inflamed by continual intoxication. No fewer than 80 were executed by his orders at Dorchester; and on the whole, at Exeter, Taunton, and Wells, 250 are computed to have fallen by the hand of justice as it was called; nor were women exempted from the general severity, but suffered for harbouring their nearest kindred. Jefferies on his return was immediately created a peer, and soon after vested with the dignity of chancellor. In justice to the king, however, it must be owned, that in his Memoirs he complains, with apparent indignation, of "the strange havock made by Jefferies and Kirke in the west;" and that he attributed the unpopularity, which afterwards deprived him of the crown, to the violence and barbarity of those pretended friends of his authority. He even ascribes their severities, in some degree, to a formed design of rendering his government odious to his subjects; and from thence it is probable, that no exact or impartial accounts of these cruelties had reached his ears, at least till long after they were committed. Britain.

267 James endeavours to establish Popery.

James now began to throw off the mask, and to endeavour openly to establish Popery and arbitrary power. He told the house of commons, that the militia were found by experience to be of no use; that it was necessary to augment the standing army; and that he had employed a great many Catholic officers, in whose favour he had thought proper to dispense with the test required to be taken by all who were employed by the crown. He found them useful, he said, and he was determined to keep them employed. These stretches of power naturally led the lords and commons into some degree of opposition; but they soon acquiesced in the king's measures, and then the parliament was dissolved for their tardy compliance. This was happy for the nation; for it was perhaps impossible to pick out another house of commons that could be more ready to acquiesce in the measures of the crown; but the dissolution of this parliament was generally looked upon as a sign that James never intended to call another.

268 Parliament dissolved.

269 Catholics promoted.

The parliament being dismissed, James's next step was to secure a Catholic interest in the privy council. Accordingly four Catholic lords were admitted, viz. Powis, Arundel, Belasis, and Dover. Sunderland, who saw that the only way to gain preferment was by Popery, became a convert. Rochester, the treasurer, was turned out of his office, because he refused to conform. Even in Ireland, where the duke of Ormond had long supported the royal cause, this nobleman was displaced as being a Protestant; and the lord Tyrconnel, a furious Roman Catholic, was placed in his stead. In his zeal for Popery, it is said, that James stooped so low as even to attempt the conversion of Colonel Kirke; but the daring soldier told him, that he was pre-engaged; for he had promised the king of Morocco, when he was quartered at Tangiers, that, if ever he changed his religion, he would turn Mahometan.

270 English clergy oppose the court measures.

At last the clergy of the church of England began to take the alarm, and commenced an opposition to court measures. The pulpits now thundered out against Popery; and it was urged, that it was more formidable from the support granted it by the king. It was in vain that James attempted to impose silence on these topics; instead of avoiding the controversy, the Protestant preachers pursued it with greater warmth.

To effect his designs, the king determined to revive the high commission court, which had formerly given the nation so much disgust, and which had been abolished for ever by act of parliament. An ecclesiastical commission was issued out anew, by which seven commissioners

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missioners were invested with a full and unlimited authority over the whole church of England.—The next step was to allow a liberty of conscience to all sectaries; and he was taught to believe, that the truth of the Catholic religion would then, upon a fair trial, gain the victory. In such a case, the same power that granted liberty of conscience might restrain it; and the Catholic religion alone be allowed to predominate. He therefore issued a declaration of general indulgence, and asserted that nonconformity to the established religion was no longer penal. In Scotland, he ordered his parliament to grant a toleration only to the Catholics, without interceding in the least for the other dissenters who are much more numerous. In Ireland, the Protestants were totally expelled from all offices of trust and profit, and Catholics put in their places. These measures sufficiently disgusted every part of the British empire; but to complete the work, James publicly sent the earl of Castlemaine ambassador extraordinary to Rome, in order to express his obedience to the pope, and reconcile his kingdoms to the Catholic communion. This proceeding was too precipitate to be relished even by the pope himself; and therefore the only return he made to this embassy was the sending a nuncio into England. The nuncio made a public and solemn entry into Windsor; which did not fail to add to the general discontent; and because the duke of Somerset refused to attend the ceremony, he was dismissed from his employment of one of the lords of the bedchamber.

271 James sends an ambassador to Rome.

Soon after this, the Jesuits were permitted to erect colleges in different parts of the kingdom, and to exercise the Catholic worship in the most public manner. Father Francis, a Benedictine monk, was recommended by the king to the university of Cambridge for the degree of master of arts. The university rejected him on account of his religion; and presented a petition to the king, beseeching him to recal his mandate. James disregarded their petition, and denied their deputies a hearing; the vice-chancellor himself was summoned to appear before the high commission court, and deprived of his office; yet the university persisted, and Father Francis was refused. The place of president of Magdalen college being vacant, the king sent a mandate in favour of one Farmer, a new convert, and a man of bad character in other respects. The fellows of the college made very submissive applications for recalling this mandate; but the election day coming on before they received an answer, they chose Dr Hough, a man of learning, integrity, and resolution. The king was incensed at their presumption; an inferior ecclesiastical court was sent down, who finding Farmer a man of scandalous character, issued a mandate for a new election. The man now recommended by the king was Doctor Parker; a man of an abandoned character, but very willing to embrace the Catholic religion. The fellows refused to comply with this injunction; which so irritated the king, that he came down to Oxford in person, and ordered the fellows to be brought before him. He reproached them with their insolence and disobedience; and commanded them to choose Parker without delay. Another refusal on their side served still more to exasperate him; and finding them resolute in the defence of their privileges, he ejected them all except two from their benefices, and Parker was put in possession of the place. Upon this the college was filled with Catholics; and Charnock, one of the two that remained, was made vice-president.

272 Dispute with the university of Cambridge.

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273 College filled with Catholics.

In 1686, a second declaration for liberty of conscience was published almost in the same terms with the former; but with this peculiar injunction, that all divines should read it after service in their churches. The clergy resolved to disobey this order. Loyde bishop of St Asaph, Kenn of Bath and Wells, Turner of Ely, Lake of Chichester, White of Peterborough, and Trelawney of Bristol, together with Sancroft the primate, concerted an address in form of a petition to the king, which, with the warmest expressions of zeal and submission, remonstrated that they could not read his declaration consistently with their consciences or the respect they owed the Protestant religion. The king received their petition with marks of surprise and displeasure. He said he did not expect such an address from the church of England, particularly from some amongst them; and persisted in his orders for their obeying his mandate.

As the petition was delivered in private, the king summoned the bishops before the council, and there questioned them whether they would acknowledge it. They for some time declined giving an answer; but being urged by the chancellor, they at last owned the petition. On their refusal to give bail, an order was immediately drawn for their commitment to the Tower, and the crown lawyers received directions to prosecute them for a seditious libel. The king gave orders that they should be conveyed to the Tower by water, as the whole city was in commotion in their favour. The people were no sooner informed of their danger, than they ran to the river-side, in prodigious multitudes, craving their blessing; calling upon Heaven to protect them, &c. The very soldiers by whom they were guarded, kneeled down before them, and implored their forgiveness.

274 Bishops imprisoned.

275 The whole city in commotion in their favour.

The 29th of June 1686 was fixed for the trial of the bishops; and their return was still more splendidly attended than their imprisonment. Twenty-nine peers, a great number of gentlemen, and an immense crowd of people, waited upon them to Westminster-hall. The dispute was learnedly managed by the lawyers on both sides. The jury withdrew into a chamber where they passed the whole night; but next morning they returned into court, and pronounced the bishops not guilty. Westminster-hall instantly rang with loud acclamations, which were communicated to the whole extent of the city. They even reached the camp at Hounslow, where the king was at dinner in Lord Feversham's tent. His majesty demanding the cause of those rejoicings, and being informed that it was nothing but the soldiers shouting for the delivery of the bishops; "Call you that nothing? (cried he); but so much the worse for them." Immediately after this, the king struck out two of the judges, Powel and Holloway, who had appeared to favour the bishops. He issued orders to prosecute all those clergymen who had not read his declaration, and all had refused it except 200. He sent also a mandate to the new fellows whom he had obtruded on Magdalen college, to elect for president, in the room of Parker lately deceased, one Gifford, a doctor of the Sorbonne, and titular bishop of Madura.

276 They are acquitted.

As the king found the clergymen everywhere averse

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to his measures, he was willing next day to try what he could do with the army. He thought if one regiment should promise implicit obedience, their example would soon induce others to comply. He therefore ordered one of the regiments to be drawn up in his presence, and desired that such as were against his late declaration of liberty of conscience should lay down their arms. He was surprised to see the whole battalion ground their arms, except two officers and a few Roman Catholic soldiers.—A fortunate circumstance happened about this time in his family. A few days before the acquittal of the bishops, the queen was brought to bed of a son, who was baptized by the name of JAMES. This would, if any thing could at that time, have served to establish him on the throne: but so great was the animosity against him, that a story was propagated that the child was suppositious; and so great was the monarch's pride, that he scorned to take any precautions to refute the calumny.

277 Attachment of the army to the Protestant religion.

278 Birth of a prince of Wales.

Though the enthusiasm of James himself bordered upon madness, the most wild of his religious projects seem to have been suggested by his enemies to accomplish his ruin. The earl of Sunderland, whom he chiefly trusted, was a man of abandoned principles, insatiable avarice, and fitted by nature for stratagem, deception, and intrigue. The love of money was his ruling passion, and he sold his influence to the highest bidder. To such a degree was he mercenary, that he became at once the pensioner of the prince of Orange and of the king of France. The former, who had long fixed his eye on the English throne, watched James's motions, and took every advantage of his errors. He had laid his schemes so extensively, that nothing but the birth of a male heir to the crown of England could possibly prevent him from an almost immediate possession of the kingdom. He had the address to render two-thirds of the powers of Europe interested in his success. The treaty of Augsburg, formed to break the power of France, could not accomplish its object without the accession of England. The house of Austria, in both its branches, preferred their political views to their zeal for the Romish faith, and promoted the dethronement of James as the only means to humble Lewis XIV. Odeschalchi, who under the name of Innocent XI. then filled the papal chair, was gained to the measures of the prince of Orange by other considerations, as well as through his fixed aversion to France. The prince of Orange sent his intimate friend the prince of Vaudemont to Rome, to procure the aid of the pope. He explained to his Holiness, that the Catholic princes were in the wrong to expect any advantage to their faith from James, as his being a declared Papist rendered his people averse to all his measures. As for himself, should he have the good fortune to mount the throne of England, he might take any step in favour of the Roman Catholics without jealousy: and he promised to procure a toleration for the Papists, should the pope, the emperor, and the king of Spain, favour his attempt. This negociation procured the desired effect. Innocent contributed, with the money of the church, to expel a Roman Catholic prince from his throne.

279 Treachery of Sunderland.

280 Schemes of the prince of Orange.

Though the contest with the bishops had completed the king's unpopularity, he derived the suddenness of his ruin from the birth of a prince of Wales. That circumstance increased the fears of his subjects in proportion as it raised his security and hopes. In the reign of a prince to be educated under the prejudices of such a father, nothing but a continuance of the same unconstitutional measures could be expected. So low indeed was his credit sunk among his people at this time, and such prescience they all seemed to have of his fate, that the child had like to have died before a wet nurse could be procured to suckle him.

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281 He applies to James's subjects;

The prince of Orange, seeing the national discontent now raised to the highest pitch, resolved to take advantage of it. He began by giving one Dykevelt, his envoy, instructions to apply in his name to every religious sect in the kingdom. To the church-party he sent assurances of favour and regard; and protested, that his education in Holland had no way prejudiced him against Episcopacy. To the nonconformists he sent exhortations, not to be deceived by the insidious caresses of their known enemy, but to wait for a real and sincere protector, &c. In consequence of these insinuations, the prince soon received invitations from the most considerable persons in the kingdom. Admirals Herbert and Russel assured him in person of their own and the national attachment. Henry Sidney, brother to Algernon, and uncle to the earl of Sunderland, came over to him with assurances of an universal combination against the king. Lord Dumblaine, son to the earl of Danby, being master of a frigate, made several voyages to Holland, and carried from many of the nobility tenders of duty and even considerable sums of money to the prince of Orange. Soon after, the bishop of London, the earls of Danby, Nottingham, Devonshire, Dorset, and several other lords, gentlemen, and principal citizens, united in their addresses to him, and intreated his speedy descent. The people, though long divided between Whig and Tory, now joined against their unhappy sovereign as a common enemy. William therefore determined to accept of their invitations; and this the more readily, as he perceived the malecontents had conducted themselves with prudence and secrecy. Having the principal servants of James in pay, he was minutely informed of the most secret actions and even designs of that prince. His intelligence came through Sidney from Sunderland, who betrayed the very measures which he himself had advised. The prince had a fleet ready to sail, and troops provided for action, before the beginning of June 1688.

282 by whom he is invited into England.

283 James warned of his danger by Louis XIV.

The king of France was the first who gave James warning of his danger, and offered to assist him in repelling it. But he declined the friendly offer, lest it should be said that he had entered into a private treaty with that monarch to the prejudice of the Protestant religion. Being also deceived and betrayed by Sunderland, he had the weakness to believe, that the reports of an invasion were invented in order to frighten him into a strict connection with France. He gave credit to the repeated assurances of the States, that the armament prepared in their ports was not designed against England. Nay, he even believed the assertions of the prince himself, whose interest it was to deceive. Sunderland descanted against the possibility of an invasion, and turned to ridicule all who believed the report. Having by the prior consent of James taken possession of all the foreign correspondence, he suppressed every intelligence

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intelligence that might alarm; and even all others whom James trusted, except Dartmouth, affected long to give no faith to the reports of an invasion.

284 He rejects all assistance.

Louis finding his first offers rejected, next proposed to march down his army to the frontiers of the Dutch provinces, and thus detain their forces at home for their own defence. But this proposal met with no better reception than the former. Still Louis was unwilling to abandon a friend and ally whose interest he regarded as closely connected with his own. He ventured to remonstrate with the Dutch against the preparations they were making to invade England. The Dutch treated his remonstrances as an officious impertinence, and James himself declined his mediation.

285 His astonishment on the news of an intended invasion.

The king of England, having thus rejected the assistance of his friends, and being left to face the danger alone, was astonished with an advice from his minister in Holland, that an invasion was not only projected but avowed. When he first read the letter containing this information, he grew pale, and the letter dropt from his hand. He saw himself on the brink of destruction, and knew not to whom to apply for protection. In this emergency, Louis wrote to James in his own hand, that to divert the Dutch from their intended invasion of England, he would lay siege to Maestricht with 30,000 men. James communicated this intelligence to Sunderland, and he to the prince of Orange. Six thousand men were thrown into Maestricht; and the design of Louis, as being impracticable, was laid aside. On this Louis being disgusted with James, turned his arms towards Germany. The dauphin laid siege to Philipsburg, on the 5th of October; and Prince Clement of Bavaria, by throwing a strong garrison into Cologne, effectually secured the states of Holland from any sudden danger from the arms of France.

286 He is again betrayed by Sunderland.

287 James attempts to pacify his subjects;

James had now no resource but in retreating from those precipitate measures which had plunged him into inextricable distress. He paid court to the Dutch, and offered to enter into any alliance with them for their common security. He replaced in all the counties of England all the deputy lieutenants and justices who had been deprived of their commissions for their adherence to the test and penal law. He restored the charters of such corporations as he had possessed himself of; he annulled the high commission court; he reinstated the expelled president and fellows of Magdalen college; and was even reduced to caress those bishops whom he had so lately persecuted and insulted.

288 but in vain.

All these concessions, however, were now too late; they were regarded as the effects of fear and not of repentance. Indeed, it is said, he very soon gave proofs of his insincerity: for hearing that the Dutch fleet was dispersed, he recalled those concessions he had made in favour of Magdalen college; and to show his attachment to the Romish church, at the baptism of the prince of Wales, he appointed the pope one of the sponsors.

289 William lands in England.

In the mean time, William set sail from Helvoetsluys with a fleet of near 500 vessels, and an army of above 14,000 men. Fortune, however, seemed at first every way unfavourable to his enterprise. He was driven back by a dreadful storm; but he soon refitted his fleet, and again set sail for England. It was given out that this invasion was designed for the coasts of France; and many of the English, who saw the fleet pass along their coasts, little suspected the place of its destination. It happened that the same wind which sent the Dutch to their place of destination, detained the English fleet in the river; so that the Dutch passed the straits of Dover without molestation; and after a voyage of two days, landed at Broxbolme in Torbay, on the 5th of November, the anniversary of the gunpowder-treason.

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But though the invitation from the English was very general, the prince for some time had the mortification to find himself joined by very few. He continued for ten days in expectation of being joined by the malecontents, and at last was going to despair of success. But just when he began to deliberate about reimbarking his forces, he was joined by several persons of consequence, and the whole country soon after flocked to his standard. The first person that joined the prince was Major Burrington, and he was quickly followed by the gentry of the counties of Devon and Somerset. Sir Edward Seymour made proposals for an association, which was signed by great numbers; and every day there appeared some effect of that universal combination into which the nation had entered against the measures of the king.

290 Defection of King James's army.

This was followed by the defection of the army. Lord Colchester, son to the earl of Rivers, first deserted to the prince. Lord Cornbury, son to the earl of Clarendon, carried off the greatest part of three regiments of cavalry at once; and several officers of distinction informed Feversham their general, that they could not in honour fight against the prince of Orange. Soon after this the unhappy monarch found himself deserted by his own servants and creatures. Lord Churchill had been raised from the rank of a page, and had been invested with a high command in the army; he had been created a peer, and owed his whole fortune to the king's bounty: yet even he deserted among the rest; and carried with him the duke of Grafton natural son to the late king, Colonel Berkeley, and others.

291 Distressed situation of the king.

In this universal defection, James, not knowing where to turn, began to think of requesting assistance from France when it was now too late. He wrote to Leopold emperor of Germany: but in vain; that monarch only returning for answer, That what he had foreseen had happened. James had some dependence on his fleet; but they were entirely disaffected. In a word, his interests were deserted by all, for he had long deserted them himself. He still found his army, however, to amount to 20,000 men; and had he led them immediately to battle, it is possible they might then have fought in his favour. But James's misfortunes had deprived him of his natural firmness and resolution; and seeing himself deserted by those in whom he thought he could have placed most confidence, he became suspicious of all, and was in a manner deprived even of the power of deliberation. In this extremity of distress, the prince of Denmark, and Anne, James's favourite daughter, perceiving the desperation of his circumstances, cruelly resolved to take part with the prince of Orange. When the king was informed of this, he was stung with the most bitter anguish. "God help me (cried he), my own children have forsaken me." To add to his distress as a parent, he was

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Britain. accused of being accessary to the death of his own child. Her nurse, and her uncle the earl of Clarendon, went up and down like distracted persons, affirming that the Papists had murdered the princess. They publicly asked the queen's servants, whither they had conveyed her? and they contributed to inflame the populace, whose zeal had already inflamed them to tumult and disorder. It was, however, soon known that she fled, under the conduct of the bishop of London, to Northampton.

292 Haughty behaviour of William. On the 30th of November 1688, James sent three of his noblemen to treat with the prince of Orange. But though the latter knew very well that the king's commissioners were in his interests, his behaviour showed plainly that he now thought the time of treating was past. For some time he would not admit them to an audience; and when he did, would give no satisfactory answer. James now began to be afraid of his personal safety. But what most affected him was the terrors of the queen for herself and her infant son. He therefore resolved to send them abroad. They crossed the river in a boat, at Whitehall, in a stormy and rainy day. They were carried to Gravesend in a coach, under the conduct of the Count de Lauzun. A yacht, commanded by Captain Gray, which lay there ready for the purpose, soon transported them in safety to Calais.

293 James attempts to leave the kingdom. The king was now so dispirited and distracted, that he resolved to leave the kingdom at once, and thus throw every thing into confusion. He threw the great seal into the Thames; he left none with any authority to conduct affairs in his absence; and he vainly hoped to derive advantage to his affairs from anarchy and disorder. About twelve at night, on the 10th of December, he disguised himself, took a boat at Whitehall, and crossed the river. Sir Edward Hales, with another friend, met him at Vauxhall with horses. He mounted; and being conducted through by-ways by a guide, he passed in the night-time to the Medway, which he crossed by Ailesford bridge. At Woolpeck he took fresh horses, sent thither before by Shelden one of his equerries who was in the secret of his flight. He arrived at 10 o'clock at Embyferry near Feversham, where a customhouse boy, hired by Sir Edward Hales, lay ready to receive them on board. But the wind blew fresh, and the vessel had no ballast. The master, therefore, easily persuaded the king to permit him to take in ballast at Shilness. It being half ebb when they ran ashore, they designed to sail as soon as the vessel should be afloat. But when the vessel was almost afloat, she was boarded by three fisher boats belonging to Feversham, containing 50 men. They seized the king and his two companions, under pretence of their being Papists that wanted to escape from the kingdom. They turned up Feversham water with the tide; but still the king remained unknown. Sir Edward Hales placed privately 50 guineas in the hands of the captain, as an earnest of more should he permit them to escape. He promised; but was so far from keeping his word, that he took what money they had, under pretence of securing it from the seamen; and having possessed himself of their all, he left them to their fate. The unfortunate fugitives were at length carried in a coach to Feversham, amid the insults, clamours, and shouts of the sailors. When the king was brought to the inn, a seaman who had served under him knew him, and melted into tears; and James himself was so much moved at this instance of his affection, that he wept. The other fishermen who had treated him with such indignity before, when they saw his tears, fell upon their knees. The lower inhabitants of the whole village gathered round him; but the better sort fled from his presence. The seamen, however, formed themselves into a guard round him, and declared, that "a hair of his head should not be touched." In the mean time, Sir James Oxendon, under the pretence of guarding him from the rabble, came with the militia to prevent his escape. The king found a change in his condition when he was taken out of the hands of the sailors. The commanders of the militia showed him no respect. He was even insulted by the common soldiers. A letter which he intended to send to London for clothes, a change of linen, and some money, was stopped by those who pretended to protect his person.

294 Is seized and insulted.

Britain.

295 His great distress.

All things in the mean time ran into confusion at London, and the prince of Orange exercised in his own person all the functions of royalty. He issued a declaration to the disbanded army to reassemble themselves. He ordered the secretary at war to bring him a list of the king's troops. He commanded the lord Churchill to collect his troop of horse guards. He sent the duke of Grafton to take possession in his name of Tilbury fort. The assembly of peers adjourned to the council-chamber at Whitehall, and, to give the appearance of legality to their meeting, chose the marquis of Halifax for their president. While this assembly was sitting, on the 13th of December, a poor countryman, who had been engaged by James, brought an open letter from that unfortunate prince to London. It had no subscription; and it was addressed to none. It contained, in one sentence only, his deplorable condition when in the hands of a desperate rabble. This poor messenger of their fallen sovereign had long waited at the council door, without being able to attract the notice of any who passed. The earl of Mulgrave at length, apprized of his business, had the courage to introduce him to the council. He delivered his open letter, and told the state of the king with tears. The assembly were so much moved, that they sent the earl of Feversham with 200 of the guards towards Feversham. His instructions were to rescue him first from danger, and afterwards to attend him to the sea coast, should he choose to retire. He chose, however, to return to London; but the prince of Orange sent a message to him, desiring him to advance no nearer the capital than Rochester. The messenger missed James by the way. The king sent Feversham with a letter to the prince of Orange, requesting his presence in London to settle the nation. He himself proceeded to that place, and arrived on the 16th of December. Doubting the fidelity of his troops who were quartered at Westminster, he chose to pass through the city to Whitehall. Never prince returning with victory to his capital was received with louder acclamations of joy. All the streets were covered with bonfires. The bells were rung, and the air was rent with repeated shouts of gladness. All orders of men crowded to his

296 James returns to London.

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coach; and when he arrived at Whitehall, his apartments were crowded with people who came to express their joy at his return.

The prince of Orange received the news of his return with a haughty air. His aim from the beginning was to force him by threats and severities to relinquish the throne. The Dutch guards were ordered to take possession of Whitehall, and to displace the English.

197 Commanded by William to leave his palace.

The king was soon after commanded by a message, which he received in bed at midnight, to leave his palace next morning, and to depart for Ham, a seat of the duchess of Lauderdale's. He desired, however, permission to retire to Rochester, a town not far from the sea coast, and opposite to France. This was readily granted: and it was now perceived that the harsh measures of the prince had taken effect, and that the king meditated an escape to France.

The king, surrounded by the Dutch guards, arrived at Rochester on the 19th of December. The restraint put upon his person, and the manner in which he had been forced from London, raised the indignation of many, and the compassion of all. The English army, both officers and soldiers, began to murmur; and had it not been for the timidity and precipitation of James himself, the nation had certainly returned to their allegiance. He remained three nights at Rochester, in the midst of a few faithful friends. The earls of Arran, Dumbarton, Ailesbury, Litchfield, and Middleton, were there; and with other officers of merit, the gallant Lord Dundee. They argued against his flight with united efforts. Several bishops, some peers, and many officers, entreated his stay in some part of England. Message followed message from London. They represented that the opinions of men began to change, and that events would daily rise in favour of his authority. Dundee added his native ardour to his advice. "The question, Sir, (said he), is Whether you shall stay in England, or fly to France? Whether you shall trust the returning zeal of your native subjects, or rely on a foreign power? Here you ought to stand. Keep possession of a part, and the whole will submit by degrees. Resume the spirit of a king. Summon your subjects to their allegiance. Your army, though disbanded, is not dispersed. Give me your commission. I will gather 10,000 of your troops. I will carry your standard at their head through England, and drive before you the Dutch and their prince." The king replied, "that he believed it might be done; but that it would raise a civil war, and he would not do so much mischief to a nation that would soon come to their senses again." Middleton urged his stay, though in the remotest part of the kingdom. "Your majesty (said he) may throw things into confusion by your departure; but it will be but the anarchy of a month: a new government will soon be settled, and you and your family will be ruined." These spirited remonstrances had no effect upon James. He resolved to quit the kingdom; and having communicated his design to a few of his friends, he passed at midnight through the back-door of the house where he lodged, and with his son the duke of Berwick, and Biddulph one of his servants, went in a boat to a smack which lay waiting for him without the fort at Sheerness. By reason of a hard gale they were forced to bear up toward Leigh, and to anchor on the Essex side, under the lee of the land. When the gale slackened, they reached the Buoy of the Narrows without tacking; but not being able to weather the Goodwin, they were forced to sail through the Downs. Seven ships lay there at anchor; but the smack passed unquestioned along. Unable to fetch Calais, she bore away for Boulogne, and anchored before Ambleteuse. The king landed at three o'clock in the morning of Tuesday, December 25th; and taking post, soon joined his queen at St Germains.

198 He is pressed to stay in the kingdom;

199 but refuses.

300 He lands in France.

James having thus abandoned his dominions, the prince of Orange remained master of them of course. By the advice of the house of lords, the only member of the legislature remaining, he was desired to summon a parliament by circular letters; but the prince, unwilling to act upon so imperfect an authority, convened all the members who had sat in the house of commons during any parliament of Charles II. and to these were added the mayor, aldermen, and fifty of the common council of London; and the prince, being thus supported by an assembly deriving its authority from himself, wrote circular letters to the counties and corporations of England to call a new parliament.

301 The throne declared vacant.

The house being met, which was mostly composed of the Whig party, thanks were given to the prince of Orange for the deliverance he had brought them; after which they proceeded to settle the kingdom. A vote soon passed both houses, that King James II. having endeavoured to subvert the constitution of the kingdom, by breaking the original contract between the king and his people, and having by the advice of Jesuits and other wicked persons, violated the fundamental laws, and withdrawn himself out of the kingdom, had abdicated the government; and that the throne was thereby vacant.

302 William raised to the sovereignty.

The king being thus deposed, it was easy for William to get himself appointed his successor. Proposals were made for electing a regent. Others were for investing the princess of Orange with legal power, and declaring the young prince supposititious. To these proposals, however, William opposed the following desisive argument, viz. that "he had been called over to defend the liberties of the British nation, and that he had happily effected his purpose; that he had heard of several schemes proposed for the establishing of the government; that, if they chose a regent, he thought it incumbent upon him to inform them that he would not be that regent; that he would not accept of the crown under the princess his wife, though he was convinced of her merits; that therefore, if either of these schemes was adopted, he could give them no assistance in the settlement of the nation; but would return home to his own country, satisfied with his aims to secure the freedom of theirs." Upon this, after a long debate in both houses, a new sovereign was preferred to a regent by a majority of two voices. It was agreed that the prince and princess of Orange should reign jointly as king and queen of England; while the administration of government should be placed in the hands of the prince only. The marquis of Halifax, as speaker of the house of lords, made a solemn tender of the crown to their highnessess, in the name of the peers and commons of England. The prince accepted the offer; and that very day, February 13. 1689, William and Mary were proclaimed king and queen of England.

Though

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Though Mary was comprehended in the royal title, she never possessed either the authority of a queen, or the influence of a wife. Her easy temper had long been subdued by the stern severity of a husband who had very few amiable qualities. Being brought up in a manner under the tuition of her spouse, and in some degree confined by his orders, she was accustomed to adopt implicitly his political maxims and even his thoughts; and in consequence of her want of importance with him, she ceased to be an object of consequence in the eyes of the nation.

William began his reign with issuing a proclamation for continuing in office all Protestants that had been in place on the first of the preceding December. On the 17th of the month he formed his privy council, which consisted chiefly of such persons as had been most active in raising him to the throne. To gratify as many as possible of his friends, the several boards, and even the chancery, were put into commission. The benches of the exchequer and common law were filled with persons who had distinguished themselves against the measures of the late king. The earl of Nottingham who had violently opposed the elevation of William, and the earl of Shrewsbury who had adhered to his views, were made secretaries of state. The marquis of Halifax, and the earl of Danby, though rivals in policy, were admitted into the cabinet; the first as lord privy seal, the second as president of the council. His Dutch friends in the mean time were not forgotten by the king. Bentinck, his favourite, was made a privy counsellor, groom of the stole, and privy purse. Auverquerque was appointed master of the horse. Zuylstein received the office of master of the robes. Schomberg was placed at the head of the ordnance.

303 National discontents.

Though these instances of gratitude were no doubt necessary to William, the generality of the nation were displeased. The Tories were offended at being excluded from his favour, especially as they had departed from their principles in order to serve him. The nation in general were much prejudiced against foreigners, and universal discontent ensued upon seeing them preferred. The king, who had been bred a Calvinist, was also very strongly inclined to favour that sect; and his prejudices in favour of Calvinism were almost equal to those of James in favour of Popery. Finding, therefore, the clergy of the church of England little inclined to take the oaths to the new government, he began openly to indulge his own prejudices in favour of dissenters. Having come to the house of lords, to pass some bills, on the 16th of March, he made a speech, urging the necessity of admitting all Protestants indiscriminately into the public service. He told his parliament, that he had something to communicate, which would conduce as much to their settlement as to the disappointment of their enemies. He informed them, that he was employed in filling up the vacancies in offices of trust; and he hoped that they were sensible of the necessity of a law to settle the oaths to be taken by such persons as should be admitted into place. As he doubted not, he said, that they would sufficiently provide against Papists, so he hoped that they would leave room for the admission of all Protestants that were able and willing to serve.

304 His scheme in favour of dissenters rejected.

This proposition was rejected with vehemence. The adherents of the church complained that the ruin which they feared from the Papists in the preceding reign was now to be dreaded from the Protestant dissenters. They affirmed, that if the established religion was to be destroyed, it mattered little by whose hands it must fall. A bill brought in by the ministry for abrogating the former oaths of supremacy and allegiance was rejected.

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An attempt to dispense with the sacramental test was made without success in another form. The court-party proposed that any man should be sufficiently qualified for any office by producing a certificate of his having received the sacrament in any Protestant congregation. But this motion was also rejected in the house of lords by a great majority. William repeated his attempts of a comprehension; but he was ultimately unsuccessful, and in the coronation-oath the church-party inserted a clause highly favourable to themselves, viz. that the king should maintain the Protestant religion "as established by law." To this clause William is said to have discovered an apparent unwillingness to swear.

305 Tottering condition of William's government.

For these and other reasons, the government of William was for some time but in a very tottering condition. The king, either through want of health or inclination, interfered but little in the affairs of the nation. Ireland was strangely neglected. Halifax and Danby, who had in a manner raised the king to the throne, caballed with his enemies. They perceived that the people, with the same levity that induced them to desert their former sovereign, were beginning to be discontented with their new prince. Every thing seemed to tend to a change. Halifax himself declared, that were James to conform with the Protestants, he could not be kept four months from reascending his throne. Danby averred, that, were the late king to give satisfaction for the security of religion, it would be difficult to oppose his restoration. From these apparent discontents of the nation, the friends and emissaries of James assumed more boldness. They tampered with the servants of the crown, and inflamed the army. The former they alarmed with the prospect of a sudden change; the latter they roused into indignation by the manifest preference given by William to his countrymen the Dutch.

306 He is acknowledged king in Scotland.

Though the kingdom of Scotland did not at first recognize the authority of William, yet the party of James never attained sufficient strength to be of any effectual service to him in that kingdom. Thirty Scots peers, and near 80 gentlemen, then in London, had waited in the beginning of January on the prince of Orange. Without any authority from the regency still subsisting in Edinburgh, they formed themselves into a kind of convention. The prince of Orange in a formal manner asked their advice. He withdrew, and they adjourned to the council-chamber at Whitehall. The duke of Hamilton being chosen president, explained the distracted state of Scotland. He represented, that disorders, anarchy, and confusion, prevailed; and he urged the necessity of placing the power somewhere till a convention of states should be called to form a lasting and solid settlement. When the heads of their address to the prince of Orange were settled, and ordered to be engrossed, the earl of Arran unexpectedly arose, and proposed to invite back the king. The meeting,

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ing, however, adhered to the prince of Orange; and waited on him in a body, requesting him to take the administration into his hands. He thanked them for the trust they had reposed in him; and a convention was ordered to meet at Edinburgh on the 14th of March, and it was provided that no exception or limitation whatever should be made, except that the members should be Protestants.

A secession, however, was made from this convention, in favour of James. The archbishop of Glasgow, the earl of Balcarras, and the viscount Dundee, were authorised by an instrument signed by the late king, at that time in Ireland, to call a convention of the states at Stirling. But this measure was disappointed, first by the wavering disposition of the marquis of Athol, and afterwards by the delay and folly of the party. At last, the viscount Dundee, being alarmed by an information of a design formed by the covenanters to assassinate him, left Edinburgh at the head of 50 horse. When he passed under the walls of the castle, the duke of Gordon, who held that place, and favoured the cause of James, called him to a conference. He scrambled up the precipice, and informed the duke of his designs in favour of the late king. He conjured him to hold out the castle, under a certainty of being relieved. The novelty of the sight collected multitudes of spectators. The convention were alarmed, the president ordered the doors to be locked, and the keys to be laid upon the table. The drums were beat to alarm in the town. A parcel of ill-armed retainers were gathered together in the street by the earl of Leven. Dundee in the mean time rode off with his party. But when they found themselves secure, the duke of Hamilton adjourned the convention, which relieved the adherents of James from dreadful apprehensions for their own safety. Fifty members retired from Edinburgh; and that circumstance procured an unanimity in all the succeeding resolutions of the convention. Soon after this, it was determined in a committee, that James had *forefaulted* his right to the crown, by which was meant that he had perpetually excluded himself and his whole race from the crown, which was hereby become vacant. This resolution was approved by the convention, and another was drawn up for raising William and Mary to the vacant throne; in consequence of which they were proclaimed at Edinburgh on the 11th of April 1689.

The castle of Edinburgh was still kept, in the name of James, by the duke of Gordon: but despairing of any relief, and pressed by a siege, he surrendered it on the 13th of June, upon honourable terms. The adherents of James, terrified with this unexpected misfortune, now turned their eyes to the viscount Dundee. That nobleman having been in vain urged by the convention to return, they had declared him a fugitive, an outlaw, and a rebel. General Mackay had been sent to Scotland by William with four regiments of foot, and one of dragoons; and Dundee being apprised of his design to surprise him, retired to the Grampian mountains with a few horse. He marched from thence to Gordon castle, where he was joined by the earl of Dunfermline with 50 gentlemen. He then passed through the county of Murray to Inverness. Macdonald of Keppoch lay with 700 men before that town; after having ravaged, in his way from his own country, the lands of the clan of Macintosh. Dundee having promised to the magistrates of Inverness, to repay, at the king's return, the money extorted from them by Macdonald, induced the latter to join him with all his men. He could not prevent them, however, from first returning home with their spoil. He accompanied them to Lochaber, and on the 8th of May arrived in Badenoch. From thence he wrote letters to the chiefs of all the clans, appointing them to meet at a general rendezvous in Lochaber, on the 18th of the same month. In the mean time, passing suddenly through Athol, he surprised the town of Perth. In hopes of gaining to his party the two troops of Scots dragoons who lay at Dundee, he marched suddenly to that place: but the fidelity of Captain Balfour, who commanded them, disappointed his views. Having raised the land-tax as he passed, Dundee returned through Athol and Rannoch to hold the diet of rendezvous at Lochaber. Here he was reinforced by several Highland chieftans, so that his army amounted to 1500 men. He pursued Mackay for four days, who had advanced to Inverness, but afterwards retreated to Strathbogie, leaving the whole Highlands exposed to the enemy.

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Soon after, however, Dundee found himself surrounded with many difficulties. The officers of the Scots dragoons, who held a secret correspondence with him, wrote him false intelligence, as an excuse for their own fears. They informed him, that a party of Irish, who had endeavoured to land in Scotland, under the duke of Berwick, were driven back, and the duke himself taken prisoner; and that Mackay had been reinforced with a regiment of English horse, and another of foot. On this intelligence, Dundee, retreated to Badenoch. The natives of the low country who served in his army quitted him without leave; and the Highlanders plundered the country wherever they came: at last he himself fell sick, while Mackay hovered on his rear. A slight skirmish happened, in which the Highlanders prevailed; but they lost their baggage during the action. Dundee at length arrived at Ruthven; but Mackay being reinforced with a body of 1200 men advanced against him, and other regiments had arrived at Perth and Dumblain. The Highlanders now deserted every night by hundreds; their gallant leader himself was forced to retire to Lochaber, where only 200 of his whole force remained with him; and to complete his misfortunes, he received at the same time news of the surrender of the castle of Edinburgh.

On the 23d of June, letters arrived from King James, with a promise of immediate succours from Ireland; upon which Dundee ordered the neighbouring clans to assemble round his standard. But still he had scarce any thing but the mere bodies of his men with which he could prosecute the war. The Highlanders were armed only with their own proper weapons, and he had no more than 40 pounds of powder in his whole army. All difficulties, however, were surmounted by the active spirit of the general, for whom the army entertained an enthusiastic zeal. On the 17th of July, he met the king's forces under General Mackay, near the pass of Killicranky. An engagement ensued, in which the Highlanders were victorious. Two thousand of Mackay's men were lost either in the field or in

307 Attempts of Lord Dundee in favour of James.

308 He is slain at Killicranky.

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in the pursuit; but the victory cost the Highlanders very dear, for their brave general was mortally wounded. He survived the battle, however; and wrote an account of the victory to King James: he even imagined his wound was not mortal; but he died the next morning at Blair. With him ended all the hopes of James in Scotland. Colonel Cannon, who succeeded Dundee in the command, possessed neither his popularity nor his abilities. After some insignificant actions, in which the valour of the soldiers was more conspicuous than the conduct of their leader, the Highlanders dispersed themselves in disgust; and the war soon after ended favourably for William, without any repulse given to his enemies.

309 Ireland neglected by William.

During the troubles in England, which had terminated in placing William on the throne, the two parties in Ireland were kept in a kind of tranquillity by their mutual fears. The Protestants were terrified at the prospect of another massacre; and the Papists expected every day to be invaded by the joint force of the English and Dutch. Their terrors, however, were ill founded; for though Tyrconnel sent several messages to the prince, that he was ready to deliver up the kingdom to any force that might make a surrender decent, his offers were always rejected. William was persuaded by the marquis of Halifax, that, should Ireland yield, no pretence could remain for keeping an army in pay; that then, having no army to protect his authority, he might as easily be turned out as he had been brought in; that the English nation could never remain long in a state of good humour; and that he might perceive they already began to be discontented. These insidious arguments induced William to neglect Ireland in such a manner as is justly looked upon to be one of the greatest blemishes in his whole reign. His enemies, indeed, though perhaps without any good foundation, assign a worse cause, viz. that should England be confirmed under his government, Ireland could not long hold out; and that the obstinacy of his Irish enemies would give a pretence for forfeitures, to gratify his English, but especially his foreign friends.

310 An insurrection in favour of James.

Tyrconnel, disappointed in his views of surrendering Ireland to the prince of Orange, affected to adhere to James. The whole military force of the kingdom at that time amounted only to 4000 men, and of these only 600 were in Dublin; and what was still worse, all of them were so much disposed to quit the service, that the lord deputy was obliged to issue commissions for levying new forces. Upon this, a half-armed rabble, rather than an army, rose suddenly in various parts of the kingdom. Having no pay from the king, they subsisted by depredation, and regarded no discipline. The Protestants in the north armed themselves in their own defence; and the city of Londonderry, relying on its situation, and a slight wall, shut its gates against the new-raised army. Protestant parties in the mean time rose everywhere, declaring their resolution to unite in self-defence, to preserve the Protestant religion, to continue their dependence on England, and to promote the meeting of a free parliament.

311 Protestants take arms in their own defence.

To preserve appearances, William now sent General Hamilton, an Irishman and a Roman Catholic, to treat with Tyrconnel; but instead of persuading that lord to yield to William, this messenger advised him to adhere to James. In the mean time James himself assured the lord deputy, that he was ready to sail from Brest with a powerful armament. Hamilton, assuming spirit from the hopes of this aid, marched against the northern insurgents. They were routed with considerable slaughter at Drumore; and Hillsborough, where they had fixed their head quarters, was taken without resistance: the city of Londonderry, however, resolved to hold out to the last extremity.

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312 They are defeated at Drumore.

On the 7th of March 1689, James embarked at Brest. The whole force of his expedition consisted of 14 ships of war, six frigates, and three fire-ships. Twelve hundred of his native subjects in the pay of France, and 100 French officers, composed the whole army of James. He landed at Kinsale without opposition on the 12th of the month, where he was received with the utmost demonstrations of joy. His first care was to secure, in the fort of Kinsale, the money, arms, and ammunition, which he brought from France; and put the town in some posture of defence; which having done, he advanced to Cork. Tyrconnel arrived at this place soon after, and brought intelligence of the rout at Drumore. The king was so much pleased with his attachment and services, that he created him a duke; after which he himself advanced towards Dublin. The condition of the rabble, who poured round him under the name of an *army*, was not calculated to raise his hopes of success. The most of them were only provided with clubs; some had sticks tipt with iron; and even of those who were best armed, scarce two in a hundred had muskets fit for service. Their very numbers distressed their sovereign, and ruined the country; insomuch that James resolved to disband the greatest part of them. More than 100,000 were already on foot in the different parts of the island. Of these he reserved 14 regiments of horse and dragoons, and 35 regiments of foot; the rest he ordered to their respective homes, and armed those that were retained in the best manner he could.

313 James lands in Ireland.

Being received at Dublin with an appearance of universal joy, James proceeded immediately to business. He ordered, by proclamation, all Protestants who had abandoned the kingdom to return. He commanded, in a second proclamation, all Papists, except those in his army, to lay up their arms, and put an end to the robberies and depredations which they had committed in the violence of their zeal. He raised the value of the currency by a proclamation; and he summoned a parliament to meet on the 7th of May, to settle the affairs of the kingdom. The Protestant clergy represented their grievances in an address; and the university of Dublin appeared with complaints and congratulations. He assured the first of his absolute protection, and a full redress; and he promised the latter not only to defend, but even to enlarge, their privileges.

314 Is forced to raise the siege of Londonderry.

On the 8th of April, James left Dublin, resolving to lead his army against the insurgents in person. They retired before him, and the king laid siege to Londonderry. The besieged made such a vigorous resistance as has made the place remarkable ever since*: but being reduced to the last extremity, they would have been obliged to surrender, had not they been relieved

* See *Londonderry*.

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lieved on the 28th of July by seven ships laden with provisions; upon which the siege was immediately raised.

315 Is driven into disagreeable measures.

In the mean time, the distressed situation of James, and his absolute dependence upon France, drove him into measures which otherwise he never would have thought of. His soldiers for some time had been supported by their officers, or subsisted by depredation. The funds of the officers were at last exhausted, and the country itself could no longer bear the riot and injustice of the soldiers. Pressed by these difficulties, James, by the advice of his council, resolved to coin pieces of copper, which should be received for silver. He saw well enough the inconveniencies of this measure: but all Ireland possessed not the means of paying the army in current coin to the middle of June. Of the French remittances only 200,000 livres remained; and the king found it absolutely necessary to reserve that sum, to forward his measures with regard to Britain, and to procure intelligence of the motions of his enemies. The army was satisfied even with this appearance of money, and the people received the fictitious coin in hopes of being repaid in a more favourable state of affairs. A tax of 20,000l. a month, granted for 13 months by the parliament, furnished government with an appearance of resources; and in the mean time the king endeavoured to support the former revenue. He opened a trade with France to supply the want of commerce with England. But the French, knowing their own importance, and the necessity of the unfortunate monarch's affairs, claimed and obtained advantages in traffic which offended his own subjects.

316 Ireland invaded by William's army:

To add to the distress of James, Ireland was now invaded by 10,000 men under the command of the duke of Schomberg. They appeared on the 12th of August 1689, in 90 transports, on the coast of Donaghadee, in the county of Down. Next day Schomberg landed without opposition his army, horses, and train of artillery. Having marched to Belfast on the 15th, he continued in that place four days to refresh his troops. He invested Carrickfergus, and threw into it 1000 bombs, which laid the houses in ashes. The garrison having expended their powder to the last barrel, marched out with all the honours of war. But Schomberg's soldiers broke the capitulation. They disarmed and stripped the inhabitants, without any regard to sex or quality; even women, stark naked, were publicly whipped between the lines; and all this under pretence of cruelties of the same kind having been committed by the Papists.

Though Schomberg was an experienced general, who had passed a life of 80 years almost continually in the field, he found himself at a loss how to carry on the war in Ireland. He did not consider the dangers that threatened the health of his troops by confining them too long in one place; and he kept them in a low moist camp near Dundalk, almost without firing of any kind; so that the men fell into fevers and fluxes, and died in great numbers. The enemy were not less afflicted with similar disorders. Both camps remained for some time in sight of each other; and at last, the rainy season approaching, both armies quitted their camps at the same time, and retired into winter-quarters.

Britain.

The bad success of the campaign, and the miserable situation of the Protestants in Ireland, at length induced William to attempt their relief in person. Accordingly he left London on the 4th of June 1690, and arrived at Carrickfergus on the 14th of that month. From thence he passed to Lisburn, the head quarters of the duke of Schomberg. He reviewed at Lough-Britland his army, which consisted of 36,000 men, and was composed of English, Dutch, Germans, Danes, and French. Being supplied with every necessary, and in high health and spirits, they seemed absolutely certain of victory. The Irish army, having abandoned Ardee at their approach, fell back to the south of the Boyne. On the bank of that river they were joined by James, who had marched from Dublin at the head of his French auxiliaries. The banks of the Boyne were steep; the south side hilly, and fortified with ditches. The river itself was deep, and it rose very high with the tide. These advantages induced James, contrary to the opinion of his officers, to keep possession of this post. His army was inferior in numbers, discipline, and every thing, to his enemies: but flight, he thought, would dispirit his troops, and tarnish his own reputation; he therefore resolved to put the fate of Ireland on the issue of a battle. Urged by his friends in England, and encouraged by a projected invasion of that kingdom, by France, he had resolved to quit Ireland; and to this he was farther encouraged by the assurance of aid from a powerful fleet that had already entered the narrow seas. But the strength of his situation, and the sudden appearance of the enemy, which made even a retreat dangerous, induced him to defer his purpose.

317 and by William in person.

318 Battle at the Boyne.

William was no sooner arrived, than he rode along the river's side, in sight of both armies, to make proper observations on the plan of battle; but in the mean time, being perceived by the enemy, a cannon was privately brought out and planted against him where he was sitting. The shot killed several of his followers, and he himself was wounded in the shoulder. The news of his being slain was instantly propagated through the Irish camp, and even sent off to Paris; but William, as soon as his wound was dressed, rode through the camp, and quickly undeceived his army.

319 William in danger.

The next day (June 30th) the battle began at six in the morning. James's forces behaved with great resolution, but were at last defeated with the loss of 1500 men. The Protestants lost but about one-third of that number; but among these was their brave general the duke of Schomberg. He was killed by a discharge from his own troops, who, not knowing that he had been accidentally hurried into the midst of the enemy, fired upon the body of men who surrounded him. During the action, James stood on the hill of Dunmore, surrounded with some squadrons of horse; and at intervals was heard to exclaim, when he saw his own troops repulsing those of the enemy, "O spare my English subjects!" While his troops were yet fighting, he quitted his station; and leaving orders to guard the pass at Duleek, made the best of his way to Dublin. He advised the magistrates of that city to make the best terms they could with the victors; and he himself set out for Waterford, where he immediately embarked for France. When he first deserted his troops at the Boyne, O'Regan, an old Irish captain, was heard

320 James defeated.

321 He flies to France.

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Britain.

to say, "That if the English would exchange generals, the conquered army would fight them over again."

322 War continued in his absence.

The victory at the Boyne was by no means decisive, and the friends of James resolved to continue their opposition to William. Sarsfield, a popular and experienced general, put himself at the head of the army that had been routed at the Boyne, and went farther into the country to defend the banks of the river Shannon. James appointed one St Ruth to command over Sarsfield, which gave the Irish universal discontent. On the other hand, General Ginkle, who had been appointed to command the English army in the absence of William, who was gone over to England, advanced towards the Shannon to meet the enemy. The only place where it was fordable was at Athlone, a strong walled town built on both sides of the river, and in the hands of King James's party. The English soon made themselves masters of that part which was on the hither side of the river; but the part on the opposite bank being defended with great vigour, was for a long time thought impregnable. At length it was resolved in a council of war, that a body of forlorn hope should ford the stream in the face of the enemy; and this desperate enterprise was performed with great resolution: the enemy were driven from their works, and the town surrendered at discretion. St Ruth marched his army to its relief, but he came too late; for he no sooner approached, than his own guns were turned against him; upon which he instantly marched off, and took post at Aughrim, at ten miles distance, where he determined to wait the English army. Ginkle did not decline the combat, though he had only 18,000 men, while the Irish were above 25,000 strong. A desperate engagement ensued; but at last St Ruth being killed, his troops gave way on all sides, and retreated to Limeric, where they determined to make a final stand, after having lost near 5000 of their best men.

323 St Ruth, James's general, defeated, and killed.

Ginkle, wishing to put an end to the war at once, suffered as many of the Irish as chose to retire to Limeric. In this last retreat the Irish forces made a brave defence. The siege commenced August 25. 1691. Six weeks were spent before the place without any decisive effect. The garrison was well supplied with provisions, and provided with all means of defence. The winter was approaching, and Ginkle had orders to finish the war upon any terms. He therefore offered such conditions as the Irish, had they been victors, could scarce have refused with prudence. He agreed that all in arms should receive their pardon: that their estates should be restored, their attainders annulled, and their outlawries reversed: that none should be liable for debts incurred through deeds done in the course of hostilities: that all Roman Catholics should enjoy the same toleration with regard to their religion as in the reign of Charles II.: that the gentry should be permitted to make use of arms: that the inferior sort should be allowed to exercise their callings and professions: that no oaths but that of allegiance should be required of high or low: that should the troops, or any number of them, choose to retire into any foreign service, they should be conveyed to the continent, at the expence of the king. Sarsfield, who had obtained the title of *earl of Lucan* from James after his abdication, was permitted to retain a dignity which the laws could not recognise. The lords justices arrived from Dublin on the first of October. They signed the articles together with Ginkle; and thus the Irish Papists put a happy period to a war which threatened their party with absolute ruin. In consequence of this treaty, about 14,000 of those who had fought for King James went over to France, having transports provided by government for conveying them thither. When they arrived, James thanked them for their loyalty, and told them that they should still fight for their old master; and that he had obtained an order from the king of France for their being new clothed, and put into quarters of refreshment. In this manner all James's expectations from Ireland were entirely frustrated, and the kingdom submitted quietly to the English government.

324 Limeric besieged.

325 Favourable terms allowed them by Ginkle.

Britain.

326 Massacre of Glenco.

In the beginning of the year 1692, an action of unexampled barbarity disgraced the government of William in Scotland. In the preceding August, in consequence of a pacification with the Highlanders, a proclamation of indemnity had been issued to such insurgents as should take the oaths to the king and queen, on or before the last day of December. The chiefs of the few tribes who had been in arms for James complied soon after with the proclamation: but Macdonald of Glenco failed in submitting within the limited time; more, however, from accident than design. In the end of December, he came to Colonel Hill, who commanded the garrison in Fort William, to take the oaths of allegiance to the government. Hill having furnished Macdonald with a letter to Sir Colin Campbell, sheriff of the county of Argyle, directed him to repair immediately to Inverary, to make his submission in a legal manner before that magistrate. The way to Inverary lay through almost impassable mountains; the season was extremely rigorous, and the whole country covered with a deep snow. So eager, however, was Macdonald to take the oaths, before the limited time should expire, that though the road lay within half a mile of his own house, he would not stop to visit his family. After various obstructions, he arrived at Inverary. The time was elapsed, and the sheriff hesitated to receive his submission; but Macdonald prevailed on him by his importunities, and even tears. Sir John Dalrymple, afterwards earl of Stair, attended King William as secretary of state for Scotland. He took advantage of Macdonald's neglecting to take the oaths within the time prescribed, and procured from the king a warrant of military execution against him and his whole tribe. As a mark of his own eagerness, or to save Dalrymple, William signed the warrant both above and below, with his own hand. The secretary, in letters expressive of a brutal ferocity of mind, urged the officers who commanded in the Highlands to execute their orders with the utmost rigour. Campbell of Glenlyon, a captain in Argyle's regiment, and two subalterns, were ordered with 120 men to repair to Glenco on the first of February. Campbell, being uncle to young Macdonald's wife, was received by the father with all manner of friendship and hospitality. The men were treated in the houses of his tenants with free quarters and kind entertainment. Till the 13th of the month, the troops lived in good humour and familiarity with the people. The officers on the very night of the massacre passed the evening and played at cards in Macdonald's house. In the night,

Lieutenant

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Britain. Lieutenant Lindsay, with a party of soldiers, called in a friendly manner at his door. He was instantly admitted. Macdonald, as he was rising to receive his guest, was shot dead behind his back with two bullets. His wife had already put on her clothes; but she was stripped naked by the soldiers, who tore the rings off her fingers with their teeth. The slaughter was become general. To prevent the pity of the soldiers to their hosts, their quarters had been changed the night before. Neither age nor infirmity was spared. Some women, in defending their children, were killed; boys, imploring mercy, were shot by officers, on whose knees they hung. In one place, nine persons, as they sat enjoying themselves at table, were shot dead by the soldiers. In Inverriggen, in Campbell's own quarters, nine men were first bound by the soldiers, and then shot at intervals, one by one. Near 40 persons were massacred by the troops. Several who fled to the mountains perished by famine and the inclemency of the season. Those who escaped owed their lives to a tempestuous night. Lieutenant-colonel Hamilton, who had the charge of the execution from Dalrymple, was on his march with 400 men, to guard all the passes from the valley of Glenco; but was obliged to stop by the severity of the weather; which proved the safety of the unfortunate tribe. He entered the valley next day; laid all the houses in ashes; and carried away all the cattle and spoil, which were divided among the officers and soldiers.

It can scarcely be imagined that a massacre attended with such circumstances of treachery and breach of the laws of hospitality, could pass without some animadversion; though the expressions of Cunningham, a writer very partial to the character of King William, seem to account it a fault that it should ever have been inquired into. "Mr James Johnstone, one of the secretaries of state (says he), from motives of revenge, caused the affair of Glenco to be laid before parliament. This being somewhat disingenuously managed, was the occasion of much trouble to many people. The earl of Breadalbin was committed to the castle of Edinburgh: but the lord viscount Stair, who lay under some suspicion on that account, in a very artful speech endeavoured to resolve the whole matter into a misapprehension of dates; which, he alleged, had led both the actor in the slaughter complained of, and those who now accused him, into mistakes. In conclusion he affirmed, that neither the king nor any other person was to be blamed, save only the misled captain, who did not rightly understand the orders that had been given him." The most disgraceful circumstances of the massacre are by the same author concealed; as he only tells us, that "it unhappily fell out, that the whole clan of Glenco, being somewhat too late in making their submission to King William, were put to the sword by the hands and orders of Captain Campbell; which gave great offence to the king. It is certain the king had cause of resentment against some of his courtiers on account of this foul action; but he thought fit not to question them for it till he could settle himself more firmly on the throne."

327 Account of the Darien expedition. It is not improbable, that partly to efface the remembrance of this massacre, and the sham inquiry above mentioned, the king now caused his commissioner to declare in the Scots parliament (the same that had inquired into the affair of Glenco), "That if the members found it would tend to the advancement of trade that an act should be passed for the encouragement of such as should acquire and establish a plantation in Africa, America, or any other part of the world where plantations might be lawfully acquired, that his majesty was willing to declare he would grant to the subjects of this kingdom, in favour of these plantations, such rights and privileges as he granted, in like cases, to the subjects of his other dominions." Relying on this and other flattering promises, the nobility and gentry of Scotland advanced 400,000l. towards the establishment of a company for carrying on an East and West India trade; and 1200 veterans who had served in King's William's wars were sent to effect a settlement on the peninsula of Darien, which lies between the Atlantic and Pacific oceans, and in the narrowest place is not above 60 miles over; and of consequence is equally well adapted for trading with both the Indies. Britain.

The new colony was well received by the natives, and matters began to wear a promising aspect, when the king, on the earnest solicitations of the English and Dutch East India Companies, resolved to gratify the latter at the expence of his Scottish subjects; and knowing that the new colony must want supplies of provisions, he sent orders to the governor of Jamaica and the English settlements in America to issue proclamations, prohibiting, under the severest penalties, all his majesty's subjects from holding any correspondence with the Scottish colony, or assisting it in any shape with arms, ammunition, or provisions: "Thus (says Mr Knox) the king's heart was hardened against these new settlers, whom he abandoned to their fate, though many of them had been covered with wounds in fighting his battles.

"Thus vanished all the hopes of the Scottish nation, which had engaged in this design with incredible alacrity, and with the most sanguine expectations that the misfortunes of their country would, by this new channel of commerce, be completely healed.

"The distresses of the people, upon receiving authentic accounts of the fortune of their colony, scarcely admit of any description. They were not only disappointed in their expectations of wealth and a renewal of their commerce, but hundreds, who had ventured their all, were absolutely ruined by the miscarriage of the design.

"The whole nation seemed to join in the clamour that was raised against their sovereign. They taxed him with double dealing, inhumanity, and base ingratitude, to a people who had lavished their treasure and best blood in support of his government, and in the gratification of his ambition; and had their power been equal to their acrimony, in all probability the island would have been involved in a civil war."

Such is the account of this transaction given by Mr Knox; on the other hand, Mr Cunningham tells us, that "the same parliament (which had inquired into the Glenco affair) also had under their consideration a scheme for settling a trade and planting a colony in America, which proved afterwards an occasion of manifold evils, and was matter of great complaint both to the English and the Spaniards. The Scots, carrying on the settlement of the colony which has been just mentioned with extravagant parade, and noise, and subscriptions, filled not only England but all other

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Britain. countries also, with apprehensions lest Scotland should, in process of time, become the emporium of all the trade of Europe. But they never considered how few would trust their fortunes to the disposal of such a numerous nobility, nor calculated the frauds of their own managers: by which means the whole affair was afterwards ruined. Discords arising on this head between the two kingdoms, old hostilities were recalled to mind; the cattle were driven off from the borders; the customs were defrauded, and other injuries committed; and at last the Spaniards complained of the Scots. Therefore, to prevent the mischiefs which might arise to both kingdoms, the king had nothing so much at heart as to bring about an union upon as fair terms as he could," &c.

The total reduction of Ireland, and the dispersion and extermination of the Highland chieftains who favoured his cause, did not entirely put an end to the hopes of James. His chief expectations next were founded on a conspiracy among his English adherents, and in the succours promised him by the French king.

328 Plots in favour of James. A plot was first formed in Scotland by Sir James Montgomery; a person who, from being an adherent to William, now turned against him: but as the project was ill contrived, so it was as lightly discovered by the instigator. To this another succeeded, which seemed to threaten more serious consequences, as it was managed by the Whig party, who were the most formidable in the state. A number of these joined themselves to the Tories, and both made advances to the adherents of the late king. They assembled together; and the result of their deliberations was, that the restoration of James was to be effected entirely by foreign forces: that he should sail for Scotland, and be there joined by 5000 Swedes; who, because they were of the Protestant religion, would, it was thought, remove a part of the odium which attended an invasion by foreigners: it was concerted that assistance should at the same time be sent from France, and that full liberty of conscience should be proclaimed throughout the kingdom. In order to lose no time, it was resolved to send over to France two trusty persons to consult with the banished monarch; and Lord Preston and Mr Ashton were the two persons appointed for this embassy. Both of them, however, were seized, when they least expected it, by order of Lord Caermarthen. Both were condemned; and Ashton was executed without making any confession; but Lord Preston had not the same resolution. Upon an offer of pardon, he discovered a great number of associates; among whom the duke of Ormond, Lord Dartmouth, and Lord Clarendon, were foremost.

329 He is supported by the French. The French at last became sensible of their bad policy in not having better supported the cause of James, and therefore resolved to make a descent upon England in his favour. In pursuance of this scheme, the French king supplied James with an army consisting of a body of French troops, some English and Scots refugees, and the Irish regiments which had been transported into France from Limeric, and were now become excellent soldiers by long discipline and severe duty. This army was assembled between Cherbourg and La Hogue, and commanded by King James in person. More than 300 transports were provided for landing it on the opposite coast; and Tourville, the French admiral, at the head of 63 ships of the line, was appointed to favour the descent. His orders were, at all events, to attack the enemy, in case they should oppose him; so that every thing promised the banished king a change of fortune. Britain.

These preparations on the side of France were soon known at the English court, and every precaution taken for a vigorous opposition. All the secret machinations of the banished king's adherents were discovered to the English ministry by spies; and by these they found that the Tories were more faithful than even the Whigs who had placed King William on the throne. The duke of Marlborough, Lord Godolphin, and even the princess Anne herself, were violently suspected of disaffection. Preparations, however, were made with great tranquillity and resolution, to resist the growing storm. Admiral Russel was ordered to put to sea with all possible expedition; and he soon appeared with 99 ships of the line, besides frigates and fire-ships. At the head of this formidable fleet he set sail for the coast of France; and, near La Hogue, he discovered the enemy under Tourville, who prepared to give him battle. The engagement began between the two admirals with great fury, and the rest of the fleet soon followed their example. The battle lasted for ten hours; but at last victory declared on the side of numbers: the French fled for Conquet road, having lost four ships in the first day's action. The pursuit continued for two days following: three French ships of the line were destroyed the next day; and 18 more, which had taken refuge in the bay of La Hogue, were burnt by Sir George Rooke. In this manner were all the French preparations frustrated; and so decisive was the blow, that from this time France seemed to relinquish all claims to the ocean.

330 who are defeated.

This engagement, which happened on the 21st of May 1692, put a final period to the hopes of James. No further attempts were made in his favour, except some plots to assassinate King William, which ended only in the destruction of those who formed them. But it was never thoroughly proved that James countenanced these plots in the least; it rather appears, that in all cases he expressed the utmost abhorrence of such attempts. In 1697, the abbé de Polignac, ambassador from France in Poland, wrote to his master, that thoughts were entertained of the late king of Britain, in the new election which happened on the death of John Sobieski king of Poland; and that James had been already named by some of the diets as his successor. Louis was eager to seize an opportunity of ridding himself with honour of a prince whose pretensions he could no longer support. The friends of James were also sanguine for the project; but he himself refused it. He told them, that "he would ever retain a grateful remembrance of his friends in Poland. That, however, he would not accept of the crown, had it actually been offered; much less would he endeavour to obtain by solicitation any crown which was not actually his due. That his acceptance of any other sceptre would amount to an abdication indeed of that which he deemed his right. That therefore he was resolved to remain in his present forlorn condition, possessing less hopes than ever of being restored, rather than to do the least act of prejudice to his family." The same year, at an interview between King William and Louis

331 James offered the crown of Poland;

332 which he refuses.

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Britain.

Louis XIV. it was proposed that the prince of Wales (James's son) should succeed to the throne of England after the death of William. The king with little hesitation agreed to this request. He even solemnly engaged to procure the repeal of the act of settlement; and to declare, by another, the prince of Wales his successor to the throne. Even this proposal was rejected by James. He told the king of France, that though he could suffer with patience the usurpation of his nephew upon his right, he would never permit his own son to be guilty of the same injustice. He urged, that should the son reign in his father's lifetime, that circumstance would amount to a formal renunciation: that the prince of Wales, by succeeding to the prince of Orange, would yield his sole right, which was that of his father, &c.

333 William engages to own James's son for his own successor;

334 which James refuses.

335 His death.

From this time James lost every hope of being restored to the throne, and resigned himself entirely to the austerities of religious enthusiasm. His constitution, though vigorous and athletic, had for some time begun to yield to the infirmities of age, and to that melancholy which superstition as well as his uncommon misfortunes had impressed on his mind. In the beginning of September 1701, when he was, according to his daily custom, at public prayers, he fell suddenly into a lethargy; and though he recovered his senses soon after, he languished for some days, and expired on the 6th of September. The French king, with great humanity, paid him several visits during his sickness; and exhibited every symptom of compassion, affection, and even respect.

Louis, being under a difficulty how to proceed upon the unexpected death of James, called a council to take their advice, whether he should own the prince of Wales as king of Great Britain and Ireland. The king himself had hesitated long in this delicate point. But the dauphin, the duke of Burgundy, and all the princes of the blood, declared, that it was unbecoming the dignity of the crown of France not to own that the titles of the father devolved immediately upon the son. Louis approved of this resolution, and determined to acquaint the dying king with it in person. When he arrived at St Germains, he acquainted first the queen, and then her son, of his design. He then approached the bed in which James lay almost insensible with his disorder. The king, rousing himself, began to thank his most Christian majesty for all his favours; but Louis interrupted him. "Sir (said he), what I have done is but a small matter; but what I have to say is of the utmost importance." The people then began to retire. "Let no person withdraw (said Louis). I come to acquaint you, Sir, that when God shall please to call your majesty from this world, I shall take your family into my protection, and acknowledge your son, as he then will certainly be, king of Great Britain and Ireland."

336 Pretender owned by Louis to be the king of Britain.

Though the defeat of the French fleet at La Hogue had put King William out of all danger from any further attempt from that quarter, he by no means possessed his throne with any kind of tranquillity. The want of a common enemy produced dissensions among the people, and William began to find as much uneasiness from his parliament at home as from an enemy in the field. The uneasiness he felt from the refractory disposition of his subjects was not a little heightened by the death of his queen, who was taken off by the smallpox on the 28th of December 1694. For some time he was under a sincere concern for her loss; but as politics had taken entire possession of his mind, he lost all other concerns in the greatness of his apprehensions for the balance of power and the fluctuating interests of Europe.

Britain.

337 Death of Queen Mary.

His chief motive for accepting the crown was to engage England more deeply in the concerns of Europe. His great object had been to humble the French, and all his politics consisted in forming alliances against them. On the other hand, many of the English had no such animosity against the French: and these, therefore, considered the interest of the nation as sacrificed to foreign connexions; and complained that the continental war fell most heavily on them, though they had the least interest in its success. These complaints were heard by William with the most phlegmatic indifference; he employed all his attention only on the balance of power, and the interests of Europe. He became unmindful of the cultivation of internal polity, and, as he formed alliances abroad, increased the influence of party at home. Patriotism began to be ridiculed as an ideal virtue; and the practice of bribing a majority in parliament became universal. The example of the great was caught up by the vulgar; principle, and even decency, was gradually banished; talents lay uncultivated, and the ignorant and profligate were received into favour.

338 National discontent.

The king, upon accepting the crown, was resolved to preserve as much of the prerogative as possible; and he sometimes exerted a branch of it which his predecessors had never chosen to make use of, viz. the power of refusing his assent to some bills that had passed both houses. From this and other causes there were perpetual bickerings between him and his parliaments. At last William became fatigued with opposition. He admitted every restraint upon the prerogative in England, upon condition of being properly supplied with the means of humbling France. Provided the parliament supplied him with the means of executing this, he permitted them to rule the internal polity as they pleased. For the prosecution of the French war, the sums granted were indeed incredible. The nation, not contented with furnishing him such sums of money as they were capable of raising by the taxes of the year, mortgaged those taxes, and involved themselves in debts which they have never since been able to discharge.

The war with France continued during the greatest part of this king's reign; but at length the treaty of Ryswick, in 1697, put an end to those contentions in which England had engaged without policy, and came off at last without advantage. In the general pacification, her interests seemed entirely deserted; and for all the treasures she had sent to the continent, and all the blood which had been shed there, the only equivalent received was an acknowledgment of William's title from the king of France.

339 William obliged to disband his forces.

The king, being now freed from a foreign war, set himself to strengthen his authority at home. As he could not bear the thoughts of being a king without military command, he conceived hopes of keeping up, in the time of a profound peace, those forces which had been granted during the time of danger. The commons, however, to his great mortification, passed a vote, that

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Britain. that all the forces in the English pay, exceeding 7000 men, should be forthwith disbanded; and that those retained should be natural-born subjects of England. With this vote the king was exceedingly displeased. His indignation, indeed was kindled to such a degree, that he actually conceived a design of abandoning the government. From this, however, his ministers diverted him, and persuaded him to consent to the passing of the bill.

These altercations continued during the remainder of this reign. William considered the commons as a body of men desirous of power for themselves, and consequently bent upon obstructing all his projects to secure the liberties of Europe. He seemed but little attached to any particular party in the house, all of whom he found at times deserted or opposed him. He therefore veered to Whigs and Tories indiscriminately, as interest or the immediate exigence demanded. He considered England as a place of labour, anxiety, and altercation. If he had any time for amusement or relaxation, he retired to Loo in Holland, where, among a few friends, he gave a loose to those coarse festivities which alone he was capable of relishing. Here he planned the different succession of the princes of Europe, and laboured to undermine the schemes and the power of Louis his rival in politics and fame.

340 He engages Britain in a confederacy against France.

But however feeble William's desire of other amusements might be, he scarce could live without being at variance with France. Peace had scarce been made with that nation, when he began to think of resources for carrying on a new war, and for enlisting his English subjects in the confederacy against that nation. Several arts were used for inducing the people to second his aims; and the whole nation seemed at last to join in desiring a French war. He had been in Holland concerting with his allies operations for a new campaign. He had engaged in a negociation with the prince of Hesse; who assured him, that if he would besiege and take Cadiz, the admiral of Castile and several other grandees of Spain would declare for the house of Austria. The elector of Hanover had resolved to concur in the same measures; the king of the Romans, and Prince Louis of Baden, undertook to invest Landau, while the emperor promised to send a powerful reinforcement into Italy: but death put a period to his projects and his ambition.

341 His death.

William was naturally of a very feeble constitution; and it was by this time almost quite exhausted by a series of continual disquietude and action. He had endeavoured to repair his constitution, or at least to conceal its decays, by exercise and riding. On the 21st of February 1702, in riding to Hampton-court from Kensington, his horse fell under him; and he was thrown with such violence, that his collar-bone was fractured. His attendants conveyed him to the palace at Hampton-court, where the fracture was reduced; and in the evening he returned to Kensington in his coach. The jolting of the carriage disunited the fracture; and the bones were again replaced by Bidloo his physician. This, in a robust constitution, would have been a trifling misfortune; but to him it was fatal. For some time he appeared in a fair way of recovery; but falling asleep on his couch, was seized with a shivering, which terminated in a fever and diarrhœa, that soon became dangerous and desperate. Perceiving his end approaching, the objects of his former care lay next his heart; and the fate of Europe seemed to remove the sensations he might be supposed to feel for his own. The earl of Albemarle arriving from Holland, he conferred with him in private on the posture of affairs abroad. Two days after, having received the sacrament from Archbishop Tennison, he expired on Sunday March 8th; having lived 52 years, and reigned 13.—He was in his person of a middle stature, a thin body, and a delicate constitution. He had an aquiline nose, sparkling eyes, a large forehead, and a grave solemn aspect. He left behind him the character of a great politician, though he had never been popular; and of a formidable general, though he had been seldom victorious. His deportment was grave, phlegmatic, and sullen; nor did he ever show any fire but in the day of battle. Britain.

Cunningham says, that "at the very last moment, when his mind was otherwise oppressed, he retained a just sense of the redemption of mankind, and the remembrance of his good subjects. Thus he lay so quietly and composed, with his eyes fixed upon heaven, when his speech failed him, that no man could die either better prepared, or with greater constancy and piety, than this prince; of whose just praises no tongue shall be silent, and no time unmindful. And if any king be ambitious of regulating his councils and actions by the bright examples of the most famous great men, he may form to himself the idea of a great prince and a grand empire, not only from the king's life, but from the public records of the English and Dutch nations."

342 Accession of Queen Anne.

William was succeeded by the princess Anne, who had married George prince of Denmark. She ascended the throne in the 38th year of her age, to the general satisfaction of all parties. William had died at the eve of a war with France: and the present queen, who generally took the advice of her ministry on every important occasion, was now urged by opposite councils; a part of her ministry being inclined to war and another to peace. At the head of those who opposed a war with France was the earl of Rochester, lord lieutenant of Ireland, first cousin to the queen, and the chief of the Tory faction. At the head of the opposite party was the earl afterwards duke of Marlborough, and since so much renowned for his victories over the French. After giving the reasons for both their opinions, that of Marlborough preponderated: the queen resolved to declare war: and communicating her intentions to the house of commons, by whom it was approved, war was proclaimed accordingly. In this declaration of war, Louis was taxed with having taken possession of a great part of the Spanish dominions; with designing to invade the liberties of Europe, to obstruct the freedom of navigation and commerce; and with having offered an unpardonable insult to the queen and her throne, by acknowledging the title of the Pretender: he was accused of attempting to unite the crown of Spain to his own dominions, by placing his grandson upon the throne of that kingdom, and thus of endeavouring to destroy the equality of power that subsisted among the states of Europe. This declaration of war on the part of England was seconded by similar declarations by the Dutch and Germans, all on the same day.

343 War declared against France.

Louis XIV. whose power had been greatly circumscribed

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scribed by William, expected on the death of the latter to enter on a field open for new conquests and fame. At the news of the English monarch's death, therefore, he could not suppress his rapture; the people of Paris, and indeed through the whole kingdom, testified their joy in the most public manner. At seeing, therefore, such a combination against him, the French monarch was filled with indignation; but his resentment fell chiefly on the Dutch. He declared with great emotion that as for those gentlemen pedlars the Dutch, they should one day repent their insolence and presumption in declaring war against him whose power they had formerly felt and dreaded. By these threats, however, the affairs of the allies were no way influenced. Marlborough was appointed general of the British forces, and by the Dutch he was chosen generalissimo of the allied army; and indeed his after conduct showed, that no person could possibly have been chosen with greater propriety. He had learned the first rudiments of war under the famous Marshal Turenne, having been a volunteer in his army; and by that general his future greatness was prognosticated.

344 Duke of Marlborough appointed general.

The first attempt that Marlborough made to deviate from the general practices of the army was to advance the subaltern officers, whose merits had been hitherto neglected. Regardless of seniority, wherever he found abilities he was sure to promote them; and thus he had all the upper ranks of commanders rather remarkable for their skill and talents than for their age and experience. In his first campaign, in the beginning of July 1702, he repaired to the camp at Nimeguen, where he found himself at the head of 60,000 men well provided with all necessaries, and long disciplined by the best officers of the age. He was opposed on the part of France by the duke of Burgundy, a youth of very little experience in the art of war; but the real acting general was the marshal Boufflers, an officer of courage and activity. But wherever Marlborough advanced, the French were obliged to retire before him, leaving all Spanish Guelderland at his discretion. The duke of Burgundy finding himself obliged to retreat before the allied army, rather than expose himself longer to such a mortifying indignity, returned to Versailles, leaving Boufflers to command alone. Boufflers retired to Brabant: and Marlborough ended the campaign by taking the city of Liege; in which was found an immense sum of money and a vast number of prisoners.

345 His success in his first campaign.

346 Losses at sea.

This good fortune seemed to console the nation for some unsuccessful expeditions at sea. Sir John Munden had permitted a French squadron of 14 ships to escape him by taking shelter in the harbour of Corunna; for which he was dismissed the service by Prince George. An attempt was made upon Cadiz by sea and land, Sir George Rooke commanding the navy, and the duke of Ormond the land forces; but this also miscarried. At Vigo, however, the British arms were attended with better success. The duke of Ormond landed with 2500 men at the distance of six miles from the city, while the fleet forcing their way into the harbour, the French fleet that had taken refuge there were burned by the enemy to prevent their falling into the hands of the English. Eight ships were thus burned and run ashore; but ten ships of war were taken, together with eleven galleons, and above a million of money in silver. In the West Indies, Admiral Benbow had been stationed with ten ships to distress the enemy's trade. Being informed that Du Casse the French admiral was in those seas with a force equal to his own, he resolved to attack him; and soon after discovered the enemy's squadron near St Martha steering along the shore. He quickly gave orders to his captains, formed the line of battle, and the engagement began. He found, however, that the rest of the fleet had taken some disgust at his conduct; and they permitted him to sustain, almost alone, the whole fire of the enemy. Nevertheless, the engagement continued till night, and he determined to renew it next morning. But he had the mortification to perceive that all the rest of his ships had fallen back except one, who joined him in urging the pursuit of the enemy. Four days this intrepid seaman, assisted by only one ship, pursued and engaged the enemy, while his cowardly officers remained at a distance behind. His last day's battle was more furious than any of the former: alone, and unsupported by any of the rest, he engaged the whole French squadron; when his leg was shattered by a cannon-ball, and he himself died soon after of his wounds. Two of his cowardly associates were shot on their arrival in England; one died on his passage thither; the rest were disgraced.

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347 Bravery and death of Admiral Benbow.

The next parliament, which was convened by the queen, was highly pleased with the success of the British arms on the continent. The house of commons was composed chiefly of Tories, who voted 40,000 seamen, and the like number of land forces, to act in conjunction with those of the allies. Soon after, the queen informed her parliament, that she was pressed by the allies to augment her forces; and upon this it was resolved that 10,000 more men should be added to the continental army, but on condition that the Dutch should immediately break off all commerce with France and Spain; a condition which was very readily complied with.

348 Continental army increased.

In the beginning of April 1703, the duke of Marlborough crossed the sea, and assembling the allied army, opened the campaign with the siege of Bonn, the residence of the elector of Cologne. This held out but a short time. He next retook Huy; the garrison of which, after a vigorous defence, surrendered prisoners of war. Limburgh was next besieged, and surrendered in two days; and thus the campaign concluded, the allies having secured the country of Liege and the electorate of Cologne from the designs of the enemy.

349 Success of Marlborough.

In the campaign of 1704, the duke of Marlborough informed the Dutch that it was his intention to march to the relief of the empire, which had been for some time oppressed by the French forces; and the States gave him full powers to march as he thought proper, with assurances of their assistance in all his endeavours. The French king, finding Boufflers no longer capable of opposing Marlborough, appointed the marshal de Villeroy to command in his place. But Marlborough, who, like Hannibal of old, was remarkable for studying the disposition of his antagonists, having no great fears from Villeroy, immediately flew to the assistance of the emperor. Taking with him about 13,000 British troops, he advanced by hasty marches to the banks of the Danube; he defeated a body of French and Bavarians stationed at Donawert to oppose him; then passed the river, and laid under contribution the dukedom of

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of Bavaria which had sided with the enemy. Villeroy, who at first attempted to follow his motions, seemed all at once to have lost sight of his enemy; nor was he apprised of his route till informed of his successes. But, in the mean time, Marshal Tallard prepared by another route to obstruct Marlborough's retreat with an army of 30,000 men. He was soon after joined by the duke of Bavaria's forces; so that the French army in that part of the continent amounted to 60,000 veterans, commanded by the two best reputed generals then in France.

350 French defeated at Blenheim.

To oppose these powerful generals, the duke of Marlborough was joined by a body of 30,000 men under the celebrated Prince Eugene. The allied army, with this reinforcement, amounted to about 52,000. After various marches and countermarches, the two armies met at Blenheim*. A terrible engagement ensued, in which the French were entirely defeated, and a country of 100 leagues extent fell into the hands of the conquerors. Soon after finishing the campaign, the duke repaired to Berlin, where he procured a reinforcement of 8000 Prussians to serve under Prince Eugene in Italy. Thence he proceeded to negociate for succours at the court of Hanover; and soon after returned to England, where he was received with every possible demonstration of joy.

* See *Blenheim.*

351 Gibraltar taken.

The arms of Britain, in the mean time, were not less fortunate by sea than by land. The town of Gibraltar was taken by the prince of Hesse and Sir George Rooke: but so little was the value of the conquest at that time understood, that it was for some time in debate whether it was a capture worth thanking the admiral for; and at last it was considered as unworthy of public gratitude. Soon after, the British fleet, to the number of 53 ships of the line, came up with that of France, consisting of 52 men of war, commanded by the count de Thoulouse, off the coast of Malaga. This was the last great naval engagement in which the French ventured to face the British on equal terms. The battle began at ten in the forenoon, and continued with great fury for six hours; when the van of the French began to give way. The British admiral for two days attempted to renew the engagement; but this was as cautiously declined by the French, who at last disappeared totally. Both sides claimed the victory, but the consequence decided it in favour of the British.

352 French defeated at sea.

353 Ineffectual attempt of the Spaniards on Gibraltar.

In the mean time, the Spaniards, alarmed at the taking of Gibraltar, sent the marquis of Villadurias with a large army to retake it. France also sent a fleet of 13 ships of the line: but part of them were dispersed by a tempest, and part taken by the British. Nor was the land army more successful. The siege continued for four months; during which time the prince of Hesse, who commanded the town for the English, gave many proofs of valour. At length, the Spaniards having attempted to scale the rock in vain, finding no hopes of taking the place, were contented to draw off their men and abandon the enterprise.

354 Charles appointed king of Spain.

While the British were thus victorious by land and sea, a new scene of contention was opened on the side of Spain. Philip V. grandson of Louis XIV. had been placed on the throne of that kingdom, and received with the joyful concurrence of the greatest part of his subjects. He had also been nominated successor to the crown by the late king of Spain's will. But in a former treaty among the powers of Europe, Charles, son of the emperor of Germany, was appointed heir to that crown; and this treaty had been guaranteed by France herself, though she now resolved to reverse that consent in favour of a descendant of the house of Bourbon. Charles was still farther led on to put in for the crown of Spain, by the invitation of the Catalonians, who declared in his favour; and with the assistance of the British and Portuguese, promised to arm in his cause. Upon his way to his newly assumed dominions, he landed in England; where he was received on shore by the dukes of Somerset and Marlborough, who conducted him to Windsor. He was kindly received by the queen; and furnished with 200 transports, 30 ships of war, and 9000 men, for the conquest of that extensive empire. The earl of Peterborough, a man of romantic bravery, offered to conduct them; and his single service was reckoned equivalent to armies.

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355 He is supported by Queen Anne.

356 Barcelona taken.

The first attempt of this general was on the city of Barcelona, at that time defended by a garrison of 5000 men. The fort Monjuc, situated on a hill that commanded the city, was attacked; the outworks were taken by storm, and the powder magazine was blown up by a shell; upon which the fort immediately surrendered, and the city capitulated in a short time after. The conquest of all Valencia succeeded the taking of Barcelona. Charles became master of Arragon, Carthagena, Granada, and Madrid. The British general entered the capital in triumph, and there proclaimed Charles king of Spain without opposition.

357 French defeated at Ramillies.

To these successes, however, very little regard was paid in Britain. The victories of the duke of Marlborough alone engrossed their attention. In 1706, he opened the campaign with an army of 80,000 men. He was met by the French under Villeroy near the village of Ramillies*. An engagement ensued, in which the duke gained a victory almost as complete as that of Blenheim had been; and the whole country of Brabant was the reward of the victors. The French troops were now dispirited; the city of Paris was in confusion; Louis, who had long been flattered with conquest, was now humbled to such a degree as almost to excite the compassion of his enemies. He intreated for peace, but in vain; the allies carried all before them; and his very capital began to dread the approach of the conquerors. But what neither his armies nor his politics could effect, was brought about by a party in England. The dissension between the Whigs and Tories saved France, that now seemed tottering on the brink of ruin.

* See *Ramillies.*

358 Louis sues in vain for peace.

359 Revolution in the councils of Queen Anne.

The councils of the queen had hitherto been governed by a Whig ministry; for though the duke of Marlborough started in the interest of the opposite party, he soon joined the Whigs, as he found them most sincere in the design of humbling France. The people, however, were now in fact beginning to change, and a general spirit of toryism to take place. The queen's personal virtues, her successes, her deference for the clergy, and their great veneration for her, began to have a prevailing influence over the whole nation. People of every rank were not ashamed to defend the most servile tenets, when they tended to flatter or increase the power of the sovereign. They argued in favour of strict hereditary succession, divine right, and non-resistance to the regal power. The Tories, though joining in vigorous

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vigorous measures against France, were never ardently their enemies: they rather secretly hated the Dutch, as of principles very opposite to their own; and longed for an opportunity of withdrawing from their friendship. They began to meditate schemes of opposition to the duke of Marlborough. Him they considered as a self-interested man, who sacrificed the real advantages of the nation, in protracting a ruinous war for his own private emolument and glory. They saw their country oppressed with an increasing load of taxes, which by a continuance of the war must inevitably become an intolerable burden. Their discontent began to spread, and the Tories wanted only a few determined leaders to assist them in removing the present ministry.

360 English defeated at Almanza.

In the mean time, a succession of losses began to dissipate the conquering frenzy that had seized the nation in general, and to incline them to wish for peace. The earl of Galway, who commanded the army in Spain, was utterly defeated at Almanza* by the duke of Berwick; and in consequence of this victory, all Spain, except the province of Catalonia, returned to their duty to Philip their lawful sovereign. An attempt was made upon Toulon, by the duke of Savoy and Prince Eugene by land, and an English fleet by sea; but to no purpose. The fleet under Sir Cloudsley Shovel, having set sail for England, was driven by a violent storm on the rocks of Scilly. His own ship was lost, and every person on board perished. Three more ships met with the same fate; while three or four others were saved with the utmost difficulty. In Germany, Marshal Villars the French general carried all before him, and was upon the point of restoring the elector of Bavaria. The only hopes of the people lay in the activity and conduct of the duke of Marlborough, who opened the campaign of 1707, about the middle of May; but even here they were disappointed. The duke declined an engagement; and after several marchings and countermarchings, both armies retired into winter quarters about the end of October. The French made vigorous preparations for the next campaign; and the duke returned to England to meet with a reception he did not at all expect, and which, as far as appears, he did not deserve.

* See Almanza.

361 Shipwreck of Sir Cloudsley Shovel.

362 Union between Scotland and England.

The most remarkable transaction, however, of this year, and indeed of this whole reign, was the union between the two kingdoms of Scotland and England. Though governed by one sovereign since the time of James I. of England, yet each nation continued to be ruled by its respective parliament; and often professed to pursue opposite interests to those of its neighbour. The union had often been unsuccessfully attempted before, and had indeed been the cause of the bloody wars in the time of Edward I. and III. of England. In all the former proposals on that head, both nations were supposed to remain free and independent; each kingdom having its own parliament, and subject only to such taxes and other commercial regulations as those parliaments should judge expedient for the benefit of their respective states. After the destruction of the Darien colony, in the manner already related, King William had endeavoured to allay the national ferment by resuming the affair of an union with as much assiduity as his warlike disposition would allow. The terms proposed were the same with those formerly held out, viz. a federal union, somewhat like that of the states of Holland. With this view the Scots were prevailed on to send 20 commissioners to London; who, with 23 on the part of England, met at Whitehall in the month of October 1702. Here they were honoured with a visit from the queen, in order to enliven their proceedings and stimulate them to a more speedy dispatch of business: but the treaty was entirely broken off at this time by the Scotish commissioners insisting, that the rights and privileges of their countrymen trading to Africa and the Indies should be preserved and maintained. It was, however, resumed in the year 1706, when the commissioners again met on the 16th of April, in the council-chamber of Whitehall. The Scotish commissioners still proposed a federal union; but the English were determined on an incorporation, which should not afterwards be dissolved by a Scotish parliament. Nothing but this, they said, could settle a perfect and lasting friendship betwixt the two nations. The commissioners from Scotland, however, still continued to resist that article which subjected their country to the same customs, excises, and regulations of trade as England; but the queen being persuaded to pay two visits in person to the commissioners, exerted herself so vigorously, that a majority was at last gained over; and all the rest yielded, though with reluctance, excepting Lockhart of Carnwath, who could not by any means be persuaded either to sign or seal the treaty.

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363 The articles most violently opposed in Scotland.

The articles being fully prepared on the 22d of July, they were presented next day to her majesty by the lord-keeper, in the name of the English commissioners; at the same time that a sealed copy of the instrument was likewise delivered by the lord-chancellor of Scotland. They were most graciously received; and the same day the queen dictated an order of council, threatening with prosecution such as should be concerned in any discourse or libel, or in laying wagers with regard to the union. Notwithstanding all this harmony, however, the treaty was received with the utmost disapprobation in Scotland. The terms had been carefully concealed, so that nothing transpired till the whole was at once laid before parliament. The ferment was then so general, that all ranks of people, however divided in other respects, united against this detested treaty. The nobility and gentry were exasperated at the annihilation of parliament, and the consequent loss of their influence and credit. The body of the people cried out, that the independence of the nation was sacrificed to treachery and corruption. They insisted that the obligations laid on their members to stay so long at London, in their attendance on the British parliament, would drain the country of its money, impoverish the members themselves, and subject them to the temptation of being corrupted. Nor was the commercial part of the people better satisfied. The dissolution of the India Company, the taxes laid on the necessaries of life, the vast number of duties, customs, and restrictions, laid upon trade, were all of them matter of complaint. Before this time the trade of Scotland had been open to the Levant, the Baltic, France, Spain, Portugal, Holland, and the Dutch plantations; and it seemed difficult to conceive how the commerce of the country could be advanced by laying restrictions upon it to these places, especially as the compensation allowed, viz. the privilege of trading to the English plantations

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Britain. plantations in America, must have been a very trifling advantage, when the amount of the whole exports to these places did not near equal the expence of defending them. The most violent disputes took place in the parliament. The lord Belhaven made a most pathetic speech, enumerating the miseries that would attend this treaty; which drew tears from the audience, and to this day is reckoned prophetic by many of the Scotish nation. Almost every article of the treaty was the subject of a protest; addresses against it were presented to parliament by the convention of royal boroughs, the commissioners of the general assembly, the company trading to Africa and the Indies, as well as from shires, stewartries, boroughs, towns, and parishes, without distinction of Whig, Tory, Presbyterian, or Episcopal.

Nor was the resentment of the common people without doors less than that of the members within. A coalition was formed betwixt the Presbyterians and Cavaliers: and to such a height did the resentment of the people arrive, that they chose officers, formed themselves into regiments, provided horses and ammunition, burnt the articles of union, justified their conduct by a public declaration, and resolved to take the route to Edinburgh and dissolve the parliament.

In the mean time, the privy council issued a proclamation against riots, commanding all persons to retire from the streets whenever the drum should beat; ordering the guards to fire on those who should disobey this command, and indemnifying them from all prosecution for maiming or slaying the lieges. Even these precautions were insufficient. The duke of Queensberry, the chief promoter of the union, though guarded by double lines of horse and foot, was obliged to pass through the streets at full gallop, amidst the curses and imprecations of the people, who pelted his guards, and even wounded some of his friends who attended him in the coach. In opposition to all this fury, the duke of Queensberry and others attached to the union magnified the advantages that would accrue to the kingdom from the union; they took off the resentment of the clergy, by promoting an act to be inserted in the treaty, by which the Presbyterian discipline was to be the only government of the church of Scotland, unalterable in all succeeding times, and a fundamental article of the union. Emissaries were employed to disunite the Cameronians from the Cavaliers, by demonstrating the absurdity, sinfulness, and danger, of such a proceeding. The India Company was flattered with the prospect of being indemnified for the losses they had sustained, and individuals by sharing an equivalent. Their last manœuvre was to bring over a party in the Scots parliament, nicknamed the *Squadrone Volante*, from their fluctuating between ministry and opposition, without attaching themselves to any party till the critical moment, which was either to cement both kingdoms by a firm union, or involve them in the calamities of war. By this unexpected stroke, the ministry obtained a decisive victory, and all opposition was vain. The articles of treaty were ratified by parliament, with some trifling variations, on the 25th of March 1707; when the duke of Queensberry finally dissolved that ancient assembly, and Scotland ceased to be a separate independent kingdom.

On the conclusion of the treaty, the queen informed both houses of the English parliament, that the treaty of union, with some additions and alterations, was ratified by an act of the parliament of Scotland: that she had ordered it to be laid before them, and hoped it would meet their approbation. She observed, that they had now an opportunity of putting the last hand to a happy union of the two kingdoms: and that she should look upon it as a particular happiness if this great work, so often attempted before without success, could be brought to perfection in her reign. Objections, however, were started by the Tory party; but they were at that time too weak to be heard with any attention. Sir John Parkington compared the new treaty to the marriage of a woman without her consent. It was an union carried on by corruption and bribery within doors, and by force and violence without. The promoters of it had basely betrayed their trust, by giving up their independent constitution: and he would leave it to the judgement of the house, whether or not men of such principles were fit to be admitted into their house of representatives. Lord Haversham, in the upper-house, said, the question was, Whether two nations, independent in their sovereignties, that had their distinct laws and interests, different forms of worship, church-government and order, should be united into one kingdom? He supposed it an union made up of so many incongruous ingredients, that should it ever take effect, it would require a standing power and force to keep them from falling asunder, and breaking in pieces, every moment. Above an hundred Scotish peers, and as many commoners, he said, were excluded from sitting and voting in parliament, though they had as much right to sit there as any English peer had to sit and vote in the parliament of England. The union, he said, was contrary to the sense of the Scotish nation: the murmurs of the people had been so loud as to fill the whole kingdom, and had reached even the doors of parliament. That the government had issued a proclamation, pardoning all slaughter, bloodshed, and maiming, committed upon those who should be found in tumults; and from all these circumstances he concluded, that the people of Scotland were averse to an incorporating union, which, he supposed, would be a most dangerous expedient to both nations. All these arguments, however, were answered by those of the opposite party with such success, that the union was unalterably completed on the first of May 1707; and the island took the name of "The United Kingdom of Great Britain." The queen expressed the highest satisfaction when it received the royal assent, and said, "She did not doubt but it would be remembered and spoken of hereafter, to the honour of those who had been instrumental in bringing it to such a happy conclusion. She desired that her subjects of both kingdoms should from henceforward behave with all possible respect and kindness towards one another; that so it might appear to all the world they had hearts disposed to become one people." The first of May was appointed a day of public thanksgiving; and congratulatory addresses were sent up from all parts of England, excepting the university of Oxford. The Scots, however, were totally silent on the occasion.

In this treaty, it must be observed, that the commissioners on the part of England were not only able statesmen,

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statesmen, but, for the most part, well skilled in trade, which gave them an evident advantage over those of Scotland, who consisted of lords and gentlemen who had no commercial knowledge. Hence they were overmatched by the former in the great objects which were to give the turn to national prosperity; though they were very careful to preserve all their heritable offices, superiorities, jurisdictions, and other privileges and trappings of the feudal aristocracy. Had the English commissioners made a liberal use of the advantages afforded them at this time, it would have been in their power greatly to have enriched themselves as well as the inhabitants of Scotland; "but instead of this (says Mr Knox), in negociating with a ruined kingdom, they were influenced by the then narrow short-sighted principle of commercial monopoly; and the consequences were such as might, with a small degree of reflection, have been foreseen. Instead of a solid compact, affording upon the whole, reciprocal advantages, and which it would have been the inclination as well as interest of both nations to preserve inviolate, the concessions on the part of Scotland, and the restrictions on their trade, were so quickly and severely felt, that about the sixth year after the ratification of the treaty, the sixteen peers who first represented Scotland in the upper-house, though most of them had been the supporters of administration in promoting the union, unanimously moved for its dissolution. The motion was followed by a violent debate, in which, however, the Scottish peers were at last overruled, and thenceforth the nation submitted reluctantly to its fate. The metropolis, having no manufactures, now beheld itself deprived of its only support by the translation of the parliament to London. The trading towns pined under the duties and restrictions on their commerce; the whole kingdom, after so many fatal disasters, seemed completely ruined beyond recovery, and all degrees of men sunk under the weight of these complicated misfortunes. The first fruits of the treaty in Scotland were a board of customs and another of excise, the appointment of commissioners, collectors, &c. with other necessary officers, who were immediately distributed over the several seaports and districts of the nation. In many parts they were roughly used, particularly the excise officers; and in the Orkneys, the officers were so frightened by the country people, that for some time the business was obliged to be postponed."

364 The union at first disadvantageous to Scotland.

365 Dissolution of the Scots privy council.

In 1708, there was a warm debate in the grand committee of the house of lords, occasioned by a bill passed by the commons for rendering the union of the two kingdoms more entire and complete, whereby it was enacted, that, "from the first of May 1708, there should be but one privy council in the kingdom of Britain."—Of this affair Mr Cunningham gives a particular account, and informs us that he himself had a hand in the affair, and that he had "from his youth borne a just hate to the privy council of Scotland." The arguments for the dissolution were its enormous stretches of power and acts of cruelty; that it could now be of no other use in Scotland than that the court might thereby govern every thing at pleasure, and procure such members of parliament as they thought proper; against which both Scots and English ought now carefully to guard themselves. On the other hand, it was argued, that the abuse of the power complained of was no argument for the entire dissolution of the council, though it was for a restriction and limitation of it; that it was necessary that a privy council should remain in Scotland, out of regard to the ancient customs of the country, and to restrain the rage of the people, which was then ready to break out beyond all bounds. The dissolution, however, was carried by 50 against 40; after which the nation being deprived of this last fragment of their ancient government, the opposers of the union raised the animosities of the people to a dangerous height; but the ferment abated after an ineffectual attempt in favour of the Pretender.

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366 French defeated at Oudenarde,

We must now return to the duke of Marlborough, who had gone over to Flanders, where he seemed resolved to push his good fortune. Peace had been offered more than once; treaties entered upon, and as often frustrated. After the battle of Ramillies, the king of France had employed the elector of Bavaria to write letters in his name to the duke of Marlborough, containing proposals for opening a congress. He offered to give up either Spain and its dominions, or the kingdoms of Naples and Sicily, to Charles of Austria, and to give a barrier to the Dutch in the Netherlands. But these terms were rejected. The two armies once more met in numbers nearly equal at * Oudenarde (A). An engagement ensued, in which the French were defeated, and Lisle (B) the strongest town in Flanders, Ghent, Bruges, and all the other towns in that country, soon after fell into the hands of the victors. The campaign ended with fixing a barrier to the Dutch provinces, and it now only remained to force a way into the provinces of the enemy.

* See Oudenarde.

The French king being now in a manner reduced to despair, again sued for peace; but the demands of the allies were so high, that he was obliged to reject them, and

(A) In this engagement the electoral prince of Hanover, afterwards George II. of Britain, greatly distinguished himself, and gained the whole glory of the first attack. In the engagement his horse was killed under him, and Colonel Luschki close by his side. "On that day (says Cunningham) this excellent young prince discovered such courage as no man living ought to forget, and as all posterity will never surpass."

(B) At the siege of Lisle, Cunningham relates the following anecdote of the magnanimity of a common soldier. "This man had the good fortune to take prisoner Major-general Colbert, brother to the marquis de Torcy. The prisoner, greatly taken with the clemency, humanity, and good behaviour of the soldier, offered him 200 louis d'ors, and a captain's post for life, if he would give him his liberty. The soldier, however, resisted the temptation, alleging the dishonour that would attend such conduct; and asking him at the same time, how, when raised to the rank of a captain, he could look his general in the face for whom he had fought for so many years? —This instance of fidelity weighed so much with Prince Eugene and the duke of Marlborough, that the former made him a present, and the latter gave him a captain's commission."

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Britain. and prepare for another campaign. This was in the year 1709. The first attempt of the allies was on the city of Tournay, garrisoned by 12,000 men, and exceedingly strong both by nature and art. After a terrible siege of 21 days, the town capitulated; and a month afterwards the citadel, which was still stronger than the town. Next followed the bloody battle of Malplaquet †; where the allied army, consisting of 110,000 men, attacked the French consisting of 120,000, strongly posted, and fortified in such a manner that they seemed quite inaccessible. Nothing, however, was able to stand before the allied army; they drove the French from their fortifications: but their victory cost them dear; 20,000 of their best troops lay dead on the field of battle (c). The consequence of this victory was the surrender of the city of Mons, which ended the campaign.

† See *Malplaquet.*

367 and at Malplaquet.

368 Last campaign of the duke of Marlborough.

The last campaign of the duke of Marlborough, which happened in the year 1711, is said to have excelled all his former exploits. He was opposed by the marshal Villars, the same who had commanded the French in the battle of Malplaquet. He contrived his measures so, that, by marching and countermarching, he induced the enemy to quit a strong line of intrenchments without striking a blow, which he came afterwards and took possession of. This enterprise was followed by the taking of Bouchain, which was the last military achievement of this great general. By a continuance of conduct and success almost unparalleled, he had gained to the allies a prodigious tract of country. From the beginning of the war, which had now continued nine years, he had perpetually advanced, and never retreated before his enemies, nor lost an advantage he had obtained over them. He most frequently gained the enemy's posts without fighting; but where he was obliged to attack, no fortifications were able to resist him. He had never besieged a city which he did not take, nor engaged in a battle in which he did not come off victorious. Thus the allies had reduced under their command Spanish Guelderland, Limbourg, Brabant, Flanders, and Hainault; they were masters of the Scarpe; the capture of Bouchain had opened for them a way into the heart of France, and another campaign might have made them masters of Paris: but on the duke's return from this campaign, he was accused of having taken a bribe of 6000l. a-year from a Jew who had contracted to supply the army with bread; and the queen thought proper to dismiss him from all his employments.

369 His excellent conduct.

370 He is dismissed from all his employments.

On the removal of this great general, the command of the British forces was given to the duke of Ormond. The transactions which followed, as represented by Mr Cunningham, are by no means favourable to the character of the British nation. He represents the people at large as blinded by a headstrong and furious clergy, who wished to revive the absurdities of the Romish religion, and to unite the English and Gallican churches; the general of the army acting a most insidious part, by giving the enemy intelligence of the designs of the allies before he declared that he was not to act in concert with them; and the queen herself, as commanding him to act such a shameful part, may as acting in a similar manner herself. Prince Eugene complained much of the inactivity of the English general, though he seemed to be unacquainted with his treachery; while the whole army loaded him with execrations, calling him "a stupid tool, and a general of straw." All this, however, was in vain; the duke continued to prefer the commands of his sovereign to every other consideration. Britain.

The disgrace of the duke of Marlborough had been owing to the prevalence of the Tory party, who had now got the Whig ministry turned out; the consequence of this was, that in spite of all the remonstrances, memorials, &c. of the allies, the British army in Flanders was ordered not to act offensively. Hence the operations languished, a considerably body of the allies was cut off at Denain, and the French retook some towns. A peace was at last concluded in 1713 between France and Britain. In this treaty it was stipulated, that Philip, now acknowledged king of Spain, should renounce all right to the crown of France, the union of two such powerful kingdoms being thought dangerous to the liberties of Europe. It was agreed, that the duke of Berry, Philip's brother, and after him in succession, should also renounce his right to the crown of Spain, in case he became king of France. It was stipulated, that the duke of Savoy should possess the island of Sicily with the title of *king*; together with Fenestrelles, and other places on the continent; which increase of dominion was in some measure made out of the spoils of the French monarchy. The Dutch had the barrier granted them which they so much desired; and if the crown of France was deprived of some dominions to enrich the duke of Savoy, on the other hand the house of Austria was taxed to supply the wants of the Hollanders, who were put in possession of the strongest towns in Flanders. The fortifications of Dunkirk were demolished. Spain gave up Gibraltar and the island of Minorca. France resigned her pretensions to Hudson's bay, Nova Scotia, and Newfoundland; but was left in possession of Cape Breton, and the liberty of drying fish upon the shore. Among the articles glorious to the British nation, their setting free the French Protestants confined in the prisons and galleys for their religion, was not the least meritorious. For the emperor it was stipulated, that he should possess the kingdom of Naples, the duchy of Milan, and the Spanish Netherlands. The king of Prussia was to have Upper Guelder; and a time was fixed for the emperor's acceding to these articles, as he had for some time obstinately refused to assist at the negociation. This famous treaty was signed at Utrecht on the last day of March 1713.

371 Peace with France.

This year was also remarkable for an attempt of the Scotish peers and commons to dissolve the union, which, as has been observed, had proved exceedingly disagreeable and distressful to the nation. During the debates

372 Attempt to dissolve the union.

(c) Cunningham differs prodigiously from this account. His computation being no more than 6000 killed and 9000 wounded on the part of the allies, and 7000 killed and 10,000 wounded on the part of the French.

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Britain. debates on this subject, the earl of Peterborough endeavoured to prove the impossibility of dissolving the treaty, which he compared to a marriage, that, being once contracted, could not be dissolved by any power on earth. He observed, that though England, who, in the national marriage, must be supposed to represent the husband, had in some instances been unkind to the lady, she ought not presently to sue for a divorce; and added, when the union was termed a mere political expedient, that it could not have been made more solemn, unless, like the ten commandments, it had come from heaven. The duke of Argyle, also, who had originally promoted the union, now, declared against it, and said, that unless it were dissolved, he did not long expect to have either property left in Scotland or liberty in England. By some other peers it was alleged, that the union had not produced its intended effect; that it had been designed to promote friendship between the two nations; but, so far from answering the purpose, the animosities between them were never so great as then; and if they were separated again, they would be better friends. This motion was overruled in the house; but the discontent of the people still continued, and addresses were prepared throughout the kingdom, and matters were in danger of coming to the worst extremities, when the attempt of the Pretender in 1715 so divided the minds of the people, that no unanimous effort could ever afterwards be made; though the union was long generally considered, and still is by some individuals, as a national grievance.

The history of the latter part of this reign consists entirely of the intrigues of the Whigs and Tories against each other; which, as they are now of no importance, it is needless to take up time in relating, farther than that the Tory influence continued to prevail. Whether the ministry at this time wished to alter the succession from the Hanoverian line, cannot now be easily made out; but certain it is, that the Whigs firmly believed it, and the Tories but faintly denied the charge. The suspicions of the former became every day stronger, particularly when they saw a total removal of the Whigs from all places of trust and confidence throughout the kingdom, and their employments bestowed on professed Tories, supposed to be maintainers of an unbroken hereditary succession.

373 Death of the queen. The violent dissensions between these two parties, their unbounded licentiousness, cabals, and tumults, made the queen's situation very disagreeable; her health declined; and on the 28th of July 1714, she fell into a lethargic insensibility. Notwithstanding all the medicines the physicians could prescribe, the distemper gained ground so fast, that next day they despaired of her life. All the members of the privy-council without distinction were now summoned from the different parts of the kingdom; and they began to provide for the security of the constitution. A letter was sent to the elector of Hanover, informing him of the queen's desperate situation, and desiring him to repair to Holland, where he would be attended by a British squadron to convey him to England. At the same time they dispatched instructions to the earl of Strafford at the Hague, to desire the States-general to be ready to perform the guarantee of the Protestant succession. Precautions were taken to secure the sea-ports; and the command of the fleet was bestowed upon the earl of Berkeley, a professed Whig. These measures, which were all dictated by that party, answered a double end. They argued the alacrity of the Whigs in the cause of their new sovereign, and seemed to imply that the state was in danger from the disaffection of the opposite party. Britain.

On the 30th of July the queen seemed to be somewhat relieved by the medicines which had been given her. She rose from her bed about eight in the morning and walked a little. After some time, casting her eyes on a clock that stood in her chamber, she continued to gaze at it for some minutes. One of the ladies in waiting asked her what she saw there more than usual? to which the queen only answered by turning her eyes upon her with a dying look. She was soon after seized with an apoplectic fit; from which, however, she was somewhat recovered by the assistance of Dr Mead. She continued all night in a state of stupefaction. She gave some signs of life betwixt twelve and one the next day; but expired the following morning, a little after seven o'clock, having lived 49 years, and reigned upwards of 12. This princess was remarkable neither for her learning nor her capacity. Like all the rest of her family, she seemed rather fitted for the duties of private life than a public station; being a pattern of conjugal fidelity, a good mother, a warm friend, and an indulgent mistress; and to her honour it certainly must be recorded, that during her reign none suffered on the scaffold for treason. In her ended the line of the Stuarts; a family who never rewarded their friends, nor ever avenged them of their adversaries; a family whose misfortunes and misconducts are not to be paralleled in history.

374 She is succeeded by George I. The queen had no sooner resigned her breath than the privy-council met, and three instruments were produced, by which the elector of Hanover appointed several of his known adherents to be added as lords justices to the seven great officers of the kingdom. Orders also were immediately issued out for proclaiming George king of England, Scotland, and Ireland. The regency appointed the earl of Dorset to carry him the intimation of his accession to the crown, and to attend him in his journey to England. They sent the general officers, in whom they could confide, to their posts; they reinforced the garrison of Portsmouth, and appointed the celebrated Mr Addison secretary of state. No tumult, no commotion, arose against the accession of the new king: and this gives a strong proof that the Tories, had they really intended to exclude him, never took any rational measures to accomplish their purpose.

375 He arrives in England. The king first landed at Greenwich; where he was received by the duke of Northumberland, captain of the lifeguard, and the lords of the regency. From the landing-place he walked to his house in the park, accompanied by a great number of the nobility and other persons of distinction, who expected to make their court in this reign in consequence of their turbulence and opposition to the reigning party in the last. George I. was 54 years old when he ascended the British throne. His mature age, his sagacity and experience, his numerous alliances, and the general tranquillity of Europe, all contributed to establish his interests, and promise him a peaceable and happy reign. His virtues, though

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Britain. though not shining, were solid; and he was of a very different disposition from the Stuart family whom he succeeded. These were known to a proverb for leaving their friends in extremity; George, on the contrary, soon after his arrival in England, was heard to say, "My maxim is, never to abandon my friends, to do justice to all the world, and to fear no man." To these qualities of resolution and perseverance, he joined great application to business. One fault, however, with regard to England, remained behind: he studied the interests of the kingdom he had left, more than of those he came to govern.

376 He favours the Whigs. The new king soon discovered his inclination to support those who had raised him to the throne, that is, the Whig party. When he retired to his bed-chamber, after his first landing, he sent for such of the nobility as had distinguished themselves by their zeal for his succession. He expressed the greatest regard for the duke of Marlborough, just then arrived from the continent, whither he had been driven by the violence of the Tories. The same friendship he professed for the other leaders of the Whigs; but the Tories found themselves excluded from the royal favour. The king did not seem sensible that the monarch of a faction rules but one half of his subjects. It was his misfortune, and consequently that of the nation, that he was hemmed round by men who soured him with all their own interests and prejudices. The Whigs, while they pretended to secure the crown for the king, were using all their arts to confirm their own interests, extend their connections, and give laws to their sovereign. An instantaneous change was made in all the offices of trust, honour, or advantage. The names of the contending parties were changed into those of *Hanoverians* and *Jacobites*. The former governed the senate and court, oppressed whom they would, bound the lower orders of people by severe laws, and kept them at a distance by vile distinctions; and then taught them to call this *liberty*.

377 National discontents. In consequence of these partialities, the highest discontents were raised through the whole kingdom. The Tories or Jacobites raised the most terrible outcries; and had the Pretender been a man of any judgment or abilities, a fair opportunity was now offered him of striking a decisive blow. Instead of this, he continued a calm spectator on the continent, and only sent over his emissaries to disperse ineffectual manifestoes and delude the unwary. In these papers he observed, that the late queen had intentions of calling him to the crown. He expostulated with his people upon the injustice they had done themselves in proclaiming a foreign prince for their sovereign, contrary to the laws of the country, that gave him alone the real claim. Copies of a printed address were sent to the dukes of Shrewsbury, Marlborough, Argyle, and other noblemen of the first distinction; vindicating his right to the crown, and complaining of the injustice of his people. Yet, though he still complained of their conduct, he never took any step to correct his own, or remove that obstacle by which his father had lost his throne. He still continued to profess the truest regard to the Catholic religion; and, instead of concealing his sentiments on that head, gloried in his principles.

But, however much the Popish religion was at that time hated in England, the principles of the dissenters were not in the least more agreeable to the generality. The Tories affirmed, that, under a Whig administration, heresy and impiety were daily gaining ground. The lower orders of the clergy joined in these complaints, and pointed out several tracts published in favour of Arianism and Socinianism. The ministry not only refused to punish the delinquents, but silenced the clergy themselves, and forbade their future disputations on these topics.—The parliament was now dissolved, and another called by a very extraordinary proclamation. In this the king complained of the evil designs of men disaffected to his succession; and of their having misrepresented his conduct and principles. He expressed his hopes, that his subjects would send up to parliament the fittest persons to redress the present disorders. He intreated that they would elect such in particular, as had expressed a firm attachment to the Protestant succession when it was in danger. In the election of this important parliament, uncommon vigour was exerted on both sides; but by dint of the moneyed interest that prevailed in corporations, and the activity of the ministry, a great majority of Whigs was returned both in England and Scotland.

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378 Parliament dissolved.

379 Violent proceedings of the new parliament. Upon the first meeting of this new parliament, the most violent measures were resolved upon against the late ministry. Part of them kept away from business. A committee was appointed to inspect all the papers relative to the late treaty, and to pick out such of them as might serve for grounds of accusation against the late ministry. The earl of Oxford was impeached of high treason, and sent to the Tower. The violence of the commons was answered with equal violence without doors. Tumults became every day more frequent, and every tumult served only to increase the severity of the legislature. They now passed an act, declaring, that if any persons to the number of 12, unlawfully assembled, should continue together one hour after being required to disperse by a justice of peace or other officer, and after hearing the act against riots read in public, they should be deemed guilty of felony without benefit of clergy. This is a very severe act, and one of the greatest restrictions on the liberty of the subject that has passed during this century; as, by it, all meetings of the people, either for the purposes of amusement or redress, are rendered criminal, if it shall please any magistrate to consider them as such.

These vindictive proceedings excited the indignation of the people, who perceived that the avenues of royal favour were closed to all but a faction. A rebellion commenced in Scotland, where to their other grievances they joined that of the union, which they were taught to consider as an oppression. The malecontents of this country had all along maintained a correspondence with their friends in England, who were now driven by resentment and apprehension into a system of politics they would not otherwise have dreamed of. Some of the Tory party, who were men attached to the Protestant religion, and of moderate principles in government, began to associate with the Jacobites, and to wish in earnest for a revolution. Scotland first showed them the example. The earl of Mar, assembling 300 of his vassals in the Highlands, proclaimed the Pretender at Castleton; and setting up his standard at Braemar, assumed the title of *lieutenant general of his majesty's forces*. To second these attempts, two vessels arrived from

380 Rebellion in Scotland.

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from France, with arms, ammunition, and a number of officers, together with assurances to the earl, that the pretender himself would shortly come over to head his own forces. In consequence of this promise, the earl soon found himself at the head of 10,000 men well armed and provided. He secured the pass of Tay at Perth, where his head-quarters were established; and made himself master of the whole province of Fife, and all the sea-coast on that side of the frith of Forth. He marched from thence to Dumblain, as if he had intended to cross the Forth at Stirling-bridge; but there he was informed that the duke of Argyle, who on this occasion was appointed commander in chief of all the forces in North Britain, was advancing against him from Stirling with all his own clans, assisted by some troops from Ireland. Upon this he thought proper at first to retreat: but being soon after joined by some of the clans under the earl of Seaforth, and others under General Gordon, an experienced officer, who had signalized himself in the Russian service, he resolved to face the enemy, and directed his march towards the south.

381 Battle near Dumblain.

The duke of Argyle, apprized of his intentions, and at any rate willing to prove his attachment to the present government, resolved to give him battle in the neighbourhood of Dumblain, though his forces did not amount to half the number of the enemy. In the morning, therefore, he drew up his army, which did not exceed 3500 men, in order of battle; but he soon found himself greatly outflanked by the insurgents. The duke, therefore, perceiving the earl make attempts to surround him, was obliged to alter his disposition, which, on account of the scarcity of general officers, was not done so expeditiously as to be finished before the rebels began the attack. The left wing of the duke's army received the centre of the enemy, and supported the first charge without shrinking. It seemed even for a while victorious, and the earl of Clanronald was killed. But Glengary, who was second in command, undertook to inspire his intimidated forces with courage; and, waving his bonnet, cried out several times, Revenge! This animated the rebel troops to such a degree, that they followed him close to the points of the enemies bayonets, and got within their guard. A total rout began to ensue of that wing of the royal army; and General Witham, their commander, flying full speed to Stirling, gave out that the rebels were completely victorious. In the mean time, the duke of Argyle, who commanded in person on the right, attacked the left of the enemy; and drove them before him two miles, though they often faced about and attempted to rally. Having thus entirely broken that wing, and driven them over the river Allan, he returned back to the field of battle; where, to his great mortification, he found the enemy victorious, and patiently waiting for the assault. However, instead of renewing the engagement, both armies continued to gaze at each other, neither caring to begin the attack. In the evening, both parties drew off, and both claimed the victory. All the advantages of a victory, however, belonged to Argyle. He had interrupted the progress of the enemy; and, in their circumstances, delay was defeat. In fact, the earl of Mar soon found his losses and disappointments increase. The castle of Inverness, of which he was in possession, was delivered up by Lord Lovat, who had hitherto professed to act in the interest of the Pretender. The marquis of Tullibardine forsook the earl, in order to defend his own part of the country; and many of the clans, seeing no likelihood of coming to a second engagement, returned quietly home.

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382 Bad conduct of James's party.

In the mean time the rebellion was still more unsuccessfully prosecuted in England. From the time the Pretender had undertaken this wild project at Paris, in which the duke of Ormond and Lord Bolingbroke were engaged, Lord Stair, the English ambassador there, had penetrated all his designs, and sent faithful accounts of all his measures and of all his adherents to the ministry at home. Upon the first rumour, therefore, of an insurrection, they imprisoned several lords and gentlemen, of whom they had a suspicion. But these precautions were not able to stop the insurrection in the western counties, where it was already begun. All their preparations, however, were weak and ill conducted; every measure was betrayed to government as soon as projected, and many revolts were repressed in the very outset. The university of Oxford was treated with great severity on this occasion. Major-general Pepper, with a strong detachment of dragoons, took possession of the city at day-break, declaring that he would instantly shoot any of the students who should presume to appear without the limits of their respective colleges.

383 Expedition of the earl of Derwentwater.

The insurrection in the northern counties came to greater maturity. In the month of October 1715, the earl of Derwentwater, and Mr Forster, took the field with a body of horse, and, being joined by some gentlemen from the borders of Scotland, proclaimed the Pretender. Their first attempt was to seize upon Newcastle, in which they had many friends; but finding the gates shut against them, they retired to Hexham. To oppose these, General Carpenter was detached by government with a body of 900 men, and an engagement was hourly expected. The rebels had two methods by which they might have conducted themselves with prudence and safety. The one was to march directly into the western parts of Scotland, and there join General Gordon, who commanded a strong body of Highlanders. The other was to cross the Tweed, and boldly attack General Carpenter, whose forces did not exceed their own. From the infatuation attendant on the measures of that party, neither of these courses was pursued. They took the route to Jedburgh, where they hoped to leave Carpenter on one side, and penetrate into England by the western border. This was the effectual means to cut themselves off either from retreat or assistance. A party of Highlanders, who had joined them by this time, at first refused to accompany them in such a desperate incursion, and one half of them actually returned to their own country. At Brampton, Mr Forster opened his commission of general, which had been sent him by the earl of Mar, and there he proclaimed the Pretender. They continued their march to Penrith, where the body of the militia that was assembled to oppose them fled at their appearance. From Penrith, they proceeded by the way of Kendal and Lancaster to Preston, of which place they took possession without any resistance. But this was the last stage of their ill-advised excursion; for General Wills, at the head of 7000 men, came up to

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to attack them; and from his activity there was no escaping. They now, therefore, began to raise barricades about the town, and to put the place in a posture of defence, repulsing the first attacks of the royal army with success. Next day, however, Wills was reinforced by Carpenter, and the town was invested on all sides. In this deplorable situation, to which they were reduced by their own rashness, Forster hoped to capitulate with the general; and accordingly sent Colonel Oxburgh, who had been taken prisoner, with a trumpeter to propose a capitulation. This, however, Wills refused; alleging that he would not treat with rebels, and that the only favour they had to expect was to be spared from immediate slaughter. These were hard terms, but no better could be obtained. They accordingly laid down their arms, and were put under a strong guard. All the noblemen and leaders were secured, and a few of their officers tried for deserting from the royal army, and shot by order of a court-martial. The common men were imprisoned at Chester and Liverpool: the noblemen and considerable officers were sent to London, and led through the streets pinioned and bound together, to intimidate their party.

384 Rebels forced to surrender at Preston.

385 Absurd conduct of James's party in France.

Though the schemes of the Pretender appear to have been foolishly enough conducted in Britain, yet they were much more so in France. Bolingbroke had been made his secretary at Paris, and Ormond his prime minister. But these statesmen quickly found that nothing could be done in favour of his cause. The king of France, who had ever espoused the interest of the abdicated family, was just dead; and the duke of Orleans, who succeeded in the government of the kingdom, was averse to lending the Pretender any assistance. His party, however, which was composed of the lowest and the most ignorant exiles from the British dominions, affected the utmost confidence, and boasted of a certainty of success. The deepest secrets of his cabinet, and all his intended measures, were bandied about in coffee-houses by persons of the lowest rank both in fortune and abilities. Subaltern officers resolved to be his generals; and even prostitutes were entrusted to manage his negociations. Little therefore could be expected from such assistance and such councils.

386 Pretender lands in Scotland.

Though, by this time, the Pretender might easily have seen that his affairs were desperate; yet, with his usual infatuation, he resolved to hazard his person among his friends in Scotland, at a time when such a measure was too late for success. Passing, therefore, through France in disguise, and embarking in a small vessel at Dunkirk, he arrived, after a voyage of a few days, on the coast of Scotland, with only six gentlemen in his train. He passed unknown through Aberdeen to Fetteresso, where he was met by the earl of Mar, and about 30 noblemen and gentlemen of the first quality. There he was solemnly proclaimed; and his declaration, dated at Comerey, was printed and dispersed. He went from thence to Dundee, where he made a public entry; and in two days more he arrived at Scoon, where he intended to have the ceremony of his coronation performed. He ordered thanksgivings to be made for his safe arrival; he enjoined the ministers to pray for him in their churches; and without the smallest share of power, went through the ceremonies of royalty, which threw an air of ridicule on all his conduct. Having thus spent some time in unimportant parade, he resolved to abandon the enterprise with the same levity with which it was undertaken. Having made a speech to his grand council, he informed them of his want of money, arms, and ammunition, for undertaking a campaign, and therefore deplored that he was obliged to leave them. He once more embarked on board a small French ship that lay in the harbour of Montrose, accompanied with several lords, his adherents; and in five days arrived at Graveline.

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387 And again leaves it.

General Gordon, who was left commander in chief of the forces, with the assistance of Earl Mareschal, proceeded at their head to Aberdeen, where he secured three vessels to sail northward, which took on board such persons as intended to make their escape to the continent. He then continued his march through the Highlands, and quietly dismissed his forces as he went forward. This retreat was made with such expedition, that the duke of Argyle, with all his activity, could never overtake his rear, which consisted of 1000 horse.

388 Cruel treatment of the rebels.

The rebellion being ended, the law was put in force with all its terrors; and the prisons of London were crowded with those deluded persons, whom the ministry seemed resolved not to pardon. The commons, in their address to the crown, declared they would prosecute, in the most rigorous manner, the authors of the late rebellion; and their measures were as vindictive as their resolutions were speedy. The earls of Derwentwater, Nithsdale, Carnwath, and Wintown, the lords Widrinton, Kenmuir, and Nairne, were impeached; and, upon pleading guilty, all but Lord Wintown, received sentence of death. No intreaties could prevail on the ministry to spare these unhappy men. The house of lords even presented an address to the throne for mercy, but without effect; the king only answered, that on this, as on all other occasions, he would act as he thought most consistent with the dignity of the crown and the safety of the people. Orders were accordingly dispatched for executing the lords Derwentwater, Nithsdale, and Kenmuir, immediately; the rest were respited to a farther time. Nithsdale, however, had the good fortune to escape in woman's clothes that were brought him by his mother the night before his execution. Derwentwater and Kenmoir were brought to the scaffold on Tower-hill at the time appointed. Both underwent their sentence with calm intrepidity, and seemingly less moved than those who beheld them.

An act of parliament was next made for trying the private persons in London, and not in Lancashire where they were taken in arms. This was considered, by some of the best lawyers, as an alteration of the ancient constitution of the kingdom, by which it was supposed that every prisoner should be tried in the place where the offence was committed, as a jury of neighbours would be best qualified to enter into the nature of the offence. In the beginning of April, commissioners for trying the rebels met in the court of common pleas, when the bills were found against Mr Forster, Mr Macintosh, and 20 of their confederates. Forster escaped from Newgate, and reached the continent in safety; the rest pleaded not guilty. Pitts the

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Britain. the keeper of Newgate, being suspected of having connived at Forster's escape, was tried for his life, but acquitted. After this, Macintosh, and several other prisoners, broke from Newgate, after having mastered the keeper and turnkey, and disarmed the centinel. The court proceeded to the trial of those that remained; four or five were hanged, drawn, and quartered, at Tyburn. The judges appointed to try the rebels at Liverpool found a considerable number of them guilty of high treason. Two-and-twenty were executed at Manchester and Preston; about 1000 experienced the king's mercy, if such it may be called, to be transported to North America.

389 Duration of the parliament lengthened. The rebellion being thus extinguished, the danger of the state was made a pretence for continuing the parliament beyond the term fixed for its dissolution. An act, therefore, was made by their own authority, repealing that by which they were to be dissolved every third year, and the term of their duration was extended to seven years. This attempt in any delegated body of people to increase their own power by extending it, is contrary to the first principles of justice. If it was right to extend their duration to seven years, they might also perpetuate their authority; and thus cut off even the shadow of a nomination. The bill, however, passed both houses, and all objections to it were considered as disaffection. The people might murmur at this encroachment, but it was too late for redress.

390 Britain threatened with an invasion by CharlesXII. Domestic concerns being thus adjusted, the king resolved upon a voyage to the continent. He foresaw a storm gathering from Sweden. Charles XII. was highly provoked against him for having entered into a confederacy with the Russians and Danes during his absence at Bender, and for having purchased from the king of Denmark the towns of Bremen and Verden, which constituted a part of his dominions. In consequence of this, Charles maintained a close correspondence with the dissatisfied subjects of Great Britain; and a scheme was formed for landing a considerable body of Swedish forces, with the king at their head, in some part of the island, where it was expected they would be joined by all the malecontents in the kingdom. Count Gyllenburg, the Swedish minister in London, was peculiarly active in the conspiracy; but being seized with all his papers, by order of the king, the confederacy was broke for that time. A bill, however, was passed by the commons, forbidding all commerce with Sweden; the trade with which country was at that time of the utmost consequence to the English merchants. George having passed through Holland to Hanover, in order to secure his German dominions, entered into a new treaty with the Dutch and the regent of France, by which they agreed mutually to assist each other in case of an invasion; and for his further security, the commons granted him 250,000l. But the death of the Swedish monarch, who was soon after killed at the siege of Fredericshall in Norway, put an end to all disquietude from that quarter.

Among the many treaties for which this reign was remarkable, one had been concluded, which was called the *quadruple alliance*. It was agreed between the emperor, France, Holland, and Britain, that the emperor should renounce all pretensions to the crown of Spain, and exchange Sardinia for Sicily with the duke of Savoy; that the succession to the duchies of Tuscany, Parma, and Placentia, should be settled on the queen of Spain's eldest son, in case the present possessors should die without male issue. This treaty, however, was by no means agreeable to the king of Spain; and consequently it became prejudicial to the English, as it interrupted the commerce with that kingdom. A war soon after commenced between Spain and the emperor, who was considered as the principal contriver of the treaty; and a numerous body of Spanish forces were sent into Italy to support Philip's pretensions in that quarter. The regent of France attempted in vain to dissuade him, and the king of Britain offered his mediation with the like bad success; their interposition was considered as partial and unjust. A Spanish war was then resolved on. A squadron of 22 ships was equipped with all expedition, the command of which was given to Sir George Byng, and ordered to sail for Naples, at that time threatened with a Spanish army. He was received with the greatest joy by the Neapolitans; who informed him that the Spaniards, to the amount of 30,000, were then actually landed in Sicily. In this exigence, as no assistance could be given by land, he resolved to sail thither, fully determined to pursue the Spanish fleet on which the army was embarked. Upon coming round Cape Faro, he perceived two small Spanish vessels; and pursuing them closely, they led him to their main fleet, which, before noon, he discovered in line of battle, amounting in all to 27 sail. The Spaniards, however, notwithstanding of their superiority in number, attempted to sail away; but finding it impossible to make their escape, they kept up a running fight, and the commanders behaved with great courage and activity; in spite of which they were all taken except three, which were preserved by the conduct of one Cammoc, their vice-admiral, a native of Ireland. Sir George Byng behaved on this occasion with great prudence and resolution: and the king wrote him a letter with his own hand, approving his conduct.

391 War with Spain.

392 Intended invasion by the Spaniards. The rupture with Spain was thought to be favourable to the interests of the Pretender; and it was hoped that by the assistance of Cardinal Alberoni, the Spanish minister, a new insurrection might be excited in England. The duke of Ormond was the person fixed upon to conduct this expedition; and he obtained from the Spanish court a fleet of ten ships of war and transports, having on board 6000 regular troops, with arms for 12,000 more. But fortune was still as unfavourable as ever. Having set sail, and proceeded as far as Cape Finisterre, he was encountered by a violent storm, which disabled his fleet and frustrated the expedition. This misfortune, together with the bad success of the Spanish arms in Sicily and other parts of Europe, induced Philip to wish for a cessation of arms; and he at last consented to sign the quadruple alliance, by which means peace was again restored to Europe.

393 Irish parliament made dependent on that of Britain. Tranquillity being thus established, the ministry proceeded to secure the dependency of the Irish parliament on that of England. One Maurice Annesley had appealed to the house of peers of England from a decree made by the Irish peers, and their decree was reversed. The British peers ordered the barons of exchequer in Ireland to put Mr Annesley in possession of the lands he had lost by the decree of the lords in that kingdom. The barons obeyed this order; and the Irish peers passed

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sed a vote against them, as having attempted to diminish the just privileges of the parliament of Ireland; and at the same time ordered the barons to be taken under the custody of the black rod. On the other hand, the house of lords in England resolved, that the barons of the exchequer in Ireland had acted with courage and fidelity; and addressed the king to signify his approbation of their conduct, by some marks of his favour. To complete their intention, a bill was prepared, by which the Irish house of lords was deprived of all right of final jurisdiction. This bill was opposed in both houses, but particularly by the commons. It was there asserted by Mr Pitt, that it would only increase the power of the English peers, who were already but too formidable. Mr Hungerford demonstrated, that the Irish lords had always exerted their power of finally deciding causes. Notwithstanding all opposition, the bill was carried by a great majority, and soon after received the royal assent.

394 South sea scheme.

This blow was severely felt by the Irish; but was by no means so great as that which the English about this time felt from the *South-sea scheme*, which commenced in the year 1721. To explain this as concisely as possible, it must be observed, that ever since the revolution under King William, the government not having sufficient supplies granted by parliament, or what was granted requiring time to be collected, they were obliged to borrow money from several different companies of merchants; and among the rest from that company which traded to the South sea. In the year 1716, the government was indebted to this company about nine millions and a half of money; for which they granted at the rate of 6 per cent. interest. As this company was not the only one to which government was indebted, Sir Robert Walpole formed a design of lessening the national debt, giving the several companies an alternative either of accepting a lower interest, namely 5 per cent. or of being paid the principal. The different companies chose rather to accept of the diminished interest than to be paid the principal. The South-sea Company, in particular, having augmented their loan to ten millions, were contented to receive 500,000l. annually as interest, instead of 600,000l. which they usually received. In the same manner, the governors and company of the bank, and other companies, were contented to receive a diminished annual interest for their respective loans; all which greatly lessened the debts of the nation.

In this situation of things, one *Blount*, a scrivener, proposed to the ministry, in the name of the South-sea Company, to buy up all the debts of the different companies, and thus for the South-sea Company to become the sole creditors of the state. The terms he offered to government were extremely advantageous. The South-sea Company was to redeem the debts of the nation out of the hands of the private proprietors who were creditors to the government, upon whatever terms they could agree on; and for the interest of this money which they had thus redeemed and taken into their own hands, they would be contented to be allowed by government 5 per cent. for six years; after which the interest should be reduced to 4 per cent. and should at any time be redeemable by parliament. For these purposes a bill passed both houses. But now came the part of the scheme big with fraud and ruin. As the directors of the South-sea Company could not of themselves be supposed to possess so much money as was sufficient to buy up the debts of the nation, they were empowered to raise it by opening a subscription to an imaginary scheme for trading in the South seas; from which commerce immense advantages were promised, and still greater expected by the rapacious credulity of the people. All the creditors of government, therefore, were invited to come in, and exchange their securities, viz. the security of government, for that of the South-sea Company. The directors books were no sooner opened for the first subscription, than crowds came to make the exchange of government stock for South-sea stock. The delusion was artfully continued and spread. Subscriptions in a few days sold for double the price they had been bought at. The scheme succeeded beyond even the projector's hopes, and the whole nation was infected with a spirit of avaricious enterprise. The infatuation prevailed; the stock increased to a surprising degree, even to near ten times the value of what it was first bought for.

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After a few months, however, the people waked from their dream of riches; and found that all the advantages they expected were merely imaginary, while thousands of families were involved in one common ruin. Many of the directors, by whose arts the people were taught to expect such great benefits from a traffic to the South seas, had amassed considerable fortunes by the credulity of the public. It was some consolation, however, to the people, to find the parliament sharing in the general indignation, and resolving to strip those unjust plunderers of their possessions. Orders were first given to remove all the directors of the South-sea Company from their seats in parliament, and the places they possessed under government. The principal delinquents were punished by a forfeiture of all such possessions and estates as they had acquired during the continuance of this popular frenzy. The next care was to redress the sufferers. Several just and useful resolutions were taken by parliament, and a bill was speedily prepared for repairing the late sufferings as far as the inspection of the legislature could extend. Of the profit arising from the South-sea scheme, the sum of seven millions was given back to the original proprietors; several additions were also made to their dividends out of what was possessed by the company in their own right; and the remaining capital stock was also divided among the old proprietors at the rate of 33 per cent.—In the mean time, petitions from all parts of the kingdom were presented to the house, demanding justice; and the whole nation seemed exasperated to the highest degree. Public credit sustained a terrible shock. Some principal members of the ministry were deeply concerned in these fraudulent transactions. The bank was drawn upon faster than it could supply; and nothing was heard but the ravings of disappointment, and the cries of despair.

395 Directors punished.

By degrees, however, the effects of this terrible calamity wore off, and matters returned to their former tranquillity. A new war with Spain commenced. Admiral Hosier was sent to South America to intercept the Spanish galleons; but the Spaniards being apprised of his design, relanded their treasure. The greatest part of the British fleet sent on that expedition was rendered entirely unfit for service. The seamen were cut off in great numbers by the malignity of the climate

396 Unsuccessful expedition of Admiral Hosier.

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mate and the length of the voyage, while the admiral himself is said to have died of a broken heart. In order to retaliate these hostilities, the Spaniards undertook the siege of Gibraltar; but with as little success on their side. In this dispute France offered her mediation; and such a reconciliation as treaties could procure was the consequence: a temporary peace ensued; both sides only watching an opportunity to renew hostilities with advantage.

397 Death of King Geo. I.

Soon after the breaking up of the parliament in the year 1727, the king resolved to visit his electoral dominions of Hanover. Having appointed a regency in his absence, he embarked for Holland, and lay, upon his landing, at a little town called *Voet*. Next day he proceeded on his journey; and in two days more, between ten and eleven at night, arrived at Delden, to all appearance in perfect health. He supped there very heartily, and continued his journey early the next morning; but between eight and nine ordered his coach to stop. It being perceived that one of his hands lay motionless, Monsieur Fabrice, who had formerly been servant to the king of Sweden, and who now attended King George, attempted to quicken the circulation, by chafing it between his own. As this had no effect, the surgeon who followed on horseback was called, and he rubbed it with spirits. Soon after, the king's tongue began to swell, and he had just strength enough to bid them hasten to Osnaburgh. Then, falling insensible into Fabrice's arms, he never recovered; but expired about 11 o'clock the next morning, in the 68th year of his age, and 13th of his reign. His body was conveyed to Hanover, and interred among his ancestors.

398 George II. succeeds.

On the accession of George II. the two great parties into which the nation had been so long divided, again changed their names, and were now called the *court* and *country* parties. Throughout the greatest part of this reign, there seem to have been two objects of controversy, which rose up in debate at every session, and tried the strength of the opponents; these were the national debt, and the number of forces to be kept in pay. The government on the present king's accession owed more than 30,000,000 of money; and though there was a long continuance of profound peace, yet this sum was found constantly increasing. It was much wondered at by the country party how this could happen, and it was as constantly the business of the court to give plausible reasons for the increase. Thus, demands for new supplies were made every session of parliament, either for the purposes of securing friends upon the continent, of guarding the kingdom from internal conspiracies, or of enabling the ministry to act vigorously in conjunction with the powers in alliance abroad. It was vainly alleged that those expences were incurred without prescience or necessity; and that the increase of the national debt, by multiplying and increasing taxes, would at last become an intolerable burden to the poor. These arguments were offered, canvassed, and rejected; the court party was constantly victorious, and every demand was granted with cheerfulness and profusion.

399 Contests between the court and country parties.

400 Account of the charitable corporation.

The next thing worthy of notice in the reign of George II. is the *charitable corporation*. A society of men had united themselves into a company by this name; and their professed intention was to lend money at legal interest to the poor upon small pledges, and to persons of higher rank upon proper security. Their capital was at first limited to 30,000l. but they afterwards increased it to 600,000l. This money was supplied by subscription, and the care of conducting the capital was intrusted to a proper number of directors. This company having continued for more than 20 years, the cashier, George Robinson, member for Marlow, and the warehouse-keeper, John Thompson, disappeared in one day. Five hundred thousand pounds of capital were found to be sunk or embezzled by means which the proprietors could not discover. They therefore, in a petition, represented to the house the manner in which they had been defrauded, and the distress to which many of the petitioners were reduced. A secret committee being appointed to examine into this grievance, a most iniquitous scene of fraud was soon discovered, which had been carried on by Thompson and Robinson, in concert with some of the directors, for embezzling the capital and cheating the proprietors. Many persons of rank and quality were concerned in this infamous conspiracy; and even some of the first characters in the nation did not escape censure. No less than six members of parliament were expelled for the most sordid acts of knavery. Sir Robert Sutton, Sir Archibald Grant, and George Robinson, for their frauds in the management of the charitable corporation scheme; Dennis Bond, and Serjeant Burch, for a fraudulent sale of the late unfortunate earl of Derwentwater's estate; and lastly John Ward, of Hackney, for forgery. It was at this time asserted in the house of lords, that not one shilling of the forfeited estates was ever applied to the service of the public, but became the reward of fraudulence and venality.

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401 Excise scheme rejected.

This happened in the year 1731; and in 1732, a scheme was formed by Sir Robert Walpole of fixing a general excise. He introduced it by recounting the frauds practised by the factors in London that were employed in selling the American tobacco. To prevent these frauds, he proposed, that instead of having the customs levied in the usual manner upon tobacco, all hereafter to be imported should be lodged in warehouses appointed for that purpose by the officers of the crown; and should from thence be sold, upon paying the duty of 4d. per pound, when the proprietor found a purchaser. This proposal raised a violent ferment, both within doors and without. At last the fury of the people was worked up to such a pitch, that the parliament-house was surrounded by multitudes, who intimidated the ministry, and compelled them to drop the design. The miscarriage of the bill was celebrated with public rejoicings in London and Westminster, and the minister was burned in effigy by the populace at London.

On this occasion an attempt was made to repeal the septennial bill, and bring back triennial parliaments, as settled at the Revolution. But notwithstanding the warmth of the opposition, the ministry, exerting all their strength, were victorious, and the motion was suppressed by the majority. However, as on this occasion the country party seemed to have gained strength, it was thought proper to dissolve the parliament: and another was called by the same proclamation.

402 Parliament dissolved.

The same disputes were carried on this parliament, as in the former. New subjects of controversy offered every day, and both sides were eager to seize them. A convention agreed on by the ministry, at the Pra-

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Britain. do, with Spain, became an object of warm altercation. By this the court of Spain agreed to pay 95,000l. to the English, as a satisfaction for all demands; and to discharge the whole in four months from the day of ratification. This, however, was considered as not equivalent to the damages that had been sustained, which were said to amount to 340,000l. On this occasion the minister was provoked into unusual vehemence, and branded the opposite party with the appellation of traitors. The ministry, as usual, were victorious; and the country party finding themselves out-numbered and out-voted in every debate, resolved to withdraw for ever: Walpole, being thus left without opposition, took the opportunity of passing several useful laws in their absence, in order to render the opposite party odious or contemptible.

403 War with Spain. In 1739, a new war commenced with Spain. Ever since the treaty of Utrecht, the Spaniards in America had insulted and distressed the commerce of Great Britain; and the British merchants had endeavoured to carry on an illicit trade in their dominions. As a right of cutting logwood in the bay of Campeachy, claimed by the British, gave them frequent opportunities of pushing in contraband commodities upon the continent, the Spaniards resolved to put a stop to the evil by refusing liberty to cut logwood in that place. The Spanish guarda-costas continued their severities upon the British, and many British subjects were sent to dig in the mines of Potosi. One remonstrance followed another to the court of Madrid; but the only answers given were promises of inquiry, which produced no reformation. In 1739, war was declared with all proper solemnity; and soon after, Admiral Vernon, with six ships only, destroyed all the fortifications of Borto Bello, and came away victorious, with scarce the loss of a man.

404 Porto Bello taken.

As the war was thus successfully begun, supplies were cheerfully granted to prosecute it with all imaginable vigour. Commodore Anson was sent with a squadron of ships to distress the enemy in the South seas, and to co-operate occasionally with Admiral Vernon across the isthmus of Darien. This squadron was designed to act a subordinate part to a formidable armament that was to be sent against New Spain; but through the mismanagement of the ministry both these schemes were frustrated. Anson was detained till too late in the season; he then set out with five ships of the line, a frigate, and two store-ships, with about 1400 men. Coming into the stormy South seas at a very wrong season of the year, he encountered the most terrible storms; his fleet was dispersed, and his crew deplorably afflicted with the scurvy; so that with much difficulty he gained the delightful island of Juan Fernandez. Here he was joined by one ship and a frigate of seven guns. From thence sailing along the coast of Chili, he plundered and burnt the town of Paita. He next traversed the great Pacific ocean, in hopes of meeting with one of the immensely rich galleons that trade from the Philippine islands to Mexico. Having refreshed his men at the island of Tinian, he set forward to China; and returning the same way he came, at last discovered the galleon, which he engaged, and took; and with this prize, valued at 313,000l. together with other captures to the value of about as much more, he returned home, after a voyage of three years. By this expedition the public sustained the loss of a fine squadron of ships, but a few individuals became possessed of immense fortunes.

405 Anson's expedition.

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406 Unsuccessful attempt on Carthagena. The other expedition ended still more unfortunately. The armament consisted of 29 ships of the line, and almost an equal number of frigates, furnished with all kinds of warlike stores, near 15,000 seamen, and as many land forces. The most sanguine hopes of success were entertained; but the ministry detained the fleet without any visible reason, till the season for action in America was almost over. At last, however, they arrived before the wealthy city of Carthagena. They soon became masters of the strong forts which defended the harbour. But though by this means they advanced a good deal nearer the town, they found great difficulties still before them. It was asserted, that the fleet could not lie near enough to batter the town, and therefore the remaining forts must be attempted by scalade. This dangerous experiment was tried; the guides were slain by the enemy's fire, and then the forces mistook their way. Instead of attempting the weakest place of the fort, they attacked the strongest, and where they were exposed to the fire of the whole town. Their scaling ladders were too short, and at last, after bearing a dreadful fire with great resolution for some hours, they retreated, leaving 600 men dead on the spot. The terrors of the climate now began to be more dreadful than those of war. The rainy season commenced with such violence, that it was impossible for the troops to continue their encampment. To these calamities was added the dissension between the sea and land commanders, who blamed each other, and at last could be only brought to agree in one mortifying measure, viz. to reimbark the troops, and withdraw them as quick as possible.

407 Resignation of Sir Robert Walpole. The miscarriage of this enterprise produced the greatest discontents; especially as other causes of complaint were now joined with it. Sir John Norris had twice sailed to the coast of Spain at the head of a very powerful squadron, without doing any thing to the purpose. The commerce of Britain was greatly annoyed by the Spanish privateers, who had taken 407 ships since the commencement of the war; while the British fleets seemed to be quite inactive, and to suffer one loss after another, without endeavouring in the least to make other reprisals. These discontents burst all at once upon Sir Robert Walpole; a majority in the house of commons was formed against him; he was created earl of Orford, the parliament being adjourned for a few days for that purpose; and he resigned all his employments.

The removal of this minister gave universal satisfaction. His antagonists entertained great hopes of seeing him punished: but he had laid his schemes too well to be under any apprehensions on that account; and what was worse, the new ministry were no sooner got in, than they trod in the footsteps of those they had so much exclaimed against. The nation had now become disgusted with naval operations. The people wished for a renewal of their victories in Flanders, and the king ardently joined in the same wish. An army of 16,000 men was therefore shipped over into Flanders, to take part in the quarrels that were then beginning on the continent. Immense triumphs were expected from this undertaking; but they forgot that the

408 An army sent into Flanders.

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Britain.

the army was not now commanded by the duke of Marlborough.

409 Origin of the continental war.

In order to give some notion of the origin of these continental quarrels, it is necessary to go back for some years. After the duke of Orleans, who had been regent of France, died, Cardinal Fleury undertook to settle the confusion in which the kingdom was then involved. Under him France repaired her losses, and enriched herself by commerce. During the long interval of peace which this minister's counsels had procured for Europe, two powers, till now unregarded, began to attract the notice and jealousy of the neighbouring nations. These were Russia and Prussia. The other states were but little prepared to renew war. The empire remained under the government of Charles VI. who had been placed on the throne by the treaty of Utrecht. Sweden continued to languish from the destructive projects of Charles XII. Denmark was powerful enough, but inclined to peace; and part of Italy still remained subject to those princes who had been imposed upon it by foreign treaties.

All these states, however, continued to enjoy a profound peace, until the death of Augustus king of Poland, by which a general flame was once more kindled in Europe. The emperor, assisted by the arms of Russia, declared for the elector of Saxony, son to the deceased king. On the other hand, France declared for Stanislaus, who had long since been nominated king of the Poles by Charles of Sweden, and whose daughter the king of France had since married. Stanislaus was gladly received at Dantzic, and acknowledged king of Poland; but here he was besieged by 10,000 Russians, the city taken, and he himself with difficulty made his escape. France, however, still resolved to assist him, as this, it was thought, would be the most effectual method of distressing the house of Austria. These views of France were seconded by Spain and Sardinia, both of which hoped to grow rich by the spoils of Austria. A French army, therefore, overran the empire, under the conduct of the old marshal Villars; while the duke of Montemar, the Spanish general, was equally victorious in the kingdom of Naples. The emperor was soon obliged to sue for peace; which was granted, but Stanislaus was neglected in the treaty. It was stipulated that he should renounce all claim to the kingdom of Poland; for which the emperor gratified France with the duchy of Lorraine, and some other valuable territories.

410 Desperate situation of the queen of Hungary.

The emperor dying in the year 1740, the French began to think this a favourable opportunity for exerting their ambition. Regardless of treaties, therefore, particularly that called the *Pragmatic Sanction*, by which the late emperor's dominions were settled upon his daughter, they caused the elector of Bavaria to be crowned emperor. Thus the queen of Hungary, daughter of Charles VI. was at once stripped of her inheritance, and was left for a whole year deserted by all Europe, and without any hopes of succour. At the same time she lost the province of Silesia by an irruption of the young king of Prussia, who took the opportunity of her defenceless state to renew his pretensions to that province, of which his ancestors had been unjustly deprived. France, Saxony, and Bavaria, attacked the rest of her dominions: Britain was the only ally that seemed willing to assist her; in which, however, Sardinia, Holland, and Russia, soon after concurred.

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It must be owned that Britain had no other reason for interfering in these disputes, than that the security of the electorate depended upon nicely balancing the different interests of the empire; and the ministry were willing to gratify the king. His majesty informed the parliament, that he had sent a body of British forces into the Netherlands, which he had augmented by 16,000 Hanoverians, to make a diversion upon the dominions of France, in favour of the queen of Hungary. When the supplies came to be considered, by which this additional number of Hanoverian troops was to receive pay from Britain for defending their own cause, most violent parliamentary debates ensued; but the ministry carried their point by the strength of numbers.

411 Relieved by the British forces.

But, however prejudicial these continental measures might be to the true interests of Great Britain, they effectually retrieved the queen of Hungary's desperate affairs, and soon began to turn the scale of victory on her side. The French were driven out of Bohemia. Her general, Prince Charles, at the head of a large army, invaded the dominions of Bavaria. Her rival, the nominal emperor, was obliged to fly before her; and being abandoned by his allies, and stripped even of his hereditary dominions, retired to Frankfort, where he lived in obscurity.

412 Battle of Dettingen.

In the mean time, the British and Hanoverian army advanced, in order to effect a junction with that of Prince Charles of Lorraine, in which case they would have outnumbered their enemies. To prevent this, the French opposed an army of 60,000 men, upon the river Mayne, under the command of the Marshal de Noailles, who posted his troops on the east side of that river. The British army was commanded by the earl of Stair, who had learned the art of war under the great Prince Eugene; nevertheless he suffered himself to be enclosed by the enemy on every side, near a village called *Dettingen*. In this situation, the whole army, with the king himself, who had by this time arrived in the camp, must have been taken, had the French behaved with prudence. Their impetuosity, however, saved the whole army. They passed a defile which they ought to have contented themselves with guarding; and, under the conduct of the duke of Gramont, their horse charged the British foot with great fury. They were received with great resolution; and at last obliged to repass the Mayne with precipitation, and the loss of about 5000 men.

413 Intended invasion of Britain by the French.

Though the British were victorious in this engagement, the French were very little disconcerted by it. They opposed Prince Charles, and interrupted his attempts to pass the Rhine. In Italy they also gained some advantages; but their chief hopes were placed on an intended invasion of England. From the violence of parliamentary disputes in England, France had been persuaded that the country was ripe for a revolution, and only wanted the presence of the Pretender to bring about a change. An invasion was therefore actually projected. The troops destined for the expedition amounted to 15,000; and preparations were made for embarking them at Dunkirk and some of the ports nearest to England, under the eye of the young Pretender. The duke de Roquefuille, with 20 ships of the

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Britain. the line, was to see them safely landed on the opposite shore, and the famous Count Saxe was to command them when landed. But the whole project was disconcerted by the appearance of Sir John Norris, who, with a superior fleet, made up to attack them. The French fleet was obliged to put back; a very hard gale of wind damaged their transports beyond redress; and the French, now frustrated in their scheme of a sudden descent, thought fit openly to declare war.

The national joy for Sir John Norris's success, however, was soon damped by the miscarriage of Admirals Matthews and Lestock; who, through a misunderstanding between themselves, suffered a French fleet of 34 sail to escape them near Toulon. In the Netherlands the British arms were attended with still worse

414 Battle of Fontenoy. success. The French had there assembled an army of 120,000 men, commanded by Count Saxe, natural son to the late king of Poland, an officer of great experience. The English were headed by the duke of Cumberland, who had an inferior army, and was much inferior in the knowledge of war to the French general. Count Saxe, therefore, carried all before him. In 1743, he besieged Fribourg, and in the beginning of the campaign 1744, invested the strong city of Tournay. To save this place, if possible, the allies resolved to hazard an engagement; and on this ensued the bloody battle of Fontenoy, in which the allies left on the field of battle near 12,000 men, and the French almost an equal number. In consequence of this victory, Tournay was soon after taken by the French. To balance the bad success, however, Admirals Rowley and Warren had retrieved the honour of the British flag, and made several rich captures at sea. The for-

415 Louisbourg taken. tress of Louisbourg, a place of great consequence to the British commerce, surrendered to General Pepperel; while a short time after, two French East India ships, and a Spanish ship from Peru laden with treasure, put into the harbour, supposing it still their own, and were taken.

416 Young Pretender lands in Scotland. During this gleam of returning success, Charles Edward, the son of the old pretender to the British crown, resolved to make an attempt to recover what he called *his right*. Being furnished with some money from France, he embarked for Scotland aboard a small frigate, accompanied by the marquis of Tullibardine, Sir Thomas Sheridan, and some others; and for the conquest of the whole British empire, only brought with him seven officers and arms for 2000 men.

Fortune, however, seemed noway more favourable to this attempt than to others similar to it. His convoy, a ship of 60 guns, was so disabled in an engagement with an English man of war, that it was obliged to return to Brest, while he continued his course to the western parts of Scotland. On the 27th of July 1745, he landed on the coast of Lochaber, and was in a little time joined by the Highlanders, to the number of 1500: the ministry at first could scarcely be induced to credit his arrival; but when they could no longer doubt of it, they sent Sir John Cope with a small body of forces to oppose his progress.

417 Gains the battle of Prestonpans. By this time the young adventurer was arrived at Perth, where he performed the ceremony of proclaiming his father king of Great Britain. From thence descending towards Edinburgh, and his forces continually increasing, he entered the capital without opposition; but was unable, from want of cannon, to reduce the castle. Here he again proclaimed his father; and promised to dissolve the union, which was considered as one of the national grievances. In the mean time, Sir John Cope being reinforced by two regiments of dragoons, resolved to give the enemy battle. The rebels attacked him near Prestonpans, and in a few minutes put him and his troops to flight, with the loss of 500 men. Britain.

This victory gave the rebels great influence; and had the Pretender marched directly to England, the consequence might have been fatal to freedom. But he was amused by the promise of succours which never came; and thus induced to remain in Edinburgh till the season for action was lost. He was joined, however, by the earl of Kilmarnock, Lord Balmerino, lords Cromarty, Elcho, Ogilvy, Pitsligo, and the eldest son of Lord Lovat, who with their vassals considerably increased his army. Lord Lovat himself, so remarkable for his treachery, was an enthusiast in favour of the Pretender, but was unwilling to act openly for fear of the ministry. But while Charles was thus trifling away his time at Edinburgh, the British ministry were taking effectual methods to oppose him. Six thousand Dutch troops, that had come over to the assistance of the crown, were dispatched northward under the command of General Wade; but, as it was then said, these could lend no assistance, being prisoners of France upon their parole, and under engagements not to oppose that power for a year. But however this be, the duke of Cumberland soon after arrived from Flanders, and was followed by another detachment of dragoons and infantry, well disciplined and inured to action; and besides these, volunteers offered themselves in every part of the kingdom.

418 Invades England. At last, Charles resolved upon an irruption into England. He entered that country by the western border, and took the town of Carlisle; after which he continued his march southwards, having received assurances that a considerable body of forces would be landed on the southern coasts to make a diversion in his favour. He established his head quarters at Manchester, where he was joined by about 200 English, formed into a regiment, under the command of Colonel Townley. From thence he pursued his march to Derby, intending to go by the way of Chester into Wales, where he hoped to be joined by a great number of malecontents; but in this he was prevented by the factions among his followers.

419 Great consternation at London. Being now advanced within 100 miles of London, that capital was in the utmost consternation: and had he proceeded with the same expedition he had hitherto used, perhaps he might have made himself master of it. But he was rendered incapable of pursuing this or any other rational plan, by the discontents which began to prevail in his army. In fact, the young Pretender was but the nominal leader of his forces; his generals, the Highland chiefs, being averse to subordination, and ignorant of command. They were now unanimous in

420 Rebels resolve to return. their resolution to return to their own country, and Charles was forced to comply. They retreated to Carlisle without any loss; and from thence crossing the rivers Eden and Solway, entered Scotland. They next marched to Glasgow, which was laid under severe contributions. From thence advancing to Stirling, they

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they were joined by Lord Lewis Gordon at the head of some forces which had been assembled in his absence. Other clans likewise came in; and from some supplies of money received from Spain, and some skirmishes with the royalists, in which he was victorious, the Pretender's affairs began to wear a more promising aspect. Being joined by Lord Drummond, he invested the castle of Stirling, in the siege of which much time was consumed to no purpose. General Hawley, who commanded a considerable body of forces near Edinburgh, undertook to raise this siege, and advanced towards the rebel army as far as Falkirk. After two days spent in mutually examining each others strength, an engagement ensued, in which the king's forces were entirely defeated, with the loss of their tents and artillery.

421 Gain the battle of Falkirk.

422 Entirely defeated at Culloden.

This was the end of all the triumphs of the rebel army. The duke of Cumberland having arrived, was put at the head of the troops at Edinburgh, which amounted to about 14,000 men. With these he advanced to Aberdeen, where he was joined by several of the nobility attached to the house of Hanover; the enemy in the mean time retreating before him. He next advanced to the banks of the Spey, a deep and rapid river, where the rebels might have disputed his passage; but their contentions with one another were now risen to such a height, that they could scarce agree in any thing. At last they resolved to wait their pursuers. An engagement ensued at Culloden *, near Inverness; in which the rebels were defeated with great slaughter, and a final period was put to all the hopes of the young adventurer. The conquerors behaved with the greatest cruelty; refusing quarter to the wounded, the unarmed, and the defenceless; some were slain, who had only been spectators of the combat, and soldiers were seen to anticipate the base employment of the executioner. The duke immediately after the action ordered 36 deserters to be executed; the conquerors spread terror wherever they came; and after a short space, the whole country round was one dreadful scene of plunder, slaughter, and desolation.

* See *Culloden.*

423 Adventures of the young Pretender.

Immediately after the engagement, the young Pretender fled away with a captain of Fitzjames's cavalry; and when their horses were fatigued, they both alighted, and separately sought for safety. There is a striking resemblance between the adventures of Charles II. after the battle of Worcester, and those of the young Pretender after the battle of Culloden. For some days he wandered in the country. Sometimes he found refuge in caves and cottages, without any attendants at all. Sometimes he lay in forests with one or two companions of his distress, continually pursued by the troops of the conqueror, there being a reward of 30,000l. offered for taking him either dead or alive. In the course of his adventures, he had occasion to trust his life to the fidelity of above 50 individuals; not one of whom could be prevailed upon, by so great a reward as was offered, to betray him whom they looked upon to be their king's son.

For six months the unfortunate Charles continued to wander in the frightful wilds of Glengary, often hemmed round by his pursuers, but still rescued by some providential accident from the impending danger. At length a privateer of St Maloes, hired by his adherents, arrived in Loch Ranach, in which he embarked in the most wretched attire. He was clad in a short coat of black frize, thread-bare; over which was a common Highland plaid girt round him by a belt, from which hung a pistol and dagger. He had not been shifted for many weeks; his eyes were hollow, his visage wan, and his constitution greatly impaired by famine and fatigue. He was accompanied by Sullivan and Sheridan, two Irish adherents, who had shared all his calamities; together with Cameron of Lochiel, his brother, and a few other exiles. They set sail for France; and after having been chased by two English men of war, arrived in safety at a place called *Roscoe* near Morlaix in Bretagne.

424 He escapes to France.

425 Rebels executed.

While the Pretender was thus pursued, the scaffolds and gibbets were preparing for his adherents. Seventeen officers were hanged, drawn, and quartered, at Kennington common in the neighbourhood of London; nine were executed in the same manner at Carlisle, and eleven at York. A few obtained pardons, and a considerable number of the common men were transported to America. The earls of Kilmarnock and Cromarty, and Lord Balmerino, were tried and found guilty of high treason. Cromarty was pardoned; but Kilmarnock and Balmerino were executed; as was also Mr Radcliffe brother to the late earl of Derwentwater, who was sentenced upon a former conviction. Lord Lovat was tried, and suffered some time after.

426 New regulations in Scotland.

Immediately after the suppression of the rebellion, the legislature undertook to establish several regulations in Scotland, which were equally conducive to the happiness of the people and the tranquillity of the united kingdoms. The Highlanders had till that time continued to wear the military dress of their ancestors, and never went without arms. In consequence of this, they considered themselves as a body of people distinct from the rest of the nation, and were ready upon the shortest notice to second the insurrections of their chiefs. Their habits were now reformed by an act of legislature, and they were compelled to wear clothes of the common fashion. But what contributed still more to their real felicity was the abolition of that hereditary jurisdiction which their chieftains exerted over them. The power of their chieftains was totally destroyed, and every subject in that part of the kingdom was granted a participation in the common liberty.

427 Allies defeated in Flanders.

Soon after the battle of Culloden, the duke of Cumberland returned to Flanders, where he resumed the command of an army to which he was by no means equal. The French carried every thing before them; and they reduced under their dominion all those strong towns which had been taken by the duke of Marlborough, and formed a barrier to the United Provinces. They gained a considerable victory at Roucroux; which, however, cost them as many men as they destroyed of the enemy; but these they could more easily spare, as they were much more numerous. Another victory which they obtained at La Feldt, served to depress the allied army still lower. But the taking of Bergen-op-zoom, the strongest fortification of Brabant, reduced the Dutch to a state of desperation.

428 Losses of the French in other parts.

These victories and successes in Flanders were, however, counterbalanced by almost equal disappointments. In Italy, the marshal Belleisle's brother, attempting to penetrate at the head of 34,000 men into Piedmont, was

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Britain. was defeated and killed. A fleet was fitted out for the recovery of Cape Breton, but without success. Two others were fitted out, the one to make a descent upon the British colonies in America, and the other to carry on the operations in the East Indies; but these were attacked by Anson and Warren, and nine of their ships taken. Soon after this, Commodore Fox, with six ships of war, took above 40 French ships richly laden from St Domingo; and soon after this the French fleet was defeated by Admiral Hawke, who took seven ships of the line and several frigates.

429 Peace of Aix-la-Chapelle.

For a long time Louis had been desirous of a general tranquillity; and this desire he had even expressed to Sir John Ligonier, who was taken prisoner at the battle of La Feldt. But now the bad success of his admirals at sea, his armies in Italy, the frequent bankruptcies of his merchants at home, and the election of a stadtholder in Holland, who gave spirit to the opposition; all these contributed to make him weary of the war, and to propose terms of accommodation. This was what the allies had long wished for, but had been ashamed to demand. A congress, therefore, was held at Aix-la-Chapelle, where a treaty was concluded on the following terms: 1. That all prisoners on each side should be mutually given up, and all conquests restored. 2. That the duchies of Parma, Placentia, and Guastalla, should be ceded to Don Philip, heir apparent to the Spanish crown; after whom these dominions should return to the house of Austria. 3. That the fortifications of Dunkirk towards the sea should be demolished; and that the British ship annually sent with slaves to the coast of New Spain should have this privilege continued for four years. 4. That the king of Prussia should be confirmed in the possession of Silesia, and that the queen of Hungary should be secured in the possession of her patrimonial dominions. But the most mortifying clause was, that the king of Great Britain should immediately, after the ratification of this treaty, send two persons of rank to France as hostages, until restitution should be made of Cape Breton and all other British conquests made during the war. No mention was made of the searching British vessels in the American seas, though this was the original cause of the quarrel. The limits of their respective possessions in North America were not ascertained; nor did they receive any equivalent for those forts which they restored to the enemy.

430 Death of the prince of Wales.

In the year 1751, died Frederic prince of Wales, of a pleurisy, thought at first to be no way dangerous. He was greatly regretted; for his good-nature had rendered him popular, and those who opposed the present administration had grounded all their hopes of redress upon his accession to the throne.

Some time before this, viz. in the year 1749, a scheme was entered upon, which the nation in general imagined would be very advantageous. This was the encouraging those who had been discharged the army or navy to become settlers in Nova Scotia. This country is cold, barren, and almost incapable of cultivation.

431 Hostilities renewed.

Nevertheless, on account of this barren spot, the English and French renewed the war, which soon after spread with such terrible devastation over every part of the globe. The possession of this country was reckoned necessary to defend the English colonies to the north, and to preserve their superiority in the fisheries in that part of the world. The French, however, who had been long settled in the back parts, resolved to use every method to dispossess the new comers, and spirited up the Indians to begin hostilities. Another source of dispute also sprung up soon after in the same part of the world. The French, pretending to have first discovered the mouth of the river Mississippi, claimed the whole adjacent country towards New Mexico on the east, quite to the Apalachian mountains on the west. In order to assert their claims, as they found several English who had settled beyond these mountains, they dispossessed them of their new settlements, and built such forts as would command the whole country round about. Britain.

Negociations, mutual accusations, and hostilities, first took place between the two powers; at length, in 1756, four operations were undertaken by the British in America at once. Colonel Monkton had orders to drive the French from their encroachments upon the province of Nova Scotia. General Johnson was sent against Crown Point; General Shirley against Niagara, to secure the forts on the river; and General Braddock against Fort du Quesne. In these expeditions, Monkton was successful; Johnson also was victorious, though he failed in taking the fort against which he was sent; Shirley was thought to have lost the season of operation by delay; and Braddock was defeated and killed.

In return for this bad success, the British made reprisals at sea; and in this they were so successful, that the French navy was unable to recover itself during the continuance of the war that was shortly after declared on both sides. The first step of the French was to threaten an invasion. Several bodies of their troops were sent down to the coasts that lay opposite to the British shores; these were instructed in the manner of embarking and relanding from flat-bottomed boats, which were made in great numbers for that expedition. The number of men amounted to 50,000; but all discovered the utmost reluctance to the undertaking. The ministry were greatly alarmed. They applied to the Dutch for 6000 men, which they were by treaty obliged to furnish in case of an invasion. This supply was refused, the Dutch alleging, that their treaty was to send the troops in case of an actual, and not a threatened, invasion. The king, therefore, finding he could not have the Dutch forces till their assistance would be too late, desisted entirely from his demand; and the Dutch with great amity returned him thanks for withdrawing his request. Upon this, 10,000 Hessians and Hanoverians were brought over. But this occasioned great discontent. The ministry were reviled for such disgraceful condescension, as if the nation was unable to defend itself. The people only demanded a vigorous exertion of their own internal strength, and then feared no force that could be led to invade them.

432 Minorca invaded.

The British invasion, however, never took place: but a French army landed in Minorca, and invested the citadel of St Philip's, which was reckoned the strongest in Europe; but the garrison was weak, and no way fitted to stand a vigorous siege. To raise this siege, Admiral Byng was dispatched with a squadron of ten men of war, with orders to relieve Minorca, or at any rate to throw a body of troops into the garrison.

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son. This last he reckoned too hazardous an undertaking; nor did he even attempt it. Soon after, a French fleet appeared nearly equal in force to his own; but the admiral resolved to act only upon the defensive. The French advanced; a slight engagement ensued with part of the English fleet; after which, the French slowly sailed away, and another opportunity never occurred of coming to a closer engagement. After this, it was resolved in a council of war, to return to Gibraltar to refit, and that the relief of Minorca was impracticable. For this conduct Byng was brought home under arrest, tried, and sentenced to death. His sentence was to be shot; and he suffered with the greatest resolution, after delivering a paper filled with protestations of his innocence as to any treacherous intention.

433 Admiral Byng executed.

After the conquest of Minorca, the French declared that they would revenge all injuries they should sustain in their colonies on the king of Britain's dominions in Germany. Upon this, the court of London, eager to preserve Hanover, entered into a treaty with the court of Russia, by which it was stipulated, that a body of 50,000 Russians should be ready to act in the British service, in case Hanover should be invaded by the French. For this the czarina was to receive 100,000l. annually, to be paid in advance. This treaty was opposed by the king of Prussia. He had long considered himself as guardian of the interests of Germany, and was therefore alarmed at a treaty which threatened to deluge the empire with an army of barbarians. Besides, he was already apprised of an agreement between the Austrians and Russians, by which the latter were to enter the empire and strip him of his late conquest of Silesia. He therefore declared, that he would not suffer any foreign forces to enter the empire either as auxiliaries or principals. The king of Britain now found himself obliged to drop his Russian connexion, and conclude a treaty with the king of Prussia. As both monarchs wished only to prevent the invasion of Germany, they soon came to an agreement to assist each other mutually. From this alliance a new combination took place among the European powers, quite opposite to the former; and their forces were drawn out in the following manner. Britain opposed France in America, Asia, and on the ocean. France attacked Hanover; which the king of Prussia undertook to protect, while Britain promised him troops and money to assist his operations. Austria had her aims on the dominions of Prussia, and drew the elector of Saxony into the same designs. In these views the Austrians were seconded by France, Sweden, and Russia, who had hopes of acquiring a settlement in the west of Europe.

434 Treaty with Russia.

435 Opposed by the king of Prussia.

436 New combination of the European powers.

Thus the king of Prussia launched into the tumult of war, having only the king of Britain for his ally, while the most potent states of Europe were his antagonists. He now performed exploits perhaps unequalled in the annals of modern ages; for a particular account of which, see the article PRUSSIA. The British ministry, in order to procure a diversion in his favour, planned an enterprise against the coast of France. The destination of the fleet equipped for this purpose was kept a profound secret. At last it appeared before Rochefort; where the commanders, having trifled away their time in deliberating how to proceed, secured the little island of Aix, an easy and an useless conquest: soon after which, they returned home without attempting any thing else. By this miscarriage the ministry were so discouraged, that they had thoughts of abandoning the king of Prussia to his fate; and the king was actually meditating a negociation of this nature, when he was prevented by the expostulations of his distressed ally. From motives of generosity, therefore, more than of interest, it was resolved to continue to assist him; and success, which had long fled from the British arms, once more began to return with double splendour.

437 Unsuccessful expedition against France.

438 British success in the East Indies.

It was in the East Indies where this returning success first began to appear (for an account of which see the article INDOSTAN); and their conquests in the western part of the world were about this time still more splendid than those in the east. But these successes must, partly at least, be ascribed to the vigorous administration of Mr William Pitt, who about this time came into power. An expedition was set on foot against Cape Breton, under General Amherst and Admiral Boscawen: another under General Abercrombie, against Crown Point and Ticonderago; and a third, under Brigadier-General Forbes, against Fort du Quesne. The fortress of Louisbourg, which defended the island of Cape Breton, was very strong both by nature and art; the garrison was numerous, the commander vigilant, and every precaution had been taken to prevent a landing: but the activity of the British surmounted every obstacle, the place was surrendered by capitulation, and its fortifications were demolished. The expedition against Fort du Quesne was equally successful; but that against Crown Point once more miscarried. General Abercrombie attacked the French in their intrenchments, was repulsed with great slaughter, and obliged to retire to his camp at Lake George. But though in this respect the British arms were unsuccessful, yet, upon the whole, the campaign of 1758 was greatly in their favour. The taking of Fort du Quesne served to remove from their colonies the terror of the incursions of the Indians, while it interrupted the correspondence along a chain of forts with which the French had environed the British settlements in America; so that the succeeding campaign promised great success.

439 Mr Pitt comes into power.

440 Quebec taken, and Canada reduced.

In 1759, it was resolved to attack the French in several parts of their empire at once. General Amherst with a body of 12,000 men was commanded to attack Crown Point; General Wolfe was to undertake the siege of Quebec; while General Prideaux and Sir William Johnson were to attempt a French fort near the cataracts of Niagara. This last expedition was the first that succeeded. The siege was begun with vigour, and promised an easy conquest; but General Prideaux was killed in the trenches by the bursting of a mortar, so that the whole command devolved on General Johnson. A body of French troops, sensible of the importance of the place, attempted to relieve it; but were utterly defeated and dispersed; soon after which, the garrison surrendered prisoners of war. On his arrival at the forts of Crown Point and Ticonderago, General Amherst found them deserted and destroyed. There now remained, therefore, but one decisive blow to reduce all North America under the British dominion; and this was by the taking of Quebec *, the capital of Canada.

* See Quebec.

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Britain.

Canada. This expedition was commanded by Admiral Saunders and General Wolfe. The enterprise was attended with difficulties which appeared unsurmountable; but all these difficulties were got over by the conduct of General Wolfe, and the bravery of his men. He engaged and put to flight the French under Montcalm; but, to the great regret of the British, their general was killed in the action. The surrender of Quebec was the consequence of this victory, which was soon followed by the cession of all Canada. The following season, indeed, the French made a vigorous effort to recover the city; but by the resolution of Governor Murray, and the appearance of a British fleet under the command of Lord Colvile, they were obliged to abandon the enterprise. The whole province was soon after reduced by the prudence and activity of General Amherst, who obliged the French army to capitulate; and it has since remained annexed to the British empire. About the same time also the island of Guadaloupe was reduced by Commodore More and General Hopson.

441 Duke of Cumberland capitulates with the French.

The British affairs in Germany had at the beginning of the war worn a very unfavourable aspect. The Hanoverians were commanded by the duke of Cumberland, who was greatly outnumbered by the enemy. He was driven beyond the Weser, the passage of which might have been disputed with some appearance of success; but the French were suffered to pass it unmolested. The Hanoverians were driven from one part of the country to another, till at length they made a stand near a village called *Hastenback*, where it was hoped the numbers of the enemy would have the least opportunity of coming to a general engagement. The Hanoverians, however, left the field of battle to the French, after a faint resistance. Their enemies pursued, and the duke retired towards Stade; by which means he marched into a country from whence he could neither procure provisions nor attack the enemy with any hopes of success. Here, being unable either to escape or advance, he was compelled to sign a capitulation by which the whole army laid down their arms, and were dispersed into different quarters of cantonment. By this remarkable capitulation, which was called the *Capitulation of Closter Seven*, Hanover was obliged to submit quietly to the French, who were now determined to turn their arms against the king of Prussia.

442 The Hanoverians take up arms.

Soon after this capitulation, both sides began to complain that the treaty was not strictly observed. The Hanoverians exclaimed against the rapacity of the French general and the brutality of his soldiers. The French retorted the charge against them, accused them of insolence and insurrection; and being sensible of their own superiority, resolved to bind them strictly to their terms of agreement. The Hanoverians only wished for a pretence to take arms, and a general to head them. Neither was long wanting. The oppressions of the tax-gatherers, whom the French had appointed, were considered as so severe, that the army rose to vindicate the freedom of their country, while Ferdinand, prince of Brunswick, put himself at their head. As soon as this was known in Britain, large supplies were granted both for the service of the king of Prussia, and to enable the Hanoverian army to act vigorously in conjunction with him. A small body of British forces was sent over to join Prince Ferdinand under the duke of Marlborough. After some inconsiderable successes at Crevelt, the duke of Marlborough dying, the command of the British forces devolved on Lord George Sackville. A misunderstanding arose between him and Prince Ferdinand, which appeared at the battle of Minden that was fought shortly after. Lord George pretended that he did not understand the orders sent him by the prince, and of consequence did not obey them. The allies gained the victory, which would have been more decisive had the British commander obeyed his orders. He was soon after recalled, tried by a court-martial, found guilty of disobedience, and declared incapable of serving in any military command for the future.

Britain.

443 French defeated at Minden.

444 German war continued with various success.

After this victory it was imagined that one reinforcement more of British troops would terminate the war in favour of the allies; and that reinforcement was quickly sent. The British army in Germany was augmented to upwards of 30,000 men, and sanguine hopes of conquest were generally entertained. These hopes, however, were soon found to be ill-founded. The allies were defeated at Corbach; but retrieved their honour at Exdorf. A victory at Warbourg followed shortly after, and another at Zierenberg: But then they suffered a defeat at Compen; after which, both sides retired into winter-quarters.

445 Death of King George II.

On the 25th of October 1760, happened the death of King George II. He had risen at his usual hour, and observed to his attendants, that as the weather was fine, he would take a walk into the garden of Kensington, where he then resided. In a few minutes after his return, being left alone, he was heard to fall down upon the floor. The noise of this bringing his attendants into the room, they lifted him into bed; where he desired, with a faint voice, that the princess Amelia might be sent for: but before she could reach the apartment, he expired, in the 77th year of his age and 33d of his reign. An attempt was made to bleed him, but without effect; and afterwards the surgeons, upon opening him, discovered that the right ventricle of the heart was ruptured, and a great quantity of blood discharged through the aperture.

446 Great success of the British arms.

King George III. ascended the throne amidst the greatest successes both by sea and land. At this time, indeed, the efforts of Britain in every quarter of the globe were truly astonishing. The king of Prussia received a subsidy; a large body of English forces commanded the extensive peninsula of India; another army of 20,000 men confirmed their conquests in North America; 30,000 men were employed in Germany: and a great many more were dispersed in the different garrisons in different parts of the world; but all this was surpassed by the astonishing naval force, which carried command wherever it came, and had totally annihilated the French maritime power. The courage and conduct of the English admirals excelled every thing that had been heard of before; neither superior force, nor number, nor even the terrors of the tempest, could intimidate them. Admiral Hawke gained a complete victory over an equal number of French ships in Quiberon Bay on the coast of Bretagne, in the midst of a tempest, during the darkness of night, and, what a seaman fears still more, in the neighbourhood of a rocky shore.

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Britain. As soon as his present majesty had met with his parliament, which was on November 18. 1760, he confirmed the hopes of his allies, and gave assurances of his intentions to prosecute the war with vigour. By this time, however, the people were in some measure weary with conquests; especially with those in Germany, from which they could never hope for any solid advantage, and which were gained at an immense expence to the nation. Disputes concerning the propriety of the German war were carried on, and the general run of popular opinion seemed to be rather against than for it. For some time, however, no change took place in the method of carrying on the war. In 1761 proposals of peace were made between the belligerent powers of Europe; and for this purpose Mr Stanley was sent to Paris and Mr Bussy to London: But the French, designing to draw Spain into a confederacy with them, seem not to have been sincere in their intentions; and thus the treaty came to nothing. An enterprise was projected against the island of Belleisle, near the coast of France, which was conducted by Commodore Keppel and General Hodgson*. The place was conquered, with the loss of 1800 men killed and wounded on the part of the British; and however unimportant this conquest might be, the rejoicings on account of it were great. In Germany, the campaign was unsuccessful on the part of the allies. At first, indeed, they drove the French quite out of the territory of Hesse, and laid siege to the city of Cassel; but being defeated at Stangerod, they were forced to raise the siege, retire behind the Dymel, and again abandon Hesse to their enemies. Here they were followed and attacked by the French; who, though defeated in that attempt, were with difficulty prevented from making themselves masters of Munster and Brunswick.

447 Proposals of peace.

* See *Belleisle*.

All this time an appearance of negociation had been carried on; but at last the French having brought their designs with the court of Spain to a bearing, Mr Bussy delivered to Mr Pitt a private memorial, signifying, that, in order to establish the peace on a lasting foundation, the king of Spain might be induced to guarantee the treaty: and to prevent the differences which then subsisted between Britain and Spain from producing a fresh war in Europe, he proposed, that in this negociation the three points which had been disputed between the crown of England and Spain might be finally settled. First, the restitution of some captures made upon the Spanish flag. Secondly, the privilege of the Spanish nation to fish upon the banks of Newfoundland. Thirdly, the demolition of the English settlements made in the bay of Honduras. This memorial was returned as wholly inadmissible. Mr Pitt declared, that it would be looked upon as an affront to the dignity of his master, and incompatible with the sincerity of the negociation, to make any further mention of such a circumstance.

448 Spanish war proposed by Mr Pitt.

Mr Pitt being now thoroughly convinced of the sinister designs of Spain, proposed immediately to declare war against that kingdom. But this proposal being rejected, he resigned his employment of secretary of state; after which, he was created earl of Chatham, and had a pension of 3000l. per annum settled upon him for three lives.

449 He resigns, and is created earl of Chatham.

Soon after this, however, the new administration found that Mr Pitt was in the right, and war was declared between Great Britain and Spain. As Portugal was an useful ally of Britain, it was resolved by the French and Spaniards to attack that kingdom, which was then in no capacity of defending itself. The Portuguese monarch was by the most haughty memorials commanded to accede to the confederacy against Britain, and threatened with the vengeance of France and Spain in case of a refusal. It was in vain that he promised to observe a strict neutrality, and urged the obligations he was under to the king of Britain; this moderate and reasonable reply only drew on more haughty and insulting answers. His Portuguese majesty, however, continued to reject their proposals in the most resolute manner; and concluded his last declaration with these words, that "it would affect him less, though reduced to the last extremity, of which the great Judge is the sole arbiter, to let the last tile of his palace fall, and to see his faithful subjects spill the last drop of their blood, than to sacrifice, together with the honour of his crown, all that Portugal holds most dear; and to submit, by such extraordinary means, to become an unheard-of example to all pacific powers, who will no longer be able to enjoy the benefit of neutrality, whenever a war shall be kindled between other powers with which the former are connected by defensive treaties." The declaration was made on the 27th of April 1762; and soon after, France and Spain jointly declared war against Portugal.

Britain. 450 War with Spain.

451 France and Spain declare war against Portugal.

As the design of the courts of France and Spain in making war with Portugal, was professedly to prevent Great Britain from the military and commercial use of the ports of that kingdom, their principal endeavours were aimed at the two great ports where the British used to reside, viz. Oporto and Lisbon. With this view, three inroads were to be made; one to the north; another more to the south; while the third was made in the middle provinces, in order to sustain these two bodies, and preserve a communication between them. The first body of troops was commanded by the marquis of Savria; and entered the north-east angle of Portugal, marching towards Miranda. This town might possibly have retarded their progress, had not a powder magazine been blown up by accident; and the Spaniards entered on the 9th of May by the breaches made by this explosion. From thence they marched to Braganza, which surrendered six days after Miranda. Moncorvo was taken in like manner; every thing was clear before them to the banks of the Douro; and they became masters of almost the whole extensive province of Tralos Montes. Oporto was given up for lost, and the admiralty prepared transports to carry off the effects of the British merchants. On the banks of the Douro, however, the career of this body was stopped. The peasants, animated and guided by some British officers, seized a difficult pass, and drove the enemy back to Moncorvo.

452 Portugal invaded.

The second body of Spaniards entered the province of Beira, at the villages called *Val de Mula* and *Val de Coelha*. They were joined by strong detachments, amounting to almost the whole army in Tralos Montes; and immediately laid siege to Almeida, the strongest and best provided place on the frontiers of Portugal. This place was defended with sufficient resolution; but, like the rest, was obliged to surrender on the

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Britain. 25th of August. The Spaniards then overran the whole territory of Castel Branco, a principal district of the province of Beira, making their way southward until they approached the banks of the Tagus. During the whole of their progress, and indeed during the whole of the campaign, the allied troops of Great Britain and Portugal had nothing that could be called an army in the field, and they could not think of opposing the enemy in a pitched battle. All that could be done was by the defence of passes, skirmish, and surprise.

By this time the count of La Lippe Buckeburg had arrived in Portugal, to the inexpressible joy of the whole nation. The third Spanish army had assembled on the frontiers of Estremadura, with a design to invade the province of Alentejo; and had this body of troops been joined to the others, they would probably, in spite of all opposition, have forced their way to Lisbon itself; had it acted separately, it might have greatly distracted the defendants, so as to enable some other body of forces to penetrate to that city. The count, therefore, resolved to prevent their entrance into the kingdom; and with this view dispatched Brigadier-general Burgoyne to attack an advanced body of Spaniards which lay on their frontiers, in a town called *Valentia de Alcantara*. On the 27th of August the town was surprised; the general was taken who intended to have commanded in the invasion, together with one colonel, two captains, and 17 subaltern officers. One of the best regiments in the Spanish service was also entirely destroyed; and thus the enemy were in all probability prevented from entering Alentejo.

453 Spaniards defeated by General Burgoyne,

That part of the Spanish army which acted in the territory of Castel Branco had made themselves masters of several important passes, which they obliged some bodies of Portuguese to abandon. The combined army of British and Portuguese pretended to retire before them, in order to draw them into the mountainous tracts. They attacked the rear of the allies, but were repulsed with loss. Still, however, they continued masters of the country, and nothing remained but the passage of the Tagus to enable them to take up their quarters in the province of Alentejo. This the count designed to prevent; and in this service General Burgoyne was employed, who formed a design of surprising them. The execution was committed to Colonel Lee, who, in the night of October 6th, fell upon their rear, dispersed the whole body with considerable slaughter, destroyed their magazines, and returned with scarce any loss. The season was now far advanced; immense quantities of rain fell; the roads were destroyed; and the Spaniards, having seized no advanced post where they could maintain themselves, and being unprovided with magazines for the support of their horse, everywhere fell back to the frontiers of Spain.

454 and by Colonel Lee.

455 Havannah, &c. taken.

No less successful were the British arms in America and the East Indies. From the French were taken the islands of Martinico, St Lucia, St Vincent, and Grenada; from the Spaniards the strong fortress called *Havannah*, in the island of Cuba. By the acquisition of the first mentioned islands the British became the sole and undisturbed possessors of all the Caribbees; and held that chain of innumerable islands which forms an immense bow, extending from the eastern point of Hispaniola, almost to the continent of South America. The conquest of the Havannah cost a number of brave men; more of whom were destroyed by the climate than the enemy†. It was in this place that the fleets from the several parts of the Spanish West Indies, called the *galleons* and *flota*, assembled, before they finally set out on their voyage for Europe. The acquisition of this place, therefore, united in itself all the advantages which had been acquired in war. It was a military advantage of the highest class: it was equal to the greatest naval victory, by its effect on the enemy's marine; and in the plunder it equalled the produce of a national subsidy. Nine of the enemy's men of war, with four frigates, were taken; three of their capital ships had been sunk in the harbour at the beginning of the siege; two more were on the stocks in great forwardness, and these were destroyed. In money and valuable merchandises, the plunder did not fall short of 3,000,000l. sterling. To this success in the western part of the world may be added the capture of the Spanish register-ship called the *Hermione*, by the Active and Favourite king's ships. This happened on the 21st of May 1762, just as she was entering one of the ports of Old Spain, and the prize was little short of 1,000,000l. sterling.

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† See Havannah.

456 Immense plunder found in the place.

457 Capture of the Hermione.

458 Philippines reduced.

In the East Indies an expedition was undertaken against the Philippine islands, which was committed to Colonel Draper, who arrived for this purpose at Madras in the latter end of June 1762. The 79th regiment was the only regular corps that could be spared for this service. Every thing was conducted with the greatest celerity and judgment. The British forces landed at Manilla on the 24th of September; on the 6th of October the governor was obliged to surrender at discretion; and soon after, the galleon bound from Manilla to Acapulco, laden with rich merchandise, to the value of more than half a million, was taken by two frigates called the *Argo* and *Panther*. By the conquest of Manilla, 14 considerable islands fell into the hands of the British; which, from their extent, fertility, and convenience of commerce, furnished the materials of a great kingdom. By this acquisition, joined to our former successes, we secured all the avenues of the Spanish trade, and interrupted all communications between the parts of their vast but unconnected empire. The conquest of the Havannah had cut off in a great measure the intercourse of their wealthy continental colonies with Europe: the reduction of the Philippines excluded them from Asia; and the plunder taken was far more than sufficient to indemnify the charges of the expedition; a circumstance not very common in modern wars. It amounted to upwards of a million and a half; of which the East India Company, on whom the charge of the enterprise in a great measure lay, were by contract to have a third part.

459 Manilla galleon taken.

460 Vast extent of the British dominions.

All this time the war in Germany had continued with the utmost violence; the allies under Prince Ferdinand had continued to give the highest proofs of their valour, but no decisive advantage could be obtained against the French. It was, however, no longer the interest of Britain to continue a destructive war. There never had been a period so fortunate or glorious to this island. In the course of this war she had conquered a tract of continent of immense extent.

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tent. Her American territory approached to the borders of Asia, and came near to the frontiers of the Russian and Chinese dominions. She had conquered 25 islands, all of them distinguishable for their magnitude, their riches, or the importance of their situation. By sea or land she had gained 12 battles, had reduced nine fortified cities, and near 40 castles and forts. She had taken or destroyed above 100 ships of war from her enemies, and acquired at least 10,000,000l. in plunder.

By such unexampled and wide extended conquests, it is no wonder that the French and Spaniards were desirous of a peace; which was at length concluded at Paris on the 10th of February 1763. The terms granted them were by many thought too favourable. The principal of them were, That the French king should relinquish all claims to Nova Scotia; that he should likewise give up all the country of Canada; and that for the future the boundary betwixt the British and French dominions in America should be fixed by a line drawn along the middle of the river Mississippi from its source to the river Ibberville, and from thence by a line drawn along the middle of this river, and the lakes Manrepas and Pontchartrain, to the sea. The islands of St Pierre, Miquelon, Martinico, Guadaloupe, Marigalante, Desirade, St Lucia, and Belleisle, were restored to France: Minorca, Grenada and the Grenadines, St Vincent, Dominica, and Tobago, were ceded to Britain. In Africa, the island of Goree was restored to France; and the river Senegal, with all its forts and dependencies ceded to Great Britain. In the East Indies, all the forts and factories taken from the French were restored. In Europe, the fortifications of Dunkirk were to be destroyed; and all the countries, fortresses, &c. belonging to the electorate of Hanover, the duke of Brunswick, and the count of La Lippe Buckeburg, restored. With regard to Spain, the British fortifications on the Bay of Honduras were to be demolished; and the Spaniards were to desist from their claim of right to fish on the Newfoundland bank. The Havannah was restored; in consequence of which, Florida, St Augustine, and the bay of Pensacola, were ceded to Britain, and the Spaniards were to make peace with Portugal: all other countries not particularly mentioned were to be restored to their respective owners at the beginning of the war.

461 Articles of the peace in 1763.

462 Discontents increased on the conclusion of this treaty.

The conclusion of the war did not by any means tend to heal those divisions which had arisen on the resignation of Mr Pitt; on the contrary, it furnished abundant matter of complaint for the discontented party, whose views seem at that time only to have been the embarrassment and disturbance of an administration which they were not able to subvert. At the time the treaty was under consideration, however, only some faint attempts were made to oppose it; but it soon appeared, that though this opposition had proved so feeble, the spirit of the party was far from being exhausted. The state of affairs at that time indeed greatly favoured the views of those who delighted in turbulence and faction. A long and expensive war had drained the national treasure, and greatly increased the public debt. Heavy taxes had already been imposed, and it was still as necessary to keep up these, and even to impose new ones, as though the war had not ceased. Thus the bulk of the nation, who imagined that conquest and riches ought to go hand in hand, were easily induced to believe that administration arbitrary and oppressive, which continued to load them with fresh taxes after such great successes as had attended the British arms for some years past.

463 Great clamour raised by the cyder tax.

It must indeed be owned, that the new administration appear not to have been sufficiently wary in this respect. Among other methods of raising the supplies for 1763, they had thought proper to lay a duty of four shillings per hogshead upon cyder, payable by the maker, and to be collected in the same manner as other excises. The other articles of supply furnished also matter of declamation for the members in opposition; but this inflamed the popular fury to a great degree, and made them readily imbibe as truth whatever was thrown out by the minority in their parliamentary debates. Besides the usual declamations, that it was oppressive, unconstitutional, and injurious to the landholder and farmer, the smallness of the sum to be raised by it was now urged. This was said to indicate, that the supplying the wants of government could not be the sole motive for imposing such a duty. It was farther urged, with much show of lamentation, that now the houses of all orders of people, noblemen of the first rank not excepted, were liable to be entered and searched at the pleasure of excisemen, a proceeding which they denominated in express terms "a badge of slavery." Thus it was spoken of throughout all the cyder counties, by the city of London, and by most of the incorporations throughout the kingdom. The city had been displeased by the late changes in administration, and had not yet recovered their good humour. They instructed their representatives to oppose the passing of the bill with all possible vigour, and gave in petitions against it to every branch of the legislature; a measure till that time totally unprecedented: two protests were also entered against it in the house of lords; and in short the kingdom of England was thrown into an almost universal ferment.

It is not to be doubted that the friends of administration were able to bring arguments sufficiently plausible in favour of their scheme: but the utmost force of reason will go but a very little way in quieting popular clamour: and while opposition was railing against ministry within doors, every method was taken to excite the fury of the people without. Virulent libels, the audacity of which far exceeded any thing known in former times, now made their appearance; and such was the general intemperance in this respect, that it would be difficult to determine which side paid least regard to any kind of decency or decorum.

464 Resignation of the earl of Bute.

In the midst of this general ferment, the earl of Bute unexpectedly resigned his place of first lord of the treasury. His resignation quickly became an object of general speculation; by some he was highly censured for leaving his friends at the time when a little perseverance might have defeated all the designs of his enemies, and established his own power on the most solid foundation. Such conduct, they said, must discourage the friends of government, and at the same time give proportionable encouragement to its adversaries to insult it, as they perceived ministry unable to resist the first gust of popular fury. Others contended, that the earl was perhaps the least influenced by popular opinion of any man in the world. He had demonstrated his,

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his firmness by taking a share in the dangerous but necessary affair of concluding peace; and, this being accomplished, he had fully obtained his end, and performed the service to his country which was desired. He now resolved that the factious party should not have even the pretence of objecting his personal ambition as the cause of disturbances which they themselves had excited; and thus his resignation would tend to put an end to these troubles, at the same time that it showed the authors of them in their proper colours.

465 Popular ferment still continues.

The event, however, showed that the former reasoning was, in the present case, nearest the truth. The popular resentment was not in the least abated by the resignation. His lordship, though now withdrawn from the ostensible administration of affairs, was still considered as principal director of the cabinet; and this opinion gained the more ground that none of the popular leaders were yet taken in, nor any apparent change made in the conduct of the new administration.

466 Characters of the new ministers.

No reasonable objection could now be made to those who filled the great offices of state. Mr Grenville, who succeeded the earl of Bute in the treasury, was a man of approved integrity, understanding, and experience. Lord Holland was universally considered as a very able man in office, and had already filled many high employments with a great degree of reputation. The other secretary, Lord Egremont, though he had not been long in office, was in every respect of an unexceptionable character. The other departments were filled in a similar manner, yet the discontents and public clamours were not diminished. It was now said that the new ministers were not chosen on account of any superior gifts of nature or fortune, but merely because they had the art of insinuating themselves into favour at court in such a manner that any inconvenience would be submitted to rather than part with them. The sole reason of their appointment therefore was, that they might act as the passive instruments of the late minister, who though, from considerations of his own personal safety, he had thought proper to retire from business, yet had not abandoned his ambitious projects, but continued to direct every thing as though he had still been present. Opposition to the new ministers was therefore opposition to him; and it became those who understood the true interest of their country, and had a real regard to it, not to suffer such a scheme of clandestine administration.

467 Lord Bute supposed still to be at the head of administration.

468 Different political principles of the two parties.

Whether the party who made these assertions really believed them or not cannot be known; but the effect was exactly the same as though they had. The great object of both parties most probably was power; but their different situations required that they should profess different political principles. The friends of Lord Bute and of the succeeding administration were for preserving to the crown the full exercise of a power which could not be disputed, viz. that of choosing its own servants. Their opponents, without denying this power, contended, that, according to the spirit of the constitution, the crown should be directed to the exercise of this public duty only by motives of national utility, and not by private friendship. In appointing the officers of state, therefore, they insisted that respect should be paid to those possessed of great talents who had done eminent services to the nation, enjoyed the confidence of the nobility, and had influence amongst the landed and mercantile interests. The observance of this rule, they contended, was the only proper balance which could be had against the enormous influence of the crown arising from the disposal of so many places; nor could the nation be reconciled to this power by any other means than a very popular use of it. Men might indeed be appointed according to the strict letter of the law; but unless these were men in whom the majority of the nation already put confidence, they never would be satisfied, nor think themselves secure against attempts on the constitution of the kingdom. When ministers also found themselves recommended to the royal favour, and as it were presented to their places, by the esteem of the people, they would be studious to deserve and secure themselves in it; and upon these (which they called the principles of Whigs) they said that the government had been honourably conducted since the Revolution, and the nation would never be at peace till they were again established on the same basis.

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469 Mr Wilkes apprehended on a general warrant.

In the mean time the disposition to libel and invective seemed to have gone beyond all bounds. The peace, the Scots, and Scottified administration, afforded such subjects of abuse to the pretended patriots, that ministry resolved at last to make an example of one of them by way of deterring the rest from such licentiousness. For this purpose the paper called the North Briton was made choice of, which, in language much superior to any other political work of the time, had abused the king, the ministry, and the Scots, in an extravagant manner. One particular paper (N° xlv.) was deemed by those in power to be actionable; and Mr Wilkes, member of parliament for Aylesbury, was supposed to be the author. A warrant was therefore granted for apprehending the author, publishers, &c. of this performance, but without mentioning Wilkes's name. In consequence of this, however, three messengers entered his house on the night between the 29th and 30th of April 1763, with an intention to seize him. He objected, however, to the legality of the warrant, because his name was not mentioned in it, and likewise to the lateness of the hour; and on threatening the messengers with violence, they thought proper to retire for that night. Next morning he was apprehended without making any resistance, though some violence was necessary to get him into a hackney-coach, which carried him before the secretaries of state for examination.

470 Illegal proceedings against him.

On the first intimation of Mr Wilkes's being in custody, application was made for a *habeas corpus*; but as this could not be sued out till four in the afternoon, several of his friends desired admittance to him, which was peremptorily refused on pretence of an order from the secretaries of state. This order, however, though repeatedly demanded, could not be produced, or at least was not so; on which account the gentlemen, conceiving that they were not obliged to pay any regard to messengers acting only by a verbal commission, entered the place where he was without farther question.

This illegal step was quickly followed by several others. Mr Wilkes's house was searched, and his papers seized in his absence; and though it was certain that a

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habeas corpus was now obtained, he was nevertheless committed to the Tower. Here not only his friends, but even several noblemen and gentlemen of the first distinction, were denied access; nor was his own brother allowed to see him more than others. On the third day of May he was brought before the court of common pleas, where he made a most patriotic speech, setting forth the love he had for his majesty, the bad conduct of ministry, not forgetting his own particular grievances, and that he had been treated "worse than a Scotch rebel." His case being learnedly argued by several eminent lawyers, he was remanded to the Tower for three days; after which he was ordered to be brought up, that the affair might be finally settled.

471 He is committed to the Tower.

472 Deprived of his commission as colonel of the Buckinghamshire militia.

Next day Lord Temple received a letter from Secretary Egremont, informing him, that the king judged it improper that Mr Wilkes should continue any longer a colonel of the Buckinghamshire militia; and soon after Temple himself was removed from being lord-lieutenant of that county. Mr Wilkes then being brought to Westminster-hall at the time appointed, made another flaming speech; after which the judges took his case into consideration. Their opinion was, that the warrant of a secretary of state was in no respect superior to that of a common justice of peace; and on the whole, that Mr Wilkes's commitment was illegal. It was likewise determined, that his privilege as a member of parliament was infringed: this could not be forfeited but by treason, felony, or breach of the peace; none of which was imputed to him; for a libel, even though it had been proved, had only a tendency to disturb the peace, without any actual breach of it. Thus it was resolved to discharge him; but, before he quitted the court, a gentleman of eminence in the profession of the law stood up and acquainted the judges, that he had just received a note from the attorney and solicitor general, intreating his lordship not to give Mr Wilkes leave to depart till they came, which would be instantly, as they had something to offer against his plea of privilege. This motion, however, being rejected, the prisoner was set at liberty.

473 Is discharged, and his commitment declared illegal.

474 Endeavours to raise a general animosity against administration.

Mr Wilkes had no sooner regained his freedom than he showed himself resolved to make all the advantage he could of the errors committed by the ministry, and to excite as general a ferment as possible. For this purpose he wrote a very impudent letter to the earls of Egremont and Halifax, informing them, that his house had been robbed, and that the *stolen goods* were in the possession of one or both of their lordships, insisting upon immediate restitution. This letter was printed, and many thousand copies of it dispersed; soon after which an answer by the two noblemen was published in the newspapers, in which they informed him of the true cause of the seizure of his papers, that his majesty had ordered him to be prosecuted by the attorney-general, and that such of his papers as did not lead to a proof of his guilt should be restored. This was quickly succeeded by a reply, but the correspondence ceased on the part of their lordships. Mr Wilkes, however, erected a printing-press in his own house, where he advertised the proceedings of the administration, with all the original papers, at the price of a guinea. The North Briton now again made its appearance; the popular party were elated beyond measure with their success; those who had suffered by general warrants sought redress at law, and commonly obtained damages far beyond not only their real sufferings, but even beyond their most sanguine expectations. During the whole summer, the minds of the people were kept in continual agitation by political pamphlets and libels of various kinds, while the affair of general warrants so engrossed the general attention, that by the time the parliament sat down, November 15. 1763, scarce any other subject of conversation could be started in company.

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475 Proceedings against him in parliament.

On the meeting of parliament his majesty mentioned in his speech the attempts that had been made to divide the people; and before the addresses could be made in return, a message was sent to the commons, informing them of the supposed offence of Mr Wilkes, and of the proceedings against him, the exceptionable paper being also laid before the house. After warm debates, the North Briton was deemed a false, scandalous, and seditious libel, tending to excite traitorous insurrections, &c. This was followed by another, that the privilege of parliament does not extend to the writing and publishing of seditious libels, nor ought to obstruct the ordinary course of the laws in the speedy and effectual prosecution of so heinous and dangerous an offence. It did not, however, pass the house of commons without a vigorous opposition, and seventeen members of the upper house protested against it.

476 Disturbances on burning the North Briton.

The North Briton, N° xlv. being condemned, as already mentioned, was ordered to be burnt by the hangman: but this could not be done without great opposition from the mob. The executioner, constables, officers, and even the chief persons concerned, were pelted with filth and dirt, and some of them insulted in the grossest manner. Mr Harley, one of the sheriffs and member of parliament for London, was wounded by a billet taken from the fire; the staves of the constables were broken, and the whole officers and executioner driven off the field; while the remains of the paper were carried off in triumph from the flames, and in return a large jack-boot was burnt at Temple-bar, while the half-burnt North Briton was displayed amidst the acclamations of the populace.

477 The under secretary fined for seizing Mr Wilkes's papers.

Mr Wilkes, in the mean time, determined to make the best use of the victory he had already gained, and therefore commenced a prosecution in the court of common pleas against Robert Wood, Esq. the under secretary of state, for seizing his papers. The cause was determined in his favour, and Wood condemned in 1000l. damages, with full costs of suit.

478 Mr Wilkes prosecuted, wounded in a duel, and outlawed.

The prosecution with which Mr Wilkes had been threatened was now carried on with great vigour; but in the mean time, having grossly affronted Samuel Martin, Esq. member for Camelford, by his abusive language in the North Briton, he was by that gentleman challenged, and dangerously wounded in the belly with a pistol-bullet. While he lay ill of his wound, the house of commons put off his trial from time to time; but beginning at last to suspect that there was some collusion betwixt him and his physician, they enjoined Dr Heberden, and Mr Hawkins an eminent surgeon, to attend him, and report his case. Mr Wilkes, however, did not think proper to admit

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admit a visit from these gentlemen; but soon after took a journey to France to visit his daughter, who, as he gave out, lay dangerously ill at Paris.

The commons having now lost all patience, and being certified that he had refused to admit the physician and surgeon sent by them, proceeded against him in his absence. The evidence appearing quite satisfactory, he was expelled the house, and a prosecution afterwards commenced against him before the house of lords, on account of an obscene and blasphemous pamphlet, in which he had mentioned a reverend and learned bishop in a most shameful manner. The event of all was, that, failing to appear to answer the charges against him, he was outlawed, which, it was then supposed, would for ever consign his patriotism to oblivion.

479 A general spirit of licentiousness still prevails.

The extreme severity shown to Mr Wilkes did not at all extinguish the spirit of the party. A general infatuation in favour of licentious and abusive writings seemed to have taken place; and to publish libels of this kind without the least regard to truth or justice was called *liberty*. At the very time that Mr Wilkes was found guilty of publishing the infamous pamphlet above mentioned, the common council of London presented their thanks to the city representatives for their zealous and spirited endeavours to assert the rights and liberties of the subject, "by their laudable attempt to obtain a seasonable and parliamentary declaration, That a general warrant for apprehending and seizing the authors, printers, and publishers of a seditious libel, together with their papers, is not warranted by law." Their gratitude they showed to lord chief justice Pratt, for his decision in Wilkes's affair, by presenting him with the freedom of the city, and desiring him to sit for his picture to be placed in Guildhall. These extravagant proceedings, however, did not pass without strong opposition, and were considered by the sober part as highly unjust and improper, as well as indecent.

The violent clamours which had been excited and still continued, though in a less violent degree, did not prevent administration from paying that attention to the exigencies of the nation which its present situation undoubtedly required. The practice of franking blank covers to go free per post to any part of Great Britain or Ireland, had arisen to an incredible height, and greatly prejudiced the revenue. The hands of members of parliament were not only counterfeited, but the covers publicly sold without the least scruple; and besides this, the clerks of the post office claimed a privilege of franking, which extended even farther than that of the members of the house; the latter being restricted to a certain weight, but the former denying that they were subject to any restriction of this kind. The matter, however, was attended with considerable difficulty when it came to be examined in the house of commons. It was found, that though the vast increase of franks was detrimental to one branch of the revenue, it was serviceable to another by the immense consumption of stamps it occasioned; but at last the following act was passed as an effectual remedy, viz. That from the 1st of May 1764, no letters or packets should be exempted from postage, except such as were sent to or from the king; or such as, not exceeding two ounces in weight, should be signed by a member of either house, the whole of the superscription being in his own handwriting; or such as should be directed to members of parliament, or other persons specified in the act. It was likewise enacted, that printed votes and proceedings in parliament, sent without covers, or in covers open at the sides, and only signed on the outside by a member, should go free, though such packets were liable to be searched; and to give the greater force to these regulations, it was made felony and transportation for seven years to forge a frank. At this time it was proved, that the annual postage of letters sent free would amount to 70,000l. and that the profits accruing to the clerks of the post-office amounted to between 800l. and 1700l. each.

480 Abuse of franking letters corrected.

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481 Plan for settling the island of St John, and selling the conquered lands.

Other plans for augmenting the revenue were that for settling the island of St John, and for the sale of the lately acquired American islands. The former was proposed by the earl of Egremont, who presented a memorial to his majesty on the subject. In this he desired a grant of the whole island of St John's, in the gulf of St Lawrence, to hold the same in fee of the crown for ever; specifying particularly the various divisions, government, &c.; but for reasons unknown, the plan was never put in execution. The sale of the conquered lands took place in March, 1764. These were particularly the islands of Grenada, the Grenadines, Dominica, St Vincent, and Tobago. Sixpence an acre was to be paid as a quit rent for cleared lands, and a penny a foot for ground-rent of tenements in towns, and sixpence an acre for fields; but no person was to purchase more than 300 acres in Dominica, or 500 in the other islands.

482 Renewal of the charter of the bank.

One of the most remarkable transactions of this year was the renewal of the charter of the bank, for which the latter paid the sum of 1,000,000l. into the exchequer as a present to the public, besides the advancing a million to government upon exchequer bills.

483 Taxation of America.

Another, and, by its consequences, still more momentous affair, however, was the consideration of methods to raise a revenue upon the American colonies. This had been formerly proposed to Sir Robert Walpole; but that prudent minister wisely declined to enter into such a dangerous affair, saying, that he would leave the taxation of the colonies to those who came after him in office. The reason given for such a proceeding was the defraying the necessary charges of defending them; which though extremely reasonable in itself, was done in such a manner as excited a flame not to be extinguished but by the total loss of the authority of the parent state. Before this time, indeed, hints had been thrown out, that it was not impossible for the colonists to withdraw their dependence on Britain; and some disputes had taken place betwixt the different provinces, which were quieted only by the fear of the French, and seemed to prognosticate no good. It was thought proper therefore now, when the colonies were not only secured but extended, to make the experiment whether they would be obedient or not. They contained more than two millions of people, and it was evidently necessary to raise a revenue from such a numerous body. Some thought it might be dangerous to provoke them; but to this it was replied by administration, that the danger must increase by forbearance; and as taxation was indispensable, the sooner the experiment was made the better. The fatal trial being thus determined,

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ned, an act was passed for preventing smuggling, so that the duties laid on the American trade might come into the hands of government. At this time an illicit trade was carried on betwixt the British and Spanish colonies, which seemed to bid defiance to all law and regulation; and was no less disagreeable to the Spanish than to the British court. In some respects, however, the suppression of this was very inconvenient, and even intolerable to the colonists; for as the balance of trade with Britain was against them, it was impossible they could procure any specie except by trading with the Spaniards, by whom they were paid for their goods in gold and silver. This, and another act requiring them to pay certain duties in cash, was probably the reason of that excessive resentment shown by the Americans to government, and their absolute refusal to submit to the stamp-act which was also passed this year.

484 Act against illicit trade with the Spaniards.

485 Stamp act passed.

486 Isle of Man purchased by government.

The augmentation of the revenue being the principal object of administration at this time, the suppression of smuggling at home, as well as in America, was taken into consideration. Though the great number of cutters and other vessels fitted out by government for this purpose had produced very salutary effects, the isle of Man, which belonged to the duke of Athol, and was not subject to the customhouse laws, lay so conveniently for the purposes of smuggling, that the utmost vigilance of government was not sufficient to suppress it. The event was a treaty betwixt government and the duke, by which the latter, for a sum of money, ceded all the sovereignty in the island he could claim, and cutters were placed on the coasts and in the harbours of the island as in other places of the kingdom.

487 A general animosity against government both in Britain and America.

This disposition to augment the revenue by all possible methods, seems to have served to keep up the general opinion of the oppressive and arbitrary measures about to be pursued by government. The ill humour of the British patriots still continued; and the stamp bills were received in America with the utmost indignation. The arguments for and against American taxation are now of no importance; and the particulars of their opposition are related under the article *United States of America*. Here we shall only take notice, that the opposition of the colonists proved very distressing to the mother-country, on account of the vast sums they owed. At this time they were indebted to the merchants of London four millions sterling; and so ready were the latter to give them credit, that some of the American legislatures passed acts against incurring such credit for the future. A petition on the subject was presented to the house of commons; but as it denied the parliamentary right of taxation, it was not allowed to be read. It was then proposed on the part of administration, that the agents should join in a petition to the house for their being heard by counsel in behalf of their respective colonies against the tax. The agents, however, not thinking themselves empowered to grant such a petition, the negociation was broken off, and matters went on in America as we have elsewhere related.

488 Vigorous conduct of administration.

In other respects, the ministry took such steps as were undeniably proper for supporting the honour and dignity of the nation. Some encroachments having been made by the French and Spaniards, such remonstrances were made to their respective courts, that satisfaction was quickly made; and though every trifle was sufficient to open the mouths of the popular party, it was impossible as yet to find any just cause of complaint. The disposition to tumult and insurrection, however, seems to have been now very general. The silk-weavers residing in Spittalfields being distressed for want of employment, which they supposed to proceed from the clandestine importation of French silks, laid their case before his majesty in the year 1764, who graciously promised them relief. The sufferers were relieved by the bounty of the public; but this seemed to render the matter worse, by confirming them in habits of indolence and idleness. At the same time a bill, which was supposed to tend to their relief, being thrown out, they began to assemble in vast numbers, which, gradually increasing, are said to have amounted at last to 50,000; several disorders were committed, and it was not without the assistance of the soldiery, and the utmost vigilance of the magistrates, that the riot could be suppressed.

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489 Insurrection of the Spittalfields weavers.

During this insurrection, the ferment betwixt the court and popular parties continued with unabated vigour. The ministers were still attacked in numberless publications, and accused as being merely dependents and substitutes to the earl of Bute; nor could the utmost care on the part either of that nobleman or the ministers blunt the shafts of calumny and misrepresentation. An accident, however, now produced a considerable revolution at court, though it had very little effect in calming the minds of the people. This was an illness with which the king was seized in the beginning of the year, which filled the public with apprehensions, and produced a bill for settling the affairs of the kingdom in case of the crown falling into the hands of a minor. In settling this bill, ministers were said to have behaved with very little respect to the princess-dowager of Wales, and industriously to have excluded her from a share of the government. These proceedings were thought in a great measure to have alienated the affection of his majesty from the ministry, who had hitherto been in great favour: Nor did their subsequent conduct show them to be at all desirous of regaining what they had lost. They now contrived to have the earl of Bute's brother turned out of a very lucrative post which he enjoyed in Scotland, and in which he had never given the least cause of complaint. A step of this kind could not be agreeable to his majesty, nor could it recommend them to the popular party in England, who always manifested a perfect indifference as to what passed in Scotland. On this occasion Lord Chatham is said to have been solicited again to accept the office which he had formerly filled so much to the satisfaction of the nation, and to have declined it.

490 Illness of the king and regency bill.

491 Change of ministry.

A new ministry, however, was soon formed, at the recommendation of the duke of Cumberland. The duke of Grafton and the honourable Mr Conway, brother to the earl of Hertford, were appointed secretaries of state, the marquis of Rockingham first lord of the exchequer, and Mr Dowdeswell chancellor and under treasurer of the exchequer. The office of lord privy seal was conferred on the duke of Newcastle, and all other places were filled with men not only of known integrity, but such as were agreeable to the people. These changes, however, were not yet able to give satisfaction. The opinion that affairs were still mana-

492 New ministers recommended by the duke of Cumberland.

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ged by the earl of Bute continued to prevail, and was industriously kept up by the political writers of the time. The city of London expressed their discontent on the occasion of addressing his majesty on the birth of a third son. They now took the opportunity of assuring him of "their faithful attachment to his royal house; and the *true* honour of his crown, *whenever a happy establishment of public measures should present a favourable occasion;* and that they would be ready to exert their utmost abilities in support of such wise counsels as apparently tended to render his majesty's reign happy and glorious."

493 The clamour against Lord Bute still kept up.

These expressions showed such an evident disapprobation of his majesty's choice, that it could not fail to offend both king and ministry; but before the latter could show any token of resentment, they lost their great friend and patron the duke of Cumberland. His death happened on the 31st of October 1765. He had been that evening assisting at one of those councils frequently held in order to put matters in a way of being more speedily dispatched by the privy council; where being seized with a sudden disorder of which he had some symptoms the evening before, he fell senseless in the arms of the earl of Albemarle, and expired almost instantaneously. His death was greatly lamented, not only by their majesties, but by the whole nation, being universally esteemed not only as a brave commander, but an excellent member of society, an encourager of industry, and an active promoter of the arts of peace.

494 Death of his royal highness the duke of Cumberland.

In the mean time, the discontents which inflamed the American colonies continued also to agitate the minds of the people of Great Britain; nor indeed was it reasonable to expect that they could be satisfied in their present condition; commerce being almost entirely destroyed, manufactures at a stand, and provisions extravagantly dear. The vast sums owing to the British merchants by the Americans also severely affected the trading and manufacturing part of the country. These amounting to several millions, the colonists absolutely refused to pay unless the obnoxious laws should be repealed. Administration were therefore under the necessity of instantly enforcing the stamp act by fire and sword, or of procuring its immediate repeal in parliament. The loss of the duke of Cumberland was now severely felt, as he had been accustomed to assist administration with his advice, and was highly respected by the nation for his good sense. At this period, however, it is doubtful if human wisdom could have prevented the consequences which ensued. Administration endeavoured, as much as perhaps was possible, to avoid the two extremes, either of rushing instantly into a civil war, or of sacrificing the dignity of the crown or nation by irresolution or weakness. They suspended their opinion until they should receive certain intelligence from the American governors how affairs stood in that country; and their letters on that occasion still do them honour. The opposite party animadverted severely on this conduct. They insisted on having the most coercive methods immediately put in execution for enforcing the laws in which they themselves had so great a share; and it is probable that they wished matters to come to extremities before the sitting down of parliament. Pacific measures, however, at this time prevailed: the stamp act was repealed;

495 Arguments for and against the stamp act.

496 It is repealed.

but at the same time another was made, declaring the right of parliament not only to tax the colonies, but to bind them in all cases whatever.

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The repeal of the stamp act occasioned universal joy both in Britain and America, though, as parliament insisted upon their right of taxation, which the opposite party denied, matters were still as far from any real accommodation as ever. This ill humour of the Americans was soon after augmented by the duties laid upon glass, painters colours, and tea, imported into their country, while at home the dearness of provisions, and some improper steps taken by ministry to remedy the evil, kept up the general outcry against them. A general disposition to tumult and riot still continued; and unhappily the civil power now seemed to lose its force, and a general anarchy, under the name of liberty, to be approaching.

497 Tranquillity is not restored by its repeal.

In this state of affairs administration were once more disturbed by the appearance of Mr Wilkes, who had returned from his exile, and on the dissolution of parliament in 1768, though an outlaw, stood a candidate for the city of London. He was received by the populace with loud acclamations, and several merchants and people of large property espoused his cause, and a subscription was entered into for the payment of his debts. He failed, however, in his design of representing the city of London, but instantly declared himself a candidate for Middlesex. The tumults and riots which now took place were innumerable; and such was the animosity betwixt the two parties, that a civil war seemed to be threatened. Our limits will not allow of any particular detail of these transactions. It will be sufficient to take notice, that on a legal trial the outlawry of Mr Wilkes was reversed, and he was condemned for his offences to pay a fine of 1000l. and to be imprisoned for twelve months. Being idolized by the people, however, and powerfully supported, he was repeatedly chosen member for Middlesex, and as often rejected by the house of commons. The tumults on this occasion were not always ended without bloodshed; and the interposition of the military was construed by the patriots as an indication of a design to establish ministerial authority by the most barbarous methods. In short, the behaviour of the people of England and America was at this time so very much alike, that both seemed to be actuated by one spirit, and the rage of the English patriots undoubtedly contributed to confirm the colonists in their disobedience.

498 Return of Mr Wilkes.

The dissensions which had so long prevailed in the kingdom did not pass unnoticed by the other European powers, particularly the French and Spaniards. Both had applied themselves with assiduity to the increase of their marine; and many began to prognosticate an attack from one or other or both of these nations. The Spaniards first showed an inclination to come to a rupture with Britain. The subject in dispute was a settlement formed on Falkland's islands*, near the southern extremity of the American continent. A scheme of this kind had been thought of as early as the reign of Charles II. but it was not till after Lord Anson's voyage that much attention had been paid to it. In the printed account of it, his lordship showed the danger incurred by our navigators through the treachery of the Portuguese in Brazil; and that it was a matter of the greatest importance to discover

499 Difference with Spain concerning Falkland's islands.

*See *Falkland's islands.*

500 An English settlement formerly proposed on these islands.

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discover some place more to the southward, where ships might be supplied with necessaries for their voyage round Cape Horn; and, among others, he pointed out Falkland's islands as eligible for this purpose. When at the head of the admiralty his lordship also forwarded the scheme as much as possible; and some preparations were made for putting it in execution: but as it met with opposition at home, and gave offence to the court of Madrid, it was laid aside till the year 1764, when it was revived by Lord Egmont. Commodore Byron being then sent out with proper necessaries, took possession of them in the name of his majesty, and represented them in a favourable light; while his successor, Captain M'Bride, affirmed, that the soil was utterly incapable of cultivation, and the clime intolerable.

501 A French colony settles there.

Be this as it will, the islands in question had attracted also the notice of the French. So low, however, had that nation been reduced by the late war, that no project of the kind could yet be put in execution at the public expence. M. Bougainville, therefore, with the assistance of his friends, undertook to form a settlement on Falkland's island's at their own risk. The scheme was put in execution in the beginning of the year 1764; and a settlement formed on the eastern part of the same island where Commodore Byron had established an English colony on the western side. His account of the country was still more favourable than that of the English commander; but as the project had been undertaken with a view to other discoveries and advantages, which probably did not turn out according to expectation, the French adventurers soon became weary of their new colony; to which also the displeasure of the Spaniards, who were greatly offended, did not a little contribute. M. Bougainville, therefore, being reimbursed in his expences, and the French having given up every claim of discovery or right of possession, the Spaniards landed some troops in 1766, took possession of the fort built by the French, and changed the name of the harbour from Port Louis to Port Solidad.

502 They abandon it to the Spaniards.

In the year 1769, Captain Hunt of the Tamar frigate, happening to be on a cruize off Falkland's islands, fell in with a Spanish schooner which had been at Port Solidad. During all this time it is uncertain whether the British and Spanish settlers knew of one another or not. From the behaviour of Captain Hunt we should suppose that they did not; as he charged the commander of the schooner to depart from that coast, being the property of his Britannic majesty. The schooner, however, soon returned, bringing an officer from the governor of Buenos Ayres, who gave the like warning to Captain Hunt to depart from the coast, as belonging to the king of Spain. Some altercation ensued; but Captain Hunt, not choosing to carry matters to extremities, set sail for England, where he arrived in June 1770.

503 The Spaniards oblige the British to leave the islands.

At the departure of Captain Hunt, two frigates were left at Falkland's islands. One of these was lost in a short time after; and on the 4th of June 1770, a Spanish frigate arrived at the English settlement named *Port Egmont*, with a number of guns and other warlike utensils for carrying on a regular siege. In three days, four other frigates arrived, laden in the same manner; so that the English commander, Captain Farmer, finding all resistance vain, was obliged to capitulate. The English were ordered to depart within a limited time, carrying with them what stores they could; and the Spanish commander declared himself answerable for what they should leave on the island. The time allowed them to remain at Port Egmont was to be determined by the governor; and for the greater security, the rudder was taken off from Captain Farmer's ship, and kept on shore till the appointed period; after which the frigate was permitted to depart, and in 70 days arrived at Portsmouth.

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504 Parliamentary transactions relating to this affair.

An insult to the British flag so audacious, seemed to render war inevitable unless proper reparation was very speedily made. It was accordingly mentioned in the speech from the throne, November 13. 1770; and an immediate demand of satisfaction for the injury was promised, and that the necessary preparations for war, which had been begun should not be discontinued. The affairs of America were also taken notice of, where grounds of complaint still existed, notwithstanding the cessation of these combinations which had distressed the commerce of this country. These promises, with regard to the affairs of Falkland's islands, however, were far from giving general satisfaction. The speech, as the work of ministry, was most violently attacked by opposition; and an address in answer to it, it was said, would be an eulogium on ministers, who did not deserve it. News had arrived, they said, from Falkland's islands in June, which sufficiently demonstrated the designs of Spain; and Gibraltar and Minorca were left open to the attacks of that power, without any preparation being made on our part to resist them. The whole conduct of the ministry was said to be pusillanimous; and the love of peace, which was given out as the reason of their unwillingness to resent the injury, was treated with contempt.

A motion was now made in both houses for an inquiry into the conduct of the Spaniards on this occasion, and that all the papers and letters relative to it should be laid before parliament. The demand, however, was opposed by ministry, who insisted that the laws of negociation precluded the idea of exposing any letters or papers sent in confidence while the negociation was depending; and they asserted that the king of Spain had disavowed the conduct of his officer, and promised satisfaction. It would have been rash, they said, to proceed to extremities betwixt the two crowns, when perhaps the officer only was to blame; but if, after remonstrance, the court of Spain refused satisfaction, we were then authorized to force that justice which was refused in an amicable manner.

505 Negociations with the Spanish ambassador.

Some time before this, Mr Harris, the English minister at the court of Madrid, dispatched a letter to Lord Weymouth, informing him that a ship had arrived from Buenos Ayres, with an account of the intended expedition against Port Egmont, the number of men to be employed, and the time fixed for its departure; at the same time that it was asserted by Prince Maserans, the Spanish ambassador, that he had every reason to believe that the governor of Buenos Ayres had employed force at Port Egmont without any orders; and hoped that, by disavowing this proceeding, he might prevent any misunderstanding betwixt the two kingdoms. To this his lordship replied in a spirited manner, asking, among other things, Whether the prince had any orders to disavow the proceedings of the governor?

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Britain. And, on his reply in the negative, a formal disavowal was demanded. After some time, his lordship was informed that the prince had orders to disavow any particular orders given to M. Bucarelli, the governor of Buenos Ayres, and at the same time to say, that he had acted agreeably to his general instructions and oath as governor; that the island should be restored; and that it was expected the king of Britain would, on his part, disavow the conduct of Captain Hunt, whose menace had induced the governor to act as he did.

This reply did not by any means prove agreeable; and soon after the conduct of the court of Spain became so suspicious, that Mr Harris was ordered to quit the court of Madrid; and the correspondence between Prince Maserans and the court of England was no longer continued. About this time Lord Weymouth resigned his office, and was succeeded by the earl of Rochford; and the affair of Falkland's islands was no longer openly spoken of. On the sitting down of the parliament, January 22. 1771, however, it was again brought before the house, and the declaration of the Spanish ambassador, with Rochford's acceptance, were announced. Prince Maserans then disavowed, in the name of his master, the violence used at Port Egmont; to the restitution of which he agreed, and hoped that this restitution should be looked upon as ample satisfaction, and at the same time as not affecting the question concerning the prior sovereignty of the islands. This produced a new demand for copies of all papers, letters, and declarations of every kind relating to Falkland's islands: but though it was now seemingly complied with, the opposite party affirmed that it was still only in part; for besides a chasm of near two months, during which time there was no account whatever, none of the copies of the claims or representations made by the court of Spain since the first settlement of the islands were given up. Thus a suspicion was produced, that the concealment of these papers, and the deficiencies in the order of their dates, might proceed from some misconduct during the periods in question; and which administration was willing to conceal from the world. To these objections it was replied, that every paper which could be found in the several offices had been presented; and that if there had been any correspondence between the two courts of which no notice was taken in them, it must have been verbal; but, at any rate, there were papers sufficient to enable the house to determine the propriety or impropriety of their conduct throughout the whole transaction; for every thing decisive or explicit was in writing, and every writing was laid before them.

All these excuses, however, could not yet satisfy opposition. It was reported, and generally believed, that France had interposed in the affair; in consequence of which, a motion was made to address his majesty for information whether any such interference had taken place, and of what nature it was, or in what manner it had been conducted. The minister denied that there had been any such interference: but it was insisted that this was insufficient; that the word of the king was requisite, as that of the minister could not be satisfactory, even supposing him to be upright. It did not, however, appear that any correspondence in writing had taken place betwixt the two courts: and when the minister was asked, whether France had ever interposed as mediator? he answered, that England "had not employed France in that capacity; but that the word *interposed* was of a meaning too vague for direct explanation; and it was unusual to demand verbal negociations, while papers were laid before them: That as all Europe had an eye to the compromising of differences betwixt states, it was not to be supposed that France would be altogether silent; but nothing (says he) dishonourable has ever passed." Opposition still insisted that they had a right to have an account of verbal negociations as well as others; and that if this right was given up, a minister had no more to do, when he wished to promote an insidious measure, than to conduct it by verbal correspondence. The motion, however, was lost by a great majority in both houses. Britain.

506 A general dissatisfaction with the manner in which the affair is determined.

This manner of deciding the question was so far from allaying the general ferment, that it rendered it much worse. The transaction was considered as entirely disgraceful to the British nation: nor were all the arguments that could be used by the ministerial party in any degree sufficient to overthrow the general opinion. The restitution of the island was thought to be an inadequate recompense for the affront that had been offered; and the objections to it were urged on a motion for an address to return thanks for the communication of the Spanish declaration, and to testify their satisfaction with the redress that had been obtained. This address was not carried without considerable difficulty, and produced a protest from 19 peers. On the part of Spain, however, every part of the agreement was ostensibly fulfilled; Port Egmont was restored, and the British once more took possession of it, though it was in a short time after evacuated, according to a private agreement, as was suspected, between the ministry and the court of Spain: but of this no evidence ever appeared to the public.

507 The settlement finally abandoned.

In other respects, the greatest discontents raged throughout the kingdom. A fire which happened at Portsmouth in the year 1770 excited numberless jealousies, and was by some imputed to our enemies on the continent. The affair of the Middlesex election was never forgotten; and notwithstanding many repulses, the city of London still ventured to present new petitions to the throne. In one presented this year by Mr Beckford, the lord mayor at that time, they lamented the heavy displeasure under which they seemed to have fallen with his majesty, and renewed a petition, frequently presented before, concerning a dissolution of parliament. This, however, met with a very unfavourable answer: his majesty informed the lord mayor, that his sentiments on that subject continued unchanged; and that "he should ill deserve the title of Father of his people, should he suffer himself to be prevailed on to make such a use of his prerogative as he could not but think inconsistent with the interest, and dangerous to the constitution, of the kingdom." Mr Beckford was so far from being disheartened by this answer, that he demanded leave to speak to the king: which being obtained, he made a speech of considerable length, and concluded with telling his majesty, that "whoever had already dared, or should hereafter endeavour, by false insinuations and suggestions, to alienate his majesty's affections from his loyal subjects in general, and the city of London in particular, was an enemy to his majesty's person and family, a violator of the public peace,

508 Remarkable speech of Mr Beckford to his majesty.

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peace, and a betrayer of our happy constitution as it was established at the glorious revolution." To this no answer was made, though it gave great offence: and when Mr Beckford went afterwards to St James's with an address on the queen's safe delivery of a princess, he was told, that "as his lordship had thought fit to speak to his majesty after his answer to the late remonstrance; as it was unusual, his majesty desired that nothing of the kind might happen for the future."

509 Gives offence.

This behaviour of Mr Beckford was by many of the court-party censured in an extreme degree, as indecent, unprecedented, impudent, and little short of high treason; while, on the other hand, he was on the same account raised to the highest pinnacle of popular favour. He did not long, however, enjoy the applause of the people, dying within a short time after he made the celebrated speech above mentioned, and his death was reckoned an irreparable loss to the whole party. Several other petitions were presented on the subject of popular grievances; but the perpetual neglect with which they were treated at last brought that mode of application into disuse. A new subject of contention, however, now offered itself. The navy was in a bad condition, and the sailors every where avoided the service. Towards the end of August 16 ships of the line were ready to put to sea; but the legality of press warrants being questioned, the manning of them became a matter of great difficulty. The new lord mayor, Brass Crosby, refused to back the warrants; which proved a vexatious matter to the ministry. They were further provoked by the unbounded liberty to which the press had been carried; and the mode of proceeding against some libellers had produced many complaints regarding the powers of the attorney general. He had filed informations and carried on prosecutions, *ex officio*, without going through the forms observed in all other cases.—"This (it was said by the patriotic party) was inconsistent with the nature of a free government. No power can be more dangerous to private liberty, nor to the virtue or principles of him who enjoys it. The attorney acts under a minister, and his sense of duty must be very strong, or his independence very thoroughly secured by contentment, if he is at no time tempted to swerve from the laws of conscience and equity. It is in his power to give what name he pleases to a paper, and call it seditious or treasonable; then, without the interference of a jury, he proceeds to try the offender; who, though he may be acquitted, may nevertheless be ruined by the expences attending his justification." Examples were cited on this occasion of very flagrant oppression and injustice from this very power: the laws, it was said, were become changeable at the pleasure of a judge; and the liberty of a subject was taken from him whenever he became obnoxious to his superiors. As these proceedings had therefore been the cause of very general complaint, a motion was made in the house of commons to bring in a bill for explaining and amending an act of the 4th and 5th of William and Mary to prevent invidious informations, and for the more easy reversal of outlawries in the court of king's bench. This motion was rejected by a great majority; the ministerial party urging, that the power of the attorney-general was the same that ever it had been, and founded on common law. The abuse of power was no argument against the legal exercise of it; it was dangerous to overthrow established customs; the actions of the attorney-general were cognizable by parliament, which controul must for ever prevent a licentious exertion of his power, &c.

510 His death.

511 Proposals for reducing the power of the attorney general.

512 Rejected.

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These arguments, however, even with the rejection of the motion, did not put an end to the disputes on this head. The courts of justice themselves were at this time held up in a very despicable light, on account of some late decisions which had been deemed contrary to law and usual practice. By these the judges had assumed a power of determining whether a paper was a libel or not; and the business of the jury was confined to the determination of the fact regarding its publication; and thus it was said to have appeared that the judges had it in their power to punish a man who had been found guilty of publishing a paper, whether seditious or not. Lord Chatham, in a speech on the Middlesex election, took occasion to mention these abuses; and was answered by Lord Mansfield, who looked upon himself to be particularly pointed at. The former, however, was so little convinced by his answer, that he drew from it an additional confirmation of his own arguments; and moved that a day should be appointed for taking into consideration the conduct of the judges; in which he was ably seconded by the late lord chancellor. A committee was accordingly moved for on December 6th 1770, to inquire into the matter; but after much debate, was rejected by 184 to 76. The affair, however, did not yet seem to be terminated. Lord Mansfield gave notice next day, that on Monday he would communicate to the house of lords a matter of the utmost importance; but when that day came, he produced nothing but a paper containing the case of Woodfall the printer as tried in the court of king's bench, that whoever pleased might read or take copies of it. This was looked upon as exceedingly frivolous, and greatly disappointed the expectations of the whole house. His lordship was asked, whether he meant that the paper should be entered on the journals of the house or not? To which he answered, that he had no such intention, but only that it should be left in the hands of the clerk; on which the affair would probably have been overlooked altogether, had not the late lord chancellor, who all along strongly supported the motion, stood up to accuse Lord Mansfield, from the very paper to which he appealed, of a practice repugnant to the law of England. Hence he took occasion to propose some queries relative to the power of juries, and challenged his antagonist to a debate either at that time or soon after. But this method of proceeding was complained of as too precipitate, and an excuse was likewise made for not assigning a day for the debate at any other time; so that the matter soon sunk into oblivion. It was, however, loudly talked of without doors; and the judges, who had already fallen much in the estimation of the people, now became much more obnoxious. Pamphlets were printed containing the most severe accusations; comparisons were made betwixt some of the law lords and their predecessors, and even the print shops were filled with ridiculous and satirical pictures.

513 Disputes concerning the behaviour of the judges.

An accident which took place soon after contributed

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buted also greatly to lessen the character not only of the ministerial party, but even that of both houses of parliament taken collectively, in the eyes of the vulgar, to an extreme degree; and indeed it must be owned that nothing could be more derogatory to the honour of the first assembly of the nation, or to that of the individuals who composed it. A motion was made on the 20th of December 1770 by the duke of Manchester, that an address be presented to his majesty, that he would be graciously pleased to give orders for quickening our preparations for defence in the West Indies and in the Mediterranean; and particularly for securing the posts of Gibraltar and Minorca. But while his grace was descanting on the negligence of ministry in leaving posts of such importance in a defenceless state, he was suddenly interrupted by Lord Gower, who insisted on having the house immediately cleared of all but those who had a right to sit there. "When motions (said he) are thus brought in by surprise, and without the knowledge of the house as to their contents, it is impossible but such things may be spoken as are improper for the general ear; especially as the enemy may have spies in the house, in order to convey secret intelligence, and expose the nakedness of our possessions." His lordship was answered by the duke of Richmond, who complained of the interruption given to the duke of Manchester as a proceeding both irregular and insidious. This produced a considerable degree of altercation; and the cry of "Clear the house!" resounded from all quarters. Several members attempted to speak, but finding it impossible, and piqued at this shameful behaviour, 18 or 19 of them left the house in a body. The members of the house of commons then present were not only commanded to depart, but some of the lords went personally to the bar, and insisted on their leaving the house immediately. These unfortunate members alleged in excuse, that they attended with a bill, and were there in the discharge of their duty; but this availed nothing: they were peremptorily ordered to withdraw till their message should be delivered; and after going through the usual forms, were turned out of doors amidst the greatest tumult and uproar. In the mean time the lords, who had just left the house of peers, had gone to the lower house, where they were listening to the debates, when the commoners, who had been turned out of the house of lords, arrived full of indignation, and making loud complaints of the affront they had received. This was resented by turning out indiscriminately all the spectators; among whom were the 18 peers just mentioned, who were thus shut out from both houses. The affair terminated in a misunderstanding betwixt the two houses, which continued during the whole session. Sixteen lords joined in a protest; and in the warmest terms censured the treatment they had met with, as well as the unprecedented behaviour of administration, who had thus attempted to suppress the freedom of argument, and render the conduct of the house an object of censure and ridicule to the whole world.

514 Shameful tumult in the house of lords.

515 Members of the house of commons affronted, which occasions a misunderstanding betwixt the two houses.

516 Monstrous instance of corruption in New Shoreham.

After the discussion of the affair of Falkland's islands in the manner already related, a most unheard of instance of corruption was laid before parliament in the borough of New Shoreham in Sussex. The contest was occasioned by the returning officer, Mr Roberts, having returned a candidate with only 57 votes, when the other had 87; and on bringing him to trial for this strange proceeding, the following scene of villany was laid open. A great number of the freemen of the borough had formed themselves into a society called the *Christian Society* or *Club*; but instead of keeping up the character indicated by this title, it was clearly proved by the returning officer, who formerly belonged to it, that it was employed only for the purposes of venality. A select committee of the members were appointed to sell the borough to the highest bidder. The committee men never appeared at elections themselves, but gave orders to the rest, and directed them how to vote; and after the election was over, shared the profits among themselves. Though all this was clearly proved, the returning officer was dismissed with only a reprimand from the speaker of the house of commons, for having trespassed upon the forms to be sacredly observed by a returning officer. A more severe punishment, however, was reserved for the borough, and those wretches who had assumed the name of the *Christian Club*. A motion for an inquiry being carried unanimously, a bill was brought in to incapacitate 81 freemen of this borough, whose names were mentioned, from ever voting at parliamentary elections; and, for the more effectually preventing bribery and corruption, the attorney-general was ordered to prosecute the committee belonging to the Christian Club: the members were allowed counsel; and many different opinions were offered regarding the mode of punishment. Some were mercifully inclined only to reprimand them, while others proposed to disfranchise the borough; however, the bill for incapacitation was passed at length, though it did not receive the royal assent till the last day of the session.

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The unbounded licentiousness of the press now called the attention of parliament, though the evil appeared in a manner incapable of being checked. At this time neither rank nor character were any security against the voice of calumny from one party or other; and indeed it was hard to say on what side the most intemperate violence appeared. The ministry, however, provoked by a long course of opposition, made the loudest complaints of the freedoms taken with their names; while it was retorted by opposition, that the abuse from one quarter was as great as from the other. Some members of the house of commons complained that their speeches had been misrepresented in the papers, and endeavoured to put a stop to the practice of printing them. It was now considered as a matter contrary to the standing order of the house to print the speeches of the members of parliament at all; and a motion for calling two of the principal printers to account was carried by a considerable majority. The printers, however, did not attend the summons of the messenger: and a final order for their appearance was directed to be left at their houses, and declared to be sufficient notice when left at their houses. The disobedience of the printers on this occasion was undoubtedly heightened by the favour they hoped to obtain from the popular party; and indeed it was not without the most severe animadversions that the ministry were able to carry their motions against them. This opposition increased by its being farther moved that

517 Extreme licentiousness of the press.

518 Contest of the house of commons with some printers.

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that they should be taken into custody by the serjeant at arms for contempt of the orders of the house. The temper and disposition of the people towards the house was now objected, and the great impropriety of adding to their alarms by any unnecessary stretch of the executive power; but the majority urged the necessity of preserving the dignity of the house, and putting an end to those excessive freedoms which had been taken with its members. The serjeant at arms next complained, that not being able to meet with the printers at their houses, he had been treated with indignity by their servants; on which a royal proclamation was issued for apprehending Wheble and Thomson, the two obnoxious printers, with a reward of 50l. annexed. But in the mean time six other printers, who had rendered themselves equally obnoxious on a similar account, were ordered to attend the house, though the motion was not carried without great opposition, during which time the house divided between 20 and 30 times. Some of the delinquents were reprimanded at the bar, and one who did not attend was ordered to be taken into custody for contempt. Wheble being apprehended in consequence of the proclamation, was carried before Mr Alderman Wilkes, by whom he was discharged. To this magistrate it appeared that Mr Wheble had been apprehended in direct violation of his rights as an Englishman, as well as of the chartered privileges of a citizen of London; which opinion he declared in a letter to the earl of Halifax, one of the secretaries of state. Thomson was discharged in the same manner; but the captors received certificates from the magistrates, in order to obtain the promised rewards. J. Miller, one of the six who had refused to attend, was taken into custody from his own house by the messenger of the house of commons. On this he sent for a constable, and was carried along with the messenger before the lord mayor, and Aldermen Wilkes and Oliver, at the mansion-house. The lord mayor refused to deliver up the printer and messenger at the request of the serjeant at arms; and after some disputes the messenger was committed to prison, as he had been accused by Miller of assault and false imprisonment, and the serjeant had refused to find bail; however, he was immediately released upon the bail being given.

519 Lord Mayor sets Millar at liberty, and imprisons the messenger of the house of commons.

By this affront not only the majority but many of the popular party also were greatly irritated; however, the members in opposition took care to lay all the blame on the absurd conduct of administration with regard to the Middlesex election; in consequence of which they had incurred such a general odium, that the people thwarted every measure proposed by them, and eluded and despised their power on every occasion. The lord mayor was ordered to attend the house next day; at which time he pleaded that he had acted in no manner of way inconsistent with the duties of his office; as, by an oath which he took when entering upon it, he was bound to preserve the franchises of the city, and his conduct was farther to be vindicated from the terms of the city charters, as recognised by act of parliament. It was then moved that he should be allowed counsel; the question appearing to belong to the lawyers, as his lordship did not pretend to deny the privileges of the house, though he contended for an exemption from that privilege by virtue of charters and an act of parliament. This motion, however, was overruled, it being insisted that no counsel could ever be permitted against the privileges of the house. This refusal of counsel took its rise from a transaction in the reign of Henry VIII. and was now pleaded as the custom of parliament. Some proposed that the lord mayor should be heard by counsel, provided the privilege of the house was not affected; but it was considered as absurd to the last degree, that his lordship should be heard by counsel on every point except the very one in question. At the same time a motion was carried, that the lord mayor's clerk should attend with the book of minutes; and notwithstanding all opposition, he was obliged to expunge out of it the recognizance of Whittam the messenger. This was followed by a resolution that there should be no more proceedings at law in the case; a great altercation ensued, and several of the minority at last left the house in the utmost rage.

520 Proceedings against him.

Though it was now one o'clock in the morning, the ministerial party were so ardent in the prosecution of their victory, that they refused to adjourn; proceeding now to the trial of Mr Oliver, who, as well as the lord mayor, was far from expressing any sorrow for what he had done. Some proposed to censure his conduct, others were for expulsion; but when it was proposed to send him to the Tower, the utmost confusion and mutual reproach took place: some members declared that they would accompany him to the place of his confinement; others left the house, while the ministry used their utmost endeavours to persuade him into some kind of apology or concession for what he had done; but finding that to no purpose, they at last carried the motion for his imprisonment, and he was committed accordingly. Ample amends, however, were made for this punishment by the unbounded popular applause heaped on both the lord mayor and alderman on this occasion, and which indeed threatened very serious consequences. Some days after the commitment of Mr Oliver, when the lord mayor attended at the house of commons, several very alarming insults were offered to many of the members, particularly Lord North; who on this occasion lost his hat, and narrowly escaped with his life. Some of the members of the minority interposed, and expostulated with the mob on the impropriety of their conduct, by which means all further disturbance was prevented; and had it not been for this timely interference, it is supposed that the fray would not have ended without much bloodshed.

521 and against Alderman Oliver.

522 Both committed to the Tower.

After the confusion was in some measure dispelled, the debates concerning the lord mayor again took place. Many arguments were brought against proceeding farther in the matter; but, being disregarded, the minority members left the house. His lordship refused the favour offered him of being committed to the custody of the serjeant at arms, upon which it was resolved to commit him to the Tower; the motion for this purpose being carried by 200 against 39. Mr Wilkes, on being ordered to attend, wrote a letter addressed to the speaker of the house, in which he observed, that no mention had been made of his being a member; and that if his seat in parliament, to which he had been duly elected, was to be granted him, he would attend and justify his conduct. Administration, however,

523 Ridiculous shift to avoid a contest with Wilkes.

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Britain. however, were too wise now to encounter this hero; and at the same time were under no little embarrassment how to get off; so at last they were reduced to the miserable shift of ordering him to attend on the 8th of April 1771, at the same time that they adjourned the house to the 9th.

524 Committee for inquiring into the obstructions to the authority of the house of commons.

The many affronts and indignities which administration had of late been obliged to put up with now rendered it absolutely necessary to fall upon some method to show that their authority was not altogether lost. For this purpose a committee was appointed by ballot to inquire into the reason why there had been so many obstructions to the authority of the house of commons. This committee having sat from the 28th of March to the 30th of April, at last gave in the following report. "Your committee beg leave to observe, that in the diligent search they have made in the journals, they have not been able to find an instance that any court or magistrate has presumed to commit, during the sitting of parliament, an officer of the house for executing the orders of the house. They further beg leave to observe, that they have not been able to find, that there ever has been an instance wherein this house has suffered any person, committed by order of this house, to be discharged, during the same sessions, by any authority whatever, without again committing such persons. As therefore, with regard to J. Millar, who was delivered from the custody of the messenger by the lord mayor, who for the said offence is now under the censure of the house, it appears to your committee, that it highly concerns the dignity and power of the house to maintain its authority in this instance, by retaking the said J. Millar; the committee recommend to the consideration of the house, whether it may not be expedient that the house should order that the said J. Millar should again be taken into custody of the serjeant at arms; and that his deputy or deputies be strictly enjoined to call upon the magistrates, officers of the peace, and other persons, who by the speaker's warrant are required to be aiding and assisting to him in the execution thereof, for such assistance as the said serjeant, his deputy or deputies, shall find necessary, to enable him or them to take into custody the said J. Miller."

525 The issue of this contest unfavourable to administration.

Nothing could have been more imprudent than the urging with such violence a contest against such contemptible adversaries; and in which they were finally baffled. What they intended for punishment really afforded the criminals matter of triumph and exultation. Every honour that the city of London could bestow was conferred upon the magistrates, while the complaints and execrations of the people at large became louder than ever. Every step taken about this time by administration seemed calculated to add to the public ill humour. Towards the end of the session a

526 Dissatisfaction on account of the embankment bill.

bill was brought in "for enabling certain persons to enclose and embank part of the river Thames, adjoining to Durham-yard, Salisbury-street, Cecil-street, and Beaufort-buildings in the county of Middlesex." This bill was opposed, as appearing contrary to the ancient rights and privileges of the city of London; but was easily carried through both houses, though it produced a protest in the upper house; and a few days before the rising of the session, the city of London petitioned against it. In this petition it was complained of as a violent and unjust transaction, totally unprecedented; being an invasion of the property which the city claimed in the soil or bed of the river. It was afterwards complained of in a remonstrance, as an infringement of the rights of the people, and urged as a reason for the dissolution of parliament.

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527 East India affairs considered.

The only other transaction of moment during this session related to the East India Company. It was now proposed to raise 2000 men in England for the service of the company, the officers to be appointed by the king, and to be paid by the company. But after much speculation, it was rejected as unconstitutional and dangerous to keep an armed force in the kingdom which was not paid by government; and that, however inconsiderable the number proposed was at present, it might soon be increased on any frivolous pretence. It was likewise urged, that it would prove an obstruction to the recruiting service of our own army, on account of the superior advantages of enlisting in the company's service. The advocates for the bill urged the inconveniency of sending out a sufficient number of men annually to recruit the Indian forces; and that, unless parliament should adhere to the promise they formerly made of assisting the company in recruiting, they would be daily exposed to vast loss and expence from the tricks of recruiting parties. The session rose on the 8th of May. In the speech from the throne, it was observed, that the satisfaction obtained from his Catholic majesty for the injury done this kingdom, and the proofs of the pacific disposition which the courts of France and Spain had given by laying aside their armaments, enabled us to reduce our forces by sea and land. The zeal manifested by parliament could not fail to convince the world of its affectionate attachment to the crown and regard to the interests of the country. His majesty's endeavours were promised to put an end to the troubles which still prevailed in some parts of the continent; thanks were given to the commons for the unanimous cheerfulness, and public spirit with which they had granted the supplies; and an apology was made for the extraordinary demands which had been made. The speech concluded with advising the members to use their best endeavours, in their respective stations and counties, to render the national happiness complete, by discouraging needless suspicions and domestic disturbances. His majesty had no other objects, and could have no other interests, than to reign in the hearts of a free and happy people; and it was his earnest wish that his subjects might not be prevented, by mistakes or animosities among themselves, from enjoying the happiness they had in their power.

528 Popular party discouraged.

The many defeats that had been received by opposition during this and the foregoing sessions now began to discourage them from proceeding such lengths in the cause of patriotism as they had formerly done. Many of them had also lost much of their popularity by taking an active part against the printers; and as every motion had been carried in favour of administration by nearly two to one, a general discouragement and languor began to take place among the popular party. The only gainers indeed by the late contentions were the city magistrates and printers who had been punished by the house of commons. On the rising of the parliament, when the lord mayor and aldermen were released

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released from the Tower, they were welcomed by every mark of congratulation. The city was illuminated; and the mob, as usual, took vengeance on the refractory by breaking their windows. A committee was even appointed to carry on a prosecution against the speaker of the house of commons; but as this did not seem likely to afford any redress, they determined once more to have recourse to the throne. Accordingly, on the 10th of July 1771, another petition and remonstrance was presented, the subjects of which were the embankments on the Thames, the proceedings against the magistrates; and a speedy dissolution of parliament was requested. But this met with as unfavourable an answer as before. His majesty replied, that he was ready to put an end to the real grievances of his faithful subjects: but he was sorry to find that a part of them still renewed requests which he had repeatedly refused to comply with.

In the speech from the throne, when the parliament met, January 21. 1772, his majesty observed, that the performance of the king of Spain's engagements, and the behaviour of the other European powers, promised a continuance of peace; and though the necessity of keeping up a respectable naval force was evident, yet no extraordinary aid for that purpose would be necessary; and he concluded with recommending the most vigilant and active attention to the concerns of the country, with an assurance of the interposition of the crown to remedy abuses or supply defects. Little dispute was made about the addresses in answer to this speech, though an ample subject of altercation very soon occurred. This was a motion made by administration, intimating the necessity of raising 25,000 seamen for the service of the current year; it being always necessary, they said, for us to preserve a superiority to the French in the East Indies, which had not been the case since they sent a considerable fleet thither. "It was equally necessary (they added) to preserve the present strength of the West Indies unimpaired; as the Spaniards knew the importance of our settlements there too well not to make an attack upon them first if ever a rupture should take place. Twenty of the best ships in the navy were also now employed as guard-ships, and wanted nothing but men to fit them for actual service."

529 Debates on the augmentation of the number of seamen.

A declaration of this kind, coming immediately after the assurances of peace that had been given from the throne, was said to be a contradiction; that the peace establishment would thus be augmented till we were overburdened by it; 500,000l. would thus be added to the national expences; and as the same augmentation might every year be made on similar pretences, we should thus be obliged to submit to the hardships of war in time of a profound peace. If the assurances of peace from the throne were well founded, the force in the East Indies was already too great; if, on the contrary, a war was at hand, it would be too small notwithstanding the proposed augmentation; and the same way Jamaica was likely to suffer from the inferiority.

These remonstrances were by no means sufficient to put a stop to any measure which had at this time been suggested by administration. The question for the augmentation was carried without a division: after which the subject of religion came to be discussed.

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This was occasioned by the general tendency to Arianism or Socinianism, which had for some time prevailed to a great degree, and had at last infected the established church in such a manner, that the subscription to her standards was reckoned intolerable by many of the clergy. Meetings had been frequently held by the discontented members, in order to consider of some mode of relief; and in the beginning of February 1772, about 250 of them, with several professors of law and physic, joined in a petition to the house of commons, expressing their dissatisfaction with subscription to any human forms, and praying for relief. In this petition they asserted, that they held certain rights and privileges from God alone, without being subject to any other authority; such as the exercise of their own reason and judgment, by which they were instructed and confirmed in their belief of the Christian religion, as contained in the Holy Scriptures. They accounted it a blessing to live under a government which maintained the sufficiency of the Scriptures to instruct in all things necessary to salvation. Hence they concluded, that they had a right from nature, as well as from the principles of the reformed religion, to judge for themselves what was or was not contained in the Scriptures. From this invaluable privilege, however, they found themselves in a great measure precluded by the laws relative to subscription; by which they were enjoined to acknowledge certain articles and confessions of faith framed by fallible men as entirely agreeable to Scripture. They prayed therefore to be relieved from such an imposition, and to be restored to their undoubted right of interpreting Scripture for themselves, without being bound by any human explanation of it, or being required to acknowledge by subscription or declaration the truth of any formulary of religious faith and doctrine whatever, excepting the Holy Scripture itself.

530 Petition against subscribing the XXXIX articles.

The affair of subscription they looked upon to be not only a grievance to themselves, but an encroachment on their rights as men and members of a Protestant establishment, as well as a great hinderance to the spreading of the Christian religion, tending to discourage further inquiry into the true sense of Scripture, to divide communions, and to cause a mutual dislike between fellow Protestants; giving occasion for unbelievers to reproach and vilify the clergy, by representing them as guilty of prevarication, and of accommodating their faith to lucrative views and political considerations. It afforded also to Papists, and others disaffected to the religious establishment of the church of England, an occasion of reflecting upon it as inconsistent, and authorizing doubtful and precarious doctrines, at the same time that the Scripture alone was acknowledged to be certain and sufficient for salvation. It had likewise a tendency to divide the clergy among themselves; subjecting one part, who asserted their privilege as Protestants, to be reviled both from the pulpit and the press, by another who seemed to judge the articles they had subscribed to be of equal authority with the Scripture itself; and, lastly, it occasioned scruples and embarrassments of conscience to those who were about to enter into the ministry, or prevented the cheerful exercise of it to those who were already entered. By reason of these embarrassments, the clerical part of the petitioners found themselves un-

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Britain. der great difficulties, being obliged in some sense to join with the adversaries of revelation, in supposing the one true sense of Scripture to be expressed in the present established system of faith; or else to incur the reproach of having deserted their subscription, &c. while such of the petitioners as had been educated with a view to the professions of civil law and physic could not but think it a great hardship to be obliged, as they all were in one of the universities, even at their first matriculation and admission, though at an age very improper for such important disquisitions, to subscribe their assent to a variety of theological tenets, concerning which their private opinions could be of no consequence to the public, in order to entitle them to academical degrees in those faculties; more especially as the course of their studies and attention to their practice did not afford them leisure sufficient to examine how far these tenets were consonant to the word of God.

This petition was presented by Sir William Meredith, who, along with the other members who favoured the cause, enforced it by many arguments drawn from the principles of toleration. They maintained also that nothing but hypocrisy and prevarication could arise from obliging men to subscribe what they did not believe; that the repeal of the laws for subscription would prevent the increase of dissenters, so very conspicuous at this time, and incline many of them to return to the church. The articles themselves were said to have been compiled in a hurry; that they contained doctrines highly controvertible; and that this restraint on the consciences of men was of all others the greatest hardship. The majority of parliament, however, were found inimical to the petition, though some who opposed it at present wished for time to consider it more deliberately, or to refer it to a committee of the clergy. By the rest it was urged, that the matter of the petition was a violent infraction of the laws of the English religion; and that if this was granted, another would soon follow against the liturgy. The conduct of many of the petitioners, instead of being founded in any regard for religion, had its origin in hypocrisy and dissoluteness, and certainly proceeded in many instances from a disbelief of the Trinity, and of the divinity of our Saviour. The complaints of men were to be disregarded when they wished to profit by the emoluments of the church without subscribing to its laws; besides, the king was bound by his coronation oath to continue the church-government without alteration. It was likewise urged, that if people were to be restrained by no other article than an assent to the truth of the scriptures, the church would soon be overrun with impiety. Many had already founded blasphemous tenets on the right of private opinion; and though it could not be denied that every man has this right for himself, yet none has a right to obtrude his singularities upon others; and if any of the clergy found the delicacy of their consciences affected after they had accepted of benefices, they were welcome to leave them.

Some of the more moderate opposers of the petition endeavoured to vindicate the character of the clergy from the imputations laid upon them; and contended that the legislature had a controuling power over the articles of the union, and confirmed their assertion by mentioning the act against occasional conformity, as well as another against elective patronages, both of them passed since the union; and it seemed to be the general wish of the house that the professors of law and physic might be relieved from subscription, though they did not consider their share in the matter as of any great importance to the public. It was at last thrown out by a majority of near 150. 531 Rejected.

The rejection of the subscription bill was followed by that of a bill for quieting the possessions of his majesty's subjects from dormant claims of the church; after which the attention of parliament was called to one of the utmost importance, and which was introduced by a message from the king. This was the famous royal marriage-bill, occasioned by the marriage of the duke of Cumberland with Mrs Horton, a widow lady, daughter of Lord Irnham, and sister to Colonel Luttrel, and that of the duke of Gloucester with the countess-dowager of Waldegrave. By the message it was recommended to both houses to take it into their consideration, whether it might not be expedient to supply the defects of the laws then in being, and by some new regulations more effectually to prevent the descendants of his late majesty (excepting the issue of the princesses who had married, or might hereafter marry, into foreign families) from marrying without the consent of his majesty, his heirs, and successors. In consequence of this a bill was brought in, declaring all such marriages, without the consent above mentioned, to be null and void. The descendants of his majesty, however, if above the age of 25 years, might marry without the royal consent, provided they gave intimation twelve months beforehand to the privy council, and no opposition to the match was made by parliament during that interval. 532 Royal marriage-bill.

This bill met with the most violent and powerful opposition. The principal arguments against it were expressed in two protests from the upper house, and were to the following purpose: 1. The doctrine that marriages in the royal family are of the highest importance to the state, and that therefore the kings of this realm have ever been trusted with the care thereof, is both absurd and unconstitutional; though it would from that period have the force of a parliamentary declaration. The immediate tendency of this was to create as many prerogatives to the crown as there are matters of importance in the state; and to extend them in a manner as vague and exceptionable as had ever been done in the most despotic period. 2. The enacting part of the bill had an inconvenient and impolitic extent; namely, to all the descendants of Geo. II. In process of time, that description might become very general, and comprehend a great number of people; and it was apprehended that it would be an intolerable grievance, for the marriages of so many subjects, perhaps dispersed among the various ranks of civil life, to be subject to the restrictions of this act; especially as the abettors of this doctrine had also maintained, that the care and approbation of the marriage also included the education and custody of the person. This extensive power might in time make many of the first families of the kingdom entirely dependent on the crown; and it was regretted that all endeavours to limit, in some degree, the generality of that description, had proved ineffectual. 3. The time of nonage for the royal family appeared to be improperly extended be- 533 Protests against it.

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Britain. yond the limit of 21 years; a period which the wisdom of the constitution seems with great wisdom to have assigned to minority. 4. The deferring their marriage to the age of 26 might also be attended with other bad consequences, by driving them into a disorderly course of life, which ought to be particularly guarded against in those of such an exalted station. 5. The power given by this bill to a prince to marry after the age of 26, is totally defeated by the proviso which declares the consent of parliament to be ultimately necessary. Thus great difficulties must be laid on future parliaments, as their silence in such a case must imply a disapprobation of the king's refusal; and their concurrence with it might prove a perpetual prohibition from marriage to the party concerned. 6. The right of conferring a discretionary power of prohibiting all marriages, appears to be above the reach of any legislature whatever, as being contrary to the inherent rights of human nature; which, as they are not derived from, or held under, the sanction of any civil laws, cannot be taken away by them in any case whatever. The legislature no doubt has a right to prescribe rules to marriage as well as to every other kind of contract; but there is an essential difference between regulating the mode by which a right may be enjoyed, and establishing a principle which may tend entirely to annihilate that right. To disable a man during life from contracting marriage, or, which is the same thing, to make his power of contracting such marriage dependent neither on his own choice nor on any fixed rule of law, but on the arbitrary pleasure of any man, or set of men, is exceeding the power permitted by Divine Providence to human legislature, and directly contrary not only to the divine command, but also to the rights of domestic society and comfort, &c. 7. This bill has a natural tendency to produce a disputed title to the crown. If those who are affected by it are in power, they will easily procure a repeal of this act, and the confirmation of a marriage made contrary to it; and if they are not, it will at least be the source of the most dangerous faction that can exist in any country, viz. one attached to a pretender to the crown; whose claim, he may assert, has been set aside by no other authority than that of an act to which the legislature was not competent, as being contrary to the common rights of mankind. 8. The bill provides no security against the improper marriages of princesses married into foreign families, and those of their issue: which may full as materially affect the interest of this nation as the marriages of princes residing in the dominions of Great Britain. It provides no remedy against the improper marriage of the king reigning, though evidently the most important of all others to the public. It provides nothing against the indiscreet marriage of a prince of the blood, being regent at the age of 21; nor furnishes any remedy against his permitting such marriages to others of the blood-royal, being fully invested with the legal power for this purpose, without the assistance of council.

The answer to all these arguments was, that the inconveniences so much talked of were merely imaginary; and if the king should make any improper use of his authority, parliament had it either in their power to prevent the effect, or to punish the minister who advised it. The crown, it was said, was dishonoured by improper connexions, and many of the greatest national calamities have proceeded from improper alliances between the royal family and subjects; and that if, from after experience, we should find any material grievances ensue from this act, it could as easily be repealed at that time as thrown out now, and on better grounds. It was very rapidly carried through both houses; in the upper house by 90 to 26; and in the lower by 165 to 115. Britain.

534 Though the late decision concerning subscription to the 39 articles did not seem to promise much success to any innovations in religious matters, yet the case of dissenting ministers was introduced soon after the discussion of the royal marriage act; the advocates for it being encouraged to bring it forward chiefly on account of some favourable hints thrown out in the debates on the subscription bill. A petition was now presented by a great body of these people, praying to be relieved from the hardship of subscribing to the articles of a church to which they did not belong. This, however, was most violently opposed by the opponents of the former bill, though with very little success in the house of commons, where it was carried through by a prodigious majority. Here it was maintained that nothing can advance the true interest of religion so much as toleration; and if articles of subscription are necessary, it must only be for men destitute of principle, and who would, in compliance with ambition or avarice, as readily subscribe to one set of articles as another. If thus any of the fundamental doctrines of Christianity are impugned, there are abundance of laws in existence to correct the impiety. The dissenters have indeed altered some of their original forms and doctrines, but that only in matters of indifference. It is the effect of learning, leisure, and refinement, to give men many opportunities of altering established forms. This has been the case formerly, and always will be. The dissenters have long been virtually exempted from this subscription; and yet the piety and decency of many of them, particularly in Scotland and Ireland, where no such laws are in being, sufficiently show that men, whose minds are stedfast in the purity of religion, will not be confined nor influenced by laws of human invention. But though the dissenters enjoy full liberty by connivance at present, where is their security against the sudden attacks of malice and envy, which may be backed by the sanction of law? Every neglect of a law by connivance is an additional proof of the necessity of abrogating that law: and liberty is but an empty name, where it is enjoyed by an oversight only, as it were, of our superiors. In the house of lords, however, the bill was rejected by a majority of 70. Here the doctrine of universal toleration was strenuously opposed, as well as the great danger set forth to which the church of England would be exposed by departing from the laws which guarded its privileges. The dissenters, it was said, had great cause to be satisfied with the favour they enjoyed by connivance; and the laws were only kept in record as a necessary curb, lest in the degeneracy of a declining kingdom, religion should be destitute of protection against heresy and blasphemy.

Bill for the relief of dissenters proposed.

535 Rejected.

536 The only other affairs of this session were some attempts at an inquiry into the affairs of the East India Company, which were now in a very critical situation. These, however, did not come under consideration till the

East India affairs.

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Britain. the next session, which took place November 26, 1772, when his majesty gave this situation of the affairs of the company as a reason why he had called them together sooner than usual. The continuance of the pacific disposition of other powers was mentioned, and satisfaction expressed that the continuance of peace had afforded an opportunity of reducing the naval establishment, though a great force must always be necessary for the defence of these kingdoms. Economy was promised with regard to the supplies, and it was recommended to take every method that could be devised to remedy the dearness of provisions.

The affairs of the East India Company took up the greatest part of the present session. It had been projected, as far back as the year 1667, when they were in a very flourishing condition, to bring them under the inspection of government, that the nation might share the immense wealth supposed to be enjoyed by the company. The design, however, did not succeed at that time, nor would it probably have been easily brought to bear, had not the affairs of the company been embarrassed by the bad conduct of their servants. During the last session a bill had been brought in for restraining the governor and council from all kind of trade, as well as for enlarging the power of the company over its servants. The bill, however, was rejected after the second reading, and indeed was thought to have been proposed only to introduce the succeeding business. The debates on the subject procured in a great measure the general belief of two points of much importance to the success of the scheme, viz. that the affairs of the East India Company were in a very bad situation, owing to the behaviour of its servants; and that the company was at any rate insufficient for the government of such extensive possessions; of consequence that there was an evident necessity of giving up the management of it to the crown. A motion was now made in parliament, by a gentleman unconnected with administration, for a select committee to inquire into the affairs of the company: but many reasons were urged against this appointment, particularly that the season was too far advanced for a business of such importance; that the committee, being a secret one, was not accountable for its conduct; and that as the minister would have it in his power to nominate the members of the committee, considerable partiality might on that account take place. The motion, however, was carried without a division; and the members were chosen by ballot.

The affairs of the East India Company proceeded from bad to worse during the recess. The treasury at home was quite exhausted; while bills to a vast amount drawn on Bengal were nearly due; which, with their debt to the bank and other public offices, along with the sum to be paid to government, reduced them almost to the brink of bankruptcy. They were therefore reduced to the expedient of borrowing a sum of money from administration: but their application was received with great indifference. The minister desired them to apply to parliament. The reports of the select committee, in the mean time, contrary to the promise of secrecy, were published, and gave the public no favourable opinion of the behaviour of the company's servants. On the meeting of parliament, the minister moved for another committee, under the title of the *committee of secrecy*, to consist of 13 persons, for taking into consideration the state of the company's affairs; which might thus undergo a full investigation without any thing being known to the world, which had excited such indignation in the former case. The members of this new committee were also to be chosen by ballot; so that no objection could militate against them that did not militate with equal strength against the whole house. It was objected, that this mode of secret inquiry, by a small number, was unprecedented and unconstitutional; that the members would in effect be nominated by the minister, and act under his direction; and that a free investigation by the whole parliament was essentially different from that by a secret committee. In the latter case, every information that the minister thought proper to conceal would be withheld; at any rate, a committee of secrecy is an evident absurdity; a committee can be no longer a secret than during the time it takes up for inquiry. Its proceedings must be laid before the public; and in case of unjust accounts, the parliament had no means of being undeceived. These reasons, however, were of no avail at present. The committee of secrecy was carried, as the other had been, without a division; and, as had been predicted, the members though chosen by ballot, were almost all of them devoted to administration. The select committee was likewise revived, that they might be, as it was said, checks upon one another; so that between them the nation would have every requisite degree of information on the whole affair. Britain.

537 Restraining bill proposed.

In a very short time after the appointment of the secret committee, a report was given in, stating that the company were in great distress for want of money; and as this was the case, a bill ought to be brought in for restraining them from sending out supervisors to India, a scheme which they had meditated at this time. The minister and his adherents enlarged greatly on the utility of this bill; which, they said, was highly expedient. It was the sincere wish of parliament to render them a great and glorious company: it was absolutely necessary for this purpose not to allow them to engage in an expensive commission, at a time when their affairs were so much embarrassed that they were obliged to apply to government for a loan. It was even doubted whether the company, without the sanction of parliamentary authority, had power to appoint a commission of this kind. On the other hand, the minister's proposal was said by opposition to be unconstitutional and insidious. The want of cash at present experienced by the East India Company was not of such great importance, their credit being then as fully established as ever. They had made choice of a set of men in whom they could confide; the many losses occasioned by their servants rendered the commission indispensably necessary; and the expence would be paid from the savings which must undoubtedly arise from so prudent a step. It was unreasonable, because the East India Company, or any other, are distressed, to allow them no opportunities of extricating themselves. The company could not be said to want respect for parliament; they had showed this already by delaying the departure of the commission till the inquiry begun by the house was finished: nor could they be wanting in respect to their own interest, character, and constitution; which they seemed to show by every possible mark of opposition to this bill.

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Britain. bill. Administration boasted of their intentions and their wishes to render this company great and glorious; but how could we expect greatness or glory to proceed from a quarter where it did not exist? The dignity of parliament was lessened, and its glory effaced, by the conduct of ministers, and the many wanton acts of authority lately committed. It was a curious method of rendering a company great and glorious to plunder the proprietors of immense sums of money by exorbitant grants, or by taking away their charters; for after this act it was plain that charters could no longer be depended upon. Two gentlemen belonging to the company, and then present in the house, offered to pledge themselves, that the commission of supervision should not be allowed to depart, until, from further report, a full knowledge of the company's affairs should be acquired. This, however, was instantly rejected, it being said to be defective in security; that the East India Company would not scruple to make an agreement of this kind to day and break it to-morrow; which could only be prevented by an act of parliament, especially as the ministry had no motives for promoting this measure, but a regard for the welfare of the company, and a desire to restore its affairs to a better state.

538 effectual tempts of a compa- to pre- nt the sing of e bill.

Notwithstanding all the arguments used by administration in favour of this bill, however, the company were so far from thinking it to their advantage, that they used every endeavour to prevent it passing into a law. They petitioned; and some of their servants were examined in the house of commons, in order to show the necessity of supervisors being sent out, who might be qualified to reduce their affairs to some order by being on the spot, and enabled to curb the excesses of which the company's servants had too frequently been guilty. During this examination it appeared, that from the year 1765 to 1773 the expences of the company had increased from 700,000l. to 1,700,000l. annually, and that government had received near two millions from the company every year; that they had immense profits in extraordinaries, while the proprietors lost considerably of the dividend which the profits of their trade alone would have produced. In spite of all opposition, however, the bill for restraining the company from sending out any commission of supervision was carried by a majority of 153 to 28. In the house of lords it met with similar success, being carried by 26 to 6, though the minority thought proper to enter a protest. The reasons given against it in this protest were, that it took away from a great body corporate, and from several free subjects of this realm, the exercise of a legal franchise, without any legal cause of forfeiture assigned. The persons appointing the commissioners had by law a right to elect, and the persons chosen had a legal capacity of being elected. The supervisors had a full right vested in them agreeable to the powers and conditions of their appointment; but though no abuse was suggested, nor any delinquency charged upon them, those legal rights and capacities were taken away by a mere arbitrary act of power, the precedent for which leaves no sort of security to the subject for his liberties. The bill seemed likewise a manifest violation of the public faith. The charter of the East India Company was granted by the crown, authorized by act of parliament,

539 otest a- inst it in e house lords.

and purchased for valuable considerations of money lent and paid. By this the company were allowed to manage their own affairs as they thought proper, and by persons of their own appointment; but by this bill the exercise of the power just mentioned was suspended for a time, and by grounding the supervision upon the actual interference of parliament with the affairs of the company, established a principle which might be used for perpetuating the restraint to an indefinite length of time. It is indeed difficult to settle the legal boundary of legislative power: but it is evident, that parliament is as much bound as any individual to observe its own compacts; otherwise it is impossible to understand what is meant by public faith, or how public credit can subsist. It appeared by evidence upon oath at the bar of the house of lords, that the company had received assurances from their chairman and deputy chairman, that the appointment of a commission for superintending and regulating their affairs would be approved by administration; and it was extremely hard that they should be able to find no security for their charter privileges against those very ministers under whose sanction they had reason to believe they were all along acting. It was also the more incumbent on the company at present to give the most strict attention to their affairs, to enable them to answer the exorbitant demands of government; as it appeared from the witnesses at the bar, that its exactions amounted to more than the whole profit of the late acquisitions, and the trade ensuing from them; while the proprietors, who had spent so much, and so often risked their all for obtaining these acquisitions, had not been permitted even to divide so much as the profits of their former trade would have afforded. Britain.

540 Second report of the select committee.

The select committee now gave in their second report, containing a statement of the debt, credit, and effects of the company in England; beginning with an account of the cash in the company's treasury on the 1st day of December 1772, and containing a statement of all their debts and claims against them in every part of the world. Thus it appeared that the cash, credit, and effects of the company amounted to 6,397,299l. 10s. 6d. and their debts to 2,032,306l. which being deducted from the above account of their effects, left a balance in favour of the company of 4,364,993l. 10s. 6d. without any valuation of the fortifications and buildings of the company abroad. The statement, however, was complained of as unfair; and it was said, that impartiality was not to be expected from a set of men who had it in their power to make what report they pleased for the interest of government measures: but the members protested their innocence; and administration insisted, that, until proof could be brought that the statement was unfair, the house was bound to adhere to it as just.

541 State of the compa- ny's affairs.

542 The state- ment unsa- tisfactory.

543 Application of the com- pany to go- vernment for a loan.

The business was revived after the holidays by an application from the company to government for a loan of 1,500,000l. for four years, at four per cent. interest, with liberty of paying the same according to the abilities of the company, in payments of not less than 300,000l.; and that the company should not make a dividend of more than 6 per cent. until the loan should be reduced to 750,000l.; that then they might raise their dividend to 8 per cent. and after the whole

loan.

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Britain. loan was discharged, that the surplus of the nett profits arising in England, above the said dividend, would be appropriated in the payment of the company's bond debt, until it was reduced to 1,500,000l. when the surplus profits should be equally divided between the public and the company. It was also requested, that the company should be released from the heavy penal interest incurred by the non-payment of money owing in consequence of the late acts for the indemnity on teas; and that they should be discharged from the annual payment of the 400,000l. to the public for the remainder of the five years specified in the agreement. They farther requested, that the accounts of the Duannee revenues, of the charges of collection, expences of Bengal, company's accounts of sales, &c. should be delivered annually to parliament, and that leave might be given to export teas free of all duty to America, and to foreign parts. This request was judged expedient to be granted, and the following resolutions were agreed to: "That the affairs of the East India Company are in such a state as to require the assistance of parliament; that a loan is necessary to reinstate the company's affairs; that the supply be granted; and that care be taken that the company be prevented from experiencing the like exigencies for the future." The two following motions were also founded upon the report of the secret committee, viz. That, supposing the public should advance a loan to the East India Company, it was the opinion of the committee that the dividend should be restrained to 6 per cent. until the payment of the sum advanced; and that the company be allowed to divide no more than 7 per cent. until their bond-debt be reduced to 1,500,000l.

544 Resolutions of administration in consequence.

These several restrictions were judged proper by administration for the security of the public, and were such, they said, as every creditor has a right to make beforehand with a person who wishes to borrow money from him. The company, however, replied, that the restrictions were contrary to the proposals they had made, and void of foundation, as being built on the erroneous reports of the secret committee. The chairman of the company declared at a general court that the government had agreed, or would agree, to the proposed increase of dividend, before the participation of profits took place betwixt the government and company; the first lord of the treasury had told him so, and now wished to deny what he had said by using these expressions in private conversation, and when he did not consider the chairman as acting officially. But if this was the case, to what purpose did public men hold conversations, since they were afterwards to deny or forget what passed? Some time was also demanded to consider of these motions; but that being denied, the question was put and carried as ministry wished.

545 Opposed in vain by the company.

546 Territorial right of the company to their possessions denied.

The next step was to deprive the company of their territorial right to the countries they possessed in the East Indies. This had been allowed them in the most explicit manner, as appears by some of the papers which passed between the French and English ministers during the negociations for the treaty of Paris; from one of which papers the following is an extract: "Respecting those territorial acquisitions which the English East India Company have made in Asia, every dispute relative thereto must be settled by that company itself, the crown of England having no right to interfere in what is allowed to be the legal and exclusive property of a body corporate belonging to the English nation." This territorial right, however, was now denied. After reading the company's petition, Lord North told the house that it was the opinion of several great lawyers, that such territorial possessions as the subjects of any state shall acquire by conquest, are virtually the property of the state, and not of those individuals who acquire them. It was his opinion, however, that it would be more beneficial to the public and to the East India Company, to let the territorial acquisitions remain in the possession of the company for a limited time, not exceeding six years, to commence from the agreement betwixt the public and the company. At the same time it was moved, that no participation of profits should take place betwixt the public and the company until after the repayment of 1,400,000l. advanced to the company; and the reduction of the company's bond debt to 1,500,000l. That, after the payment of the loan advanced to the company, and the reduction of their bond-debts to the sum specified, three-fourths of the nett surplus profits of the company at home, above the sum of 8 per cent. upon their capital stock, should be paid into the exchequer for the use of the public, and the remaining fourth be set apart either for reducing the company's bond debt, or for composing a fund for the discharging of any contingent exigencies the company might labour under. Britain.

547 The company petition again ineffectually.

These proceedings were exceedingly disagreeable to the company. They now presented a petition complaining of the injustice of demanding any farther terms on account of a loan, after that loan was discharged. The limitations of the company's dividend to 7 per cent. after the discharge of the loan, until their bond-debt should be reduced to 1,500,000l. seemed not to be founded upon any just calculation of their commercial profits; nor could it with reason be alleged that it was necessary either to their credit or that of the public to restrain them in such a manner. The additional dividend of 1 per cent. was an object of some consequence to the proprietors, but very little to the discharge of their debt to the public; and the hardships of being limited in this manner were exceedingly aggravated by the losses sustained, and the expences they had incurred in acquiring and securing the territorial revenues in India, at the risk of their whole capital, while the public reaped such great advantages. The limitation of the company to a term not exceeding six years for the possession of their Indian territories they looked upon to be entirely arbitrary, as it might be construed into a final decision against the company respecting those territories to which they insisted that they had an undoubted right. Neither could they acquiesce in the resolutions by which three fourths of the surplus nett profits of the company at home, above the sum of 8 per cent. per annum upon their capital stock, should be paid into the exchequer for the use of the public, and the remainder be employed either in further reducing the company's bond-debt, or for composing a fund to be set apart for the use of the company in case of extraordinary emergencies; such unheard-of disposal of their property without their consent not being warranted by the largest pretensions ever

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Britain.

ver made against them. It was likewise subversive of all their rights and privileges, by denying them the disposal of their own property after their creditors were properly secured by law. Their petition concluded with assuring ministers, that, rather than submit to these conditions, they desired that any claims against the possessions of the company might receive a legal decision; from which, whatever might be the event, they would at least have the satisfaction to know what they could call their own.

548 They are allowed to export tea duty free.

No regard being shown to this petition, the motions were carried in favour of administration. To make some kind of recompense, however, it was agreed on their part, that as the company had a stock of teas amounting to about 17 millions of pounds in their warehouses, they should be allowed to export as much of it as they thought proper free of duty, and employ the money thence arising for the behoof of their own affairs.

This concession in favour of the East India Company proved in the event the loss of the American colonies; nor indeed could these arbitrary proceedings with such a considerable body tend to impress the minds of any part of the nation with ideas favourable to the views of administration. In other respects the minister abated nothing of the disposition he had from first to last shown with regard to the company. On

549 East India regulation bill brought in.

the 3d of May 1773 the following resolutions were laid down by him as the foundation of a bill for the establishing certain regulations for the better management of the East India Company, as well in India as in Europe. These were, 1. That the court of directors should in future be elected for four years; six members annually, but not to hold their seats longer than four years. 2. That no person should vote at the election of the directors who had not possessed their stock twelve months. 3. That the stock of qualification should for the future be 1000l. instead of 500l. 4. The mayor's court of Calcutta should for the future be confined to small mercantile causes, to which its jurisdiction only extended before the territorial acquisitions. 5. That, instead of this court, thus taken away, a new one should be established, consisting of a chief justice and three puisne judges. 6. These judges to be appointed by the crown. 7. That a superiority be given to the presidency of Bengal over the other presidencies in India. Each of these resolutions was carried by a great majority. The salaries of the judges were fixed at 6000l. each, and that of the chief justice at 8000l. The governor of the council was to have 25,000l. annually, and the members of the council 10,000l. each. By the friends of the company,

550 Is disagreeable to the company.

however, the bill was supposed to have a tendency to effect a total alteration in the company's constitution in England, as well as the administration of all its presidencies in Asia, in order to subject all their affairs, both at home and abroad, to the immediate power of the crown. No delinquency was charged, nor any specific ground of forfeiture assigned; yet by this bill more than 1200 freemen were to be disfranchised and deprived of any voice in the management of their property. By cutting off the 500l. stockholders, the proprietary would become more manageable by the crown; nor was there any security that the directors would be faithful to the interests of the company when they were no longer responsible to them for their actions. By the establishment of a general presidency over all the affairs of the company, and by the nomination of judges for India, government would in effect transfer the whole management of the affairs of the company to the crown, and the company would have no farther share in the business than to pay what salaries the crown thought fit to assign them. The pro-

551 Petition of the proprietors of 500l. stock.

prietors of 500l. stock presented a petition, setting forth, that, by King William's charter granted to the company, and repeatedly confirmed since that time, in consideration of many large sums repeatedly advanced by the company to the public, they were legally possessed of a right of voting at the election of directors, making of bye-laws, or in any other matter relating to the affairs and government of the company; but by a clause in this regulating bill they were deprived of this right, and that under a pretence of preventing the pernicious practice of splitting stock by collusive transfers; but so far were the proprietors from giving way to such practices, that in the year 1767 they petitioned parliament for an act, by which the several proprietors entitled to vote should be obliged to hold this qualification six months at least before the exercise of their right, afterwards extending the time to twelve months, rather than the act should fail of its intended effect. This proposed increase of the qualification of the voters, however, could not in any degree answer the end desired; for the splitting of stock being confined to such proprietors as held large quantities, they would find it an easy matter to place their stocks in the hands of half the number of persons, and thus extend their influence in a great and undue proportion; but if ever government conceived designs against the company, they would find it much easier to execute them, while the proprietors were few and opulent, than when they were numerous, and at the same time independent and possessed of moderate fortunes. This petition produced a motion in the house

552 Motion in their favour rejected in the house of commons.

of commons, "That it does not appear that the proprietors of 500l. stock in the East India Company have been guilty of any delinquency in the exercise of their charter-rights according to the several acts of parliament made in their behalf." This, however, being rejected, their regulating bill passed in the house of commons by a majority of more than six to one. In the house of lords it passed by 74 to 17. The duke of Richmond moved for a conference with the house of commons; but this was refused. He then moved that copies of all the papers which had been laid before the commons should be laid before the lords also; but this being likewise refused, he joined six other members in a protest, the substance of which was, that the whole was a scheme of government to get the power and wealth of the company into their hands; pointing out at the same time the many particular infringements on public and private rights by passing the bill.

553 Investigation of the company's affairs by the select and secret committees.

All this time inquiries went on by the select and secret committees; the affairs of the company were investigated from the year 1756, and many witnesses examined concerning them. A report was presented by General Burgoyne, containing many charges of cruelty and rapacity in the conduct of several gentlemen concerned in the management of the affairs of the

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Britain. the company; particularly with regard to the deposition of Surajah Dowlah in 1756. This was said to have been the origin of all the evils that had happened since that time. He insisted much on the treachery used in bringing about that revolution, and particularly the fictitious treaty with Omichund; exposing the conduct of Lord Clive, who had caused Admiral Watson's name to be affixed to that treaty, which the admiral had refused to sign in person *. He concluded with moving for the restitution of all the money received in presents or otherwise in India, while the receivers acted in a public capacity; and at last stated the following resolutions: "That all acquisitions made under the influence of a military force, or by treaty with foreign powers, do of right belong to the state; that to appropriate acquisitions obtained by such means is illegal; and that great sums of money had been obtained by such means from the sovereign princes in India." The general belief that many of the company's servants had acted in a most infamous manner, was at this time so strong, that the above resolutions were carried almost unanimously. Lord Clive defended himself by general protestations of innocence; which, however, gained but little credit, till he entered into a particular refutation of the charges against him. His friends were not of opinion that these were of an atrocious nature, and wished to excuse him by policy, necessity, &c. rather than load him with any great degree of guilt. The treaty with Omichund was justified by necessity. Some said, indeed, that as Omichund had the character of the most accomplished villain in Asia, an Englishman only wished to have a trial of skill with him. This severe sarcasm, however, was a mere piece of wit, without any solid foundation; for the crime, if any there was in that transaction, undoubtedly lay in the dethroning a sovereign prince by means of traitors, not the cheating of these traitors of their reward. Indeed, if once we admit treachery into our dealings at all, it is in vain to pretend any subjection to the rules of justice; for we are already beyond its jurisdiction.

554 Lord Clive accused.

* See *Indostan*.

General Burgoyne now moved, "That Lord Clive, in consequence of the powers vested in him in India, had received at various times presents to the amount of 234,000l. sterling, to the dishonour and detriment of the state;" but this being rejected after violent debates, the following was substituted: "That Lord Clive did, in so doing, abuse the power with which he was intrusted, to the evil example of the servants of the public." This also being rejected, another was added, "That Lord Clive, when he received the sum above mentioned, did at the same time render great and meritorious services to his country." Thus the matter was concluded, and the affairs of the company delivered into the hands of administration, who declared that their regard for its welfare was the sole motive for bringing about this revolution.

555 He is acquitted.

556 Proceedings in American affairs.

The affairs of the East India Company were succeeded by those of America. The ill humour occasioned by the taxes laid on that country has been already taken notice of. The stamp act had excited among them a spirit of industry, economy, and a desire of serving themselves with their own manufactures, which had never been forgotten. This was, at that time, as well as afterwards, imputed to wilfulness, or the discontent of a few, which would afterwards subside of itself, or be suppressed by the voice of the majority; when things would of course revert to their old channel. The trifling tax on tea, however, which had not been repealed, and the allowance given to the company to export what quantities they pleased, now threw matters into a ferment not to be quelled by any means whatever. The various proceedings in America, the tumults, and subsequent war, are fully taken notice of under the article *United States of America*. Here it only remains to give an account of the manner in which the legislature and people of Great Britain were affected by these events. It has already been remarked, that ever since the conclusion of the peace in 1763 the disposition shown by government to augment the revenue, for which indeed there was at that time an evident necessity, had produced in the popular party of Great Britain a spirit very similar to that manifested by the Americans, though in an inferior degree; so that the patriots of Britain affected to consider the Americans as oppressed by government, and suffering in the same cause with themselves. The destruction of the tea at Boston and other places in America, however, considerably diminished the number of their friends, and made many of those who still adhered much less sanguine in their cause. The matter was announced to parliament by a special message from the throne. Lord North and the other ministers set forth the conduct of the colonists, particularly of the town of Boston, in a most atrocious light, and concluded that now government was perfectly justifiable in any measures they might think proper to redress the wrong, and inflict such punishment on the town as the enormity of the crime seemed to deserve. Opposition did not pretend to exculpate, though it was still attempted to excuse them, by deriving all the disturbances in that country from the arbitrary and absurd measures pursued and obstinately adhered to at home. This heavy charge the ministry evaded by drawing the attention of the house to the more important consideration, Whether the Americans were now to be dependent, or independent, on Great Britain? The Boston port-bill being then brought in, was carried, but not without considerable opposition, both within and without doors. A petition was first presented by Mr Bollan, agent for the council of Massachuset's Bay, urging an act of Queen Elizabeth for the security of the liberty of the colonies. This was presented before the bill had actually made its appearance; but so little regard was paid to it, that, during the very time it lay on the table, the bill was brought in by Lord North. After it had passed two readings, that gentleman presented another, desiring to be heard in behalf of the town of Boston, for the council of Massachuset's Bay. This was absolutely refused; because, though Mr Bollan was agent for the colony, he was not for the corporation of the town of Boston. Neither could he be so for the council of Massachuset's Bay; for as that was necessarily fluctuating, the body which had appointed him was now no longer existing. This appeared very inconsistent to many of the members, and produced a greater opposition in the house than would otherwise in all probability have ensued. A new petition quickly followed from the lord mayor, in the names of the natives and inhabitants of North America residing at that time

Britain.

557 Debates on the Boston port-bill, and petitions against it.

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Britain.

time in London. This was written in a more spirited style, and boldly insisted that the bill was illegal, unprecedented, unjust; and that, under such a precedent, no man or body of men in America could have a moment's security; the charge being brought by the enemies of the town, and the punishment inflicted without hearing them in their own defence, or even making them acquainted with the charge; and they concluded with these remarkable words, that "the attachment of America would not survive the justice of Britain."

558 Passes without a division.

As little regard being paid to this as to the former petitions, and all proposals for a delay rejected, the bill passed both houses without a division; the minority, notwithstanding their opposition, not choosing to dissent publicly from the first step taken by government to reduce the disobedient colonies.

559 Repeal of the tea duty refused.

That this obnoxious bill might not be sent to America without some mitigation, however, they proposed the repeal of the duty on tea laid on in 1767; but this was also rejected, probably from a vain expectation that the opposition of the Americans was that of a mere tumultuous mob, and that by shewing a proper spirit and perseverance the ministry could not fail to come off victorious at last.

The extreme obstinacy shown by ministers, in this first instance, undoubtedly proved very prejudicial to their cause, not only by exasperating the Americans, but by rousing the indignation of minority, and making their opposition so violent and determined, that the Americans could not but conclude that they had a very strong party in their favour on this side of the Atlantic. This appeared in every subsequent transaction relating to the colonies.

560 Protest on the regulating bill.

The bill for regulating the government of Massachuset's Bay did not pass without a protest, from which we shall only extract the following sentence: "This act, unexampled in the records of parliament, has been entered on the journals of this house as voted *nemine dissentiente*, and has been stated in the debate of this day to have been sent to the colonies as passed without a division in either house, and therefore as conveying the uncontroverted universal sense of the nation. The despair of making effectual opposition to an unjust measure has been construed into an approbation of it."

561 On the impartial administration of justice bill.

The like consequences ensued on passing the act for the impartial administration of justice. In the protest on this occasion the lords used the following expressions: "The bill amounts to a declaration, that the house knows no means of retaining the colonies in due obedience, but by an army rendered independent of the ordinary course of law in the place where they are employed. A military force sufficient for governing upon this plan cannot be maintained without the inevitable ruin of the nation. This bill seems to be one of the many experiments towards the introduction of essential innovations into the government of this empire. The virtual indemnity provided by this bill for those who shall be indicted for murders committed under colour of office, can answer no other purpose. We consider that to be an indemnity which renders trial, and consequently punishment, impracticable. And trial is impracticable, when the very governor, under whose authority acts of violence may be committed, is empowered to send the instruments of that violence, to 3000 miles distance from the scene of their offence, beyond the reach of their prosecutor, and the local evidence which may tend to their conviction. The authority given by this bill to compel the transportation from America to Great Britain of any number of witnesses at the pleasure of the parties prosecuting and prosecuted, without any regard to their age, sex, health, circumstances, business, or duties, seems to us so extravagant in its principle, and so impracticable in its execution, as to confirm us farther in our opinion of the spirit which animates the whole system of the present American regulations."

Britain.

562 Debates on the Quebec bill.

A still greater opposition was made to the Quebec bill, insomuch that, before it could be carried, the ministers were obliged to drop much of that high and aspiring tone to which they had accustomed themselves in talking of American affairs. The minority contended, that here, without any necessity pleaded, or even suggested, an arbitrary influence was extended by act of parliament to that province, furnishing a dangerous precedent, and an additional instance of the aversion which ministry bore to the rights of the people. They argued likewise in favour of the mode of trial by juries, and thought that the establishment of the Roman Catholic religion there gave it a preference over the Protestant, which was now only to be exercised by toleration. The people at large also were alarmed at the religious part of the bill, and it is not impossible that the suspicions conceived at this time might contribute in some measure to the dangerous insurrections of 1779 and 1780.

At the conclusion of the session his majesty expressed the greatest satisfaction at what had been done, and hopes of the good effects that would attend the new regulations. The reception they met with in America is related in its proper place; in Britain the people seemed to wait the event with indifference, but their bad success with the colonists furnished the minority with new matter of reproach to cast on administration. The parliament in the mean time was dissolved by proclamation, and a very short time allowed for the election of new members; so that if opposition at that time had any strength, they had not now time to exert it.

563 Parliamentary proceedings in 1774.

The new parliament met on the 30th of November 1774; when his majesty acquainted the houses that a most daring spirit of resistance still prevailed in America, notwithstanding the most proper means had been taken to prevent the mischiefs thence arising, and assured them that they might depend on a firm resolution to withstand every attempt to weaken or impair the supreme authority of this legislature over all the dominions of the crown. In answer to this speech, the minority demanded a communication of all the letters, orders, and instructions, relating to American affairs; but this being overruled, and the address carried as a matter of form. American affairs were delayed, in spite of all opposition, till after the holidays. In the question on the address, the strength of administration was to that of their adversaries as 264 to 73.

564 Lord Chatham's motion for a recal of the troops rejected.

In the beginning of 1775 the minority received a considerable accession of strength by the return of Lord Chatham, who, after long absence, again made his appearance in parliament. He now testified his disapprobation of the measures which had been pursued with regard to America in the warmest terms; moved for addressing the king to recal the troops from Boston,

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predicted, that if ministers went on in the way they had done for some time, they would make the crown not worth the king's wearing; that the kingdom was undone, &c. All his eloquence, however, proved at this time ineffectual; administration was determined upon forcing the Americans into subjection, and his motion was rejected by 68 to 18.

565 American papers laid before parliament.

Lord North now presented the papers which had been called for by the minority; but lest the publication of particular names should prove detrimental to individuals, only such parts as administration thought proper for public inspection were laid before the house. This was complained of, but to no purpose; and the papers, in their mutilated state, were laid before a committee of the whole house. In the mean time petitions against coercive measures with America had been received from most of the trading companies of the kingdom: which, though highly displeasing to administration, could not be absolutely rejected, though it was fully determined not to yield to their requests in the smallest degree. A committee was therefore appointed to take them into consideration, which was not to take place until the American affairs were also considered. The reason given for this method of proceeding was, that the consideration of commercial matters ought not to interfere with those of the political kind: each of them being sufficiently embarrassing without any other. This delay of hearing these petitions was supposed to be an absolute rejection of them in effect; and so indeed it proved to be, the committee to which they were consigned being humorously called the *committee of oblivion*. The merchants of London, however, were determined not to give up the point until they had exerted themselves to the utmost. They drew up a paper in which they denied the distinction established by ministry. They affirmed that the connection between Great Britain and America was chiefly of a commercial nature, and that the manifold regulations adopted for the mutual prosperity of the colonies and of the mother-country formed the great political chain which united them to one another. Questions of commerce and policy, therefore, with regard to them, ought never to be divided, but examined jointly, and could never be thoroughly understood if considered in any other way.

566 A great number of petitions from the trading companies.

567 Consigned to the committee of oblivion.

568 Ineffectual remonstrance.

This remonstrance was seconded by all the powers of opposition; but the truth was, that administration had already determined what line of conduct they were to follow, and therefore wished to hear as little as possible on the subject. "War (says Dr Andrews) was now the word: and notwithstanding no weightier reason could be given for not attending to what the merchants had to say, than this very determination, yet that was the very motive that impelled ministers to refuse them a hearing, lest these should make it appear how unwise it was to precipitate the nation into such a measure."

569 Arguments used in favour of administration.

But though there is not the least reason to doubt that administration were now fully determined upon a war, and therefore wished to be troubled with as few objections as possible, they were by no means deficient in arguments for the defence of their own conduct. They alleged that the petitions so much recommended to the attention of the house were principally the work of a factious party. The advantages accruing from the American trade were owing to the dependent situation of the colonies, who now aimed at a superiority over Great Britain, or at least at shaking off entirely the superiority which the mother-country had till now exercised over them without the smallest complaint. It was the advantage of the merchants themselves that was consulted by maintaining that superiority; and the merchants themselves would be the first to feel the bad consequences of its being lost. War and its consequences are no doubt very terrible, but sometimes are necessary, to prevent greater evils. The greatest evil that can befal a trading nation is the loss of its commerce; and were the Americans to persist in their courses at that time for a few years longer, this consequence must inevitably ensue.

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It was besides insisted, that though administration were to yield the present contest, the warmest advocates for America could not pretend to say what would be the last of its demands. The Americans aimed in reality at the repeal of whatever appeared obnoxious to their immediate interest: But that and their real interest differed very much. The greatest political evil that could befal them was to be deprived of the political and commercial support they received from Great Britain; and to this they must ultimately submit, if they should ever succeed in the pursuit of that delusive phantom of independence which they now accounted their happiest situation. In short, administration insisted, not without a great show of reason, that the Americans were not to be reclaimed by concessions. Mercantile people, indeed, might imagine so, from the facility with which concessions would be made, and the speed with which tranquillity would be restored. But tranquillity procured in this manner would last no longer than till the colonies, unfettered by any regulations, perceived, or imagined they perceived, the benefit of dealing with other countries, and carried their own commodities wherever they thought proper. This was the point at which they incontestably aimed, whatever they might pretend to the contrary; for notwithstanding the boasts they made of the vast business transacted with Britain, it was well known to arise from the immense credit they were indulged with there, and which they could not expect elsewhere.

The honour and character of the nation were now also said to be at stake. The British had often taken up arms for matters of less consequence; why then should they now hesitate in a case like the present, where honour and interest both called upon them for the most vigorous and speedy exertions? Formerly it was the custom of the merchants to second the wishes of ministry in this respect, instead of opposing them. The inconvenience of suspending their profits for a time must be submitted to, and their enemies would experience as many if not more of the same kind; and it would be unworthy of the character they had so long sustained, to yield to indignities for the sake of profit. The losses above mentioned, however, would be but trifling in comparison of those that would follow in time to come, should Britain from want of spirit give up the assertion of her just rights. This was a policy hitherto unknown in Britain, which had heretofore been noted for the ardour and celerity with which they were maintained.

The end of all this altercation was, that the motion

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is favour of the merchants petitions was rejected by 250 to 89. This point, however, was no sooner discussed, than a violent debate arose about the petition of congress to the king, which had been delivered, and by him referred to parliament. It was argued by administration, that no petition could be received from the continental congress, which was no legal body, and it would be admitting their legality to receive a petition from them; the general assemblies and their agents were the only lawful representatives of the colonies, and none else would be admitted. Opposition replied and argued as much as possible, but to no purpose; and, after an ineffectual struggle, they had the mortification to find that the petition was finally rejected by 218 to 68.

570 On the petition of congress to the king.

571 Chatham's conciliatory plan rejected.

In the mean time a conciliatory plan was prepared by the earl of Chatham, which was presented on the 1st of February 1775. The intent of this bill, he said, was to settle the troubles in America, and to assert at the same time the supreme legislative authority and superintending power of Great Britain over her colonies. This was to be done by their acknowledging on their part the supremacy of the British legislature and the superintending power of parliament. No taxes were to be levied in America, but with the free consent of their assemblies. It asserted a right in the crown to keep and station a military force established by law in any part of its dominions; but declared, that it could not be legally employed to enforce implicit and *unlawful* submission. A congress might also be held, in order to recognize the supreme sovereignty of Great Britain over the colonies, and to settle, at the same time, an annual revenue upon the crown, disposable by parliament, and applicable to the exigencies of the nation. On complying with these conditions, the acts complained of by congress were to be suspended, with every other measure pointed out as a grievance, and the constitution of their government to remain as settled by their charters. This bill was, however, deemed at once totally inadmissible, on account of its alleged partiality to America, by the various concessions it enacted, and particularly by empowering the colonies to assemble in congress; a measure which, of all others, was at that time the most offensive, and supposed to be the most injurious to the British interest.

Lord Chatham was by no means deficient in arguments in support of his favourite plan; but these, though supported by all the powers of eloquence, proved unsuccessful; the proposal was ultimately rejected by 61 to 32. So determined were the majority in giving this an entire rejection, that it was not even permitted to lie upon the table; which, however, may be considered as a piece of indignity offered to that great man, proceeding rather from the indifference with which he had been received at court for some time, than from any real and thorough conviction of the inutility of the plan he proposed.

572 Petition of the West India planters.

A new petition was next presented to the house of commons by the proprietors of estates in the West India islands: representing their alarm at the association of the Americans, and their intended stoppage of trade with the British islands; the situation of which, they said, would be very calamitous, if the acts in question were not immediately repealed. The trade of these islands was at that time of the most extensive nature. All quarters of the globe were concerned in it; the returns centered in Britain, and were an immense addition to its opulence, insomuch that the British property there amounted to no less than 30 millions sterling. But the West Indies, however wealthy, did not produce the necessaries of life in sufficient abundance for their inhabitants. Large importations were continually wanted, which could only be supplied from North America; and were they to be cut off from a communication with that continent, they would shortly be reduced to the utmost distress. Such was the substance of this petition; to which no more attention was paid than had been to the rest. To administration all petitions now appeared to be the contrivance of faction; and it was said, that however inconvenient the coercive measures might be, they ought not to be retarded by the consideration of any temporary losses. As it was necessary, however, to let the nation know the ultimate resolves of administration respecting America, it was at last done by Lord North in a long speech, in which the most remarkable circumstances relating to the dispute were enumerated. It was asserted, that the universal fermentation, then prevailing in America, proceeded from the unwarrantable arts and practices used to dispose them against the ruling powers in Britain; and asserted, that, notwithstanding all their complaints, the public charges borne by individuals in America were, on the strictest computation, not more than 1 to 50, when compared with what was paid by individuals in England. Nothing, therefore, but a settled determination to quarrel with the parent state could induce the Americans to persist in their disobedience to the lawful injunctions laid upon them, which were neither injudicious nor oppressive; but on the contrary, framed with all possible lenity, and counterbalanced by advantages which were not possessed by Britain. It was therefore a spirit of resistance which animated America, and not a discontent at oppressions, which plainly had no existence. For this reason it was proposed to the house to send a greater force to America; and to pass a temporary act, suspending all the foreign trade of the different colonies of New England, and particularly the Newfoundland fishery, until they consented to acknowledge the supreme authority of the British legislature, &c. upon which these restrictions should be taken off, and their real grievances, if any such there were, redressed upon making proper application. New England, they said, was justly singled out upon this occasion, as being the most guilty of the whole. The others, as less faulty, it was hoped, would yield with less compulsion; but the question now was simply, Whether we would at once abandon all claims on the colonies, and instantly give up the advantages arising from our sovereignty, and the commerce dependent on it? or, Whether we should resort to the measures indispensably necessary to ensure both?

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573 Rejected.

574 On the address on the American papers.

An address was now carried, which, in the ideas of opposition, amounted to an absolute declaration of war. The consequences, therefore, were painted out with the utmost freedom, and some even denied the charge of rebellion fixed on the province of Massachuset's Bay. The people there, they said, had done nothing but what the constitution allowed; they had resisted arbitrary measures; and the examples so frequently set

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Britain. them at home were sufficient to justify their conduct. The appellation of *rebels*, they said, was dangerous, and might better be spared; it would only serve to render them desperate, and inspire them with a determination to resist to the last, from an apprehension that their lives and properties were forfeited. This last consideration, however, was made very light of by administration. Great stress, they said, was laid upon the union of the colonies, but a very little time would show with how much impropriety. The principles on which they were associated were too self-denying to be supported by human nature, and were too inimical to the interest and feelings of individuals to bind them long together. In other respects this union of the colonies might be viewed with indifference, and even contempt. The natives of America, it was said, were no soldiers; they were averse to military discipline, and incapable of subordination; they were of a slothful and spiritless disposition; uncleanly, liable to sickness, and easily overcome by fatigue. Such people as these would never face a British army: and a very small force would be necessary to put an end to all their projects of independence.

575 On the recommitment of it. These were the principal arguments for and against this address, which was carried by 296 to 106: but so important was the subject of it deemed by the minority, that a motion was made for recommitting it, on account of the consequences that would probably result from the prosecution of the measures recommended. A very long and violent debate ensued: the event of which was, that administration contended as usual for the necessity of enforcing obedience with fire and sword. The Americans, they said, were become incorrigible through forbearance; lenity was a subject of derision among them, and was imputed to imbecility and fear; they imagined themselves able to abolish the sovereignty of Britain in that country, and were now resolved to do it. It was therefore incumbent on every native of Britain in such a case to stand forth, and vindicate the interest and glory of his country; and it was the duty of parliament and ministry to call forth the whole spirit of the nation to a contest in which every thing dear to them, both in their public and private capacities, was so deeply concerned.

In this, and some former debates, the danger of being involved in foreign wars on account of the colonies had been insisted on; but this was looked upon by administration to be improbable. It was hardly to be imagined, they said, that foreign powers would behave in a manner so very impolitic as to encourage rebellions in other colonies, which might, in a very short time, become precedents for imitation in their own. The number of friends to government in America was likewise very much relied upon. A proper reinforcement to the troops already there would encourage those to declare themselves who were at present too timid to avow their sentiments: These, if duly supported, would be found to be no inconsiderable number; and when added to the forces stationed among them, would undoubtedly counterbalance the power of the malecontents. This project of arming the Americans against one another was reprobated by opposition more than all the rest. The address itself was a measure replete with barbarity as well as imprudence; tending to put arms in the hands of every man throughout the continent who suspected the designs of the British administration, and to expose to ill usage and ruin every person who was known, or imagined, to be a friend to Great Britain. The Americans were said to aspire at independence; but if any thing could bring this about, it would be the conduct of ministry. The most obedient and loyal subjects cannot have patience for ever with a tyrannical government. They will undoubtedly rise at last and assert their rights; and those who style them rebels on that account ought to remember, that oppression not only produces but justifies resistance. It had always been believed by the Americans, without any contradiction from Britain, that internal taxation in America belonged to the assemblies of the colonies, and to them only. There were opinions in all nations, which the legislature would respect, while they produced no bad consequences. This opinion ought not therefore to have been attacked at such an improper season, after having been virtually recognized by the repeal of several acts, and approved by some of the most learned and intelligent people in the kingdom. It was the greatest misfortune that could befal a state, when its rulers endeavoured, without any apparent necessity, to alter the system and maxims of governing long adopted, and the utility of which had been confirmed by experience. This was, however, the case with Britain. The mildness and benignity which were wont to direct the measures of former ministers were now laid aside for severity and imperiousness; while implicit obedience was imposed upon the colonists, as the only condition by which they could purchase peace.

The aspersions of cowardice, so largely thrown upon the Americans by the ministerial party, did not pass unnoticed. It was observed, however, that were these ever so just, the very nature of their country would fight for them. By this alone our military enterprises would be retarded and impeded in a considerable degree; while the sinews of war would undoubtedly be greatly relaxed, as the suspension of such a considerable commerce as that of our colonies could not fail to be severely felt.

Besides all this, the views and principles of ministers were attacked in the most violent manner. They were said to be reviving the old exploded doctrines of hereditary right and passive obedience.—They required the Americans to submit unconditionally to the will of Great Britain, for no other reason but because she was the parent state: but if no better reason could be produced, they could not be justly blamed for their disobedience. The ties between Great Britain and her colonies, however, were of a far more noble as well as more binding nature than even origin and consanguinity. These ties were the constitution transmitted from Britain, and the brotherly assistance hitherto afforded them by Englishmen; and which ought to render the name dear to them. While those ties remained unviolated, there was no room to complain of their behaviour; but they would never submit to despotic authority in Englishmen more than in any others. Such unwarrantable principles rendered it no longer a question, whether the measures of administration should be considered, but whether the ministers themselves ought not to be deprived of the power they exercised so unconstitutionally.

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tain. constitutionally: And the question was not now between Great Britain and America, but, whether we should give up our colonies or our ministers.

Language of this kind excited the indignation of the ministerial party to a very high degree. They now charged the minority in very plain terms, with the guilt of all that had happened. A factious republican spirit, they said, was gone forth; by which every person who wrote or spoke on the American cause was actuated; and which had not only induced the Americans to commence a rebellion against the parent state, but had filled the house with incendiaries. The final issue of the dispute was, that the recommitment of the address was lost by 289 to 109. The debates were the most violent that had ever been known in the British parliament; and so important was the subject reckoned, that not only the natives of Britain, but even the foreign ministers in London, watched the motions of administration with the utmost anxiety, as considering it a point which might probably give a new face to the affairs of all Europe.

76 lon the India hants. All these victories of administration were not sufficient to prevent new enemies from starting up. Petitions had been preparing by the London merchants trading to America, and from those concerned in the West India trade, to be presented to the house of lords. This task was undertaken by the marquis of Rockingham, but he was prevented by a previous motion in favour of the address. A long and violent debate, however, ensued concerning the necessity and propriety of receiving them. The papers on which the address had been founded were said to be partial and mutilated, for which reason the house ought to pay the greater regard to the representation of the merchants; whose testimony, as persons deeply and essentially interested in bringing truth to light, might be depended on with much greater safety. It was urged, that they earnestly desired to be heard before the house took any final determination with regard to America; a refusal would amount to a public declaration, that parliament was resolved to oppose the sense of the petition, right or wrong; and such treatment was in every respect unwarrantable, and no less contrary to sound policy than to equity and good manners.

ed. All these representations, however, had no weight with administration: they affected great sorrow at being obliged to declare that the petition could not be received consistently with the interest of the kingdom; they put the merchants in mind that the American proceedings threatened fatally to diminish the commercial greatness of this kingdom, in which case none would suffer so much as themselves; and they insisted that confidence ought to be put in the wisdom of parliament, as it was not doubted that by properly asserting the supremacy of the British legislature in the manner proposed, all those advantages about which they were so anxious would be secured. They were therefore exhorted to submit to temporary inconveniences, which could not be avoided in the present posture of affairs, though probably they would not be of long duration.

In the mean time matters went on from bad to worse in New England; so that it was soon perceived either that the friends of government in that colony did not exert themselves, or that they were far from being so numerous as had been imagined. In order to make their coercive plan the more effectual, therefore, it was now judged necessary to extend it so that every individual of the colony should become sensible of the punishment. This, it was supposed, would be done by a bill for restraining the four provinces of New England from commerce with Great Britain, Ireland, or the British West India islands; and prohibiting them from carrying on the fishery at Newfoundland. The reasons given for this were in substance the same with those for the others; and indeed both parties had now so much exhausted their arguments, that very little new matter was left for either. Every step taken by ministry, and every proposal made by them, however, produced a violent debate; and though they constantly gained the victory, it was not without the mortification of hearing their principles and conduct reprobated in the most opprobrious manner. In the present instance the bill was carried by 261 against 85; but a petition against it was quickly offered by the London merchants concerned in the American trade, setting forth the danger that would accrue to the fisheries of Great Britain from such a prohibition. Britain.

578 On the New England restraining bill.

From the evidence brought in support of this petition it appeared, that ten years before the American fisheries had been in such a flourishing state, that the four provinces of New England alone employed near 46,000 ton of shipping and 6000 seamen; and that the produce of their fisheries in the foreign markets amounted in the year 1764 to upwards of 320,000l. Since that time they had greatly increased; and what rendered the fisheries particularly valuable was, that all the materials used in them, excepting only the timber for building the vessels, and the salt for curing the fish, were purchased in Britain, and the nett proceeds of the trade were also remitted thither. It appeared also, that it would not be practicable to transfer these fisheries to Halifax or Quebec, though ever so much encouragement were given to either of these places, as they had neither vessels nor people to man them, and would never be able to procure supplies of seamen from New England on account of the aversion of the inhabitants to the government of these two provinces. 579 General account of the American fisheries.

Some other circumstances were likewise urged as strong reasons against this bill; particularly the commercial concerns of the city of London with New England (to which alone the colony stood indebted for near a million), and the bad consequences of it to the people of Nantucket. This is a barren island, lying off the coast of New England, about 15 miles long and three broad, containing about 6000 inhabitants, almost all Quakers. The natural produce of this island, it was alleged, could not maintain 20 families; but the industry of the inhabitants was such, that they kept 130 vessels constantly employed in the whale-fishery, which they carried on in the north seas, to the coasts of Africa and Brazil, and even as far as the Falkland islands and the shores of Terra Magellanica. These people, it was said, ought undoubtedly to have been exempted from the common calamity, were it only from the applause due to so much industry and resolution. 580 Of the inhabitants of Nantucket.

The instance of Nantucket was so strong, that administration, with all their obstinacy, were obliged to relax

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Britain. relax a little; and, of their own accord, afford them the relief they had such just reason to expect. That the petition in the main might prove unsuccessful, however, another was presented by the inhabitants of Poole, the tenor of which was directly opposite to that of the city of London. In this it was set forth, that the restrictions proposed by the bill would not prove detrimental to the trade of England, which was fully able, with proper exertions, to supply the demands of foreign markets. The advantage of the Newfoundland fishery more than that of New England to this country was, that it bred a great number of hardy seamen peculiarly fit for the service of the navy, while the New England seamen were by act of parliament, exempt from being pressed. It appeared also from the examination of witnesses taken in support of this petition, that the fishery from Britain to Newfoundland employed about 400 ships, amounting to 360,000 tons, and 2000 shallops carrying 20,000 tons and navigated by as many seamen. Each season produced 600,000 quintals of fish, and the returns at a moderate rate were valued at 500,000l.

581 Remarkable protest against the restraining bill.

The bill was debated with great animosity in the house of peers, and produced a remarkable protest, in which the measures of government were spoken of with great severity. "That government (said they) which attempts to preserve its authority by destroying the trade of its subjects, and by involving the innocent and guilty in a common ruin, if it acts from a choice of such means, confesses itself unworthy; if from inability to find any other, admits itself wholly incompetent to the end of its institution." They also reprobated in severe terms the assertion already mentioned, that the Americans wanted spirit to resist, and that Britain would find them an easy conquest. Such language was represented as altogether void of foundation, and the mere effect of party-spirit and resentment. It was also the more imprudent and unadvised, as tending, in case of coercive measures, to slacken the care and solicitude with which they ought to be pursued, and to occasion remissness in those to whom they might be entrusted, from a persuasion that the enemy to be encountered was not to be feared, and could easily be overcome.

582 On the force to be sent to America.

The final resolution of reducing the colonies by force being now taken, it became necessary to make proper preparations for the purpose: and in this the conduct of administration was little less censured than in other respects. As the above-mentioned opinion, that the Americans were timid and incapable of becoming soldiers, prevailed greatly at that time, a force of 10,000 men was judged sufficient to reduce the province of New England to obedience. This was vehemently opposed by the minority. They insisted that the force was totally inadequate, and only calculated to produce expence to no purpose. The first impression, they very justly observed, ought to be decisive, if possible; and in order to render it so, it was necessary to send such a fleet and army as might ensure the confidence of the public, and be certainly capable of surmounting all obstacles. Many of the friends of administration were of the same sentiments in this respect; and the only reason assigned for acting otherwise was a hope that the Americans would, upon more mature consideration, desist from their opposition. That they might the more readily be induced to this submission, Lord North's conciliatory proposition was formed. By this it was enacted, that when the governor, council, and assembly of any of the colonies, should propose to make a provision for the common defence, &c. and if such provision should be approved of by the king in parliament, the levying or imposing of taxes on that colony should then be forborne, those duties excepted which it might be expedient to impose for the regulation of commerce; the nett produce of which should be carried to the account of the colony where it was raised. But this proposal, though highly extolled by the friends of administration, was no less reprobated by minority than the others had been. It was said to be insidious, and calculated for the purpose of raising a revenue, which was now said to be the object of ministers. There was no essential difference between the present and former modes of taxation. The colonies were as effectually taxed without their consent by requiring them to pay a stated sum, as by laying a number of duties upon them to the same amount. There was besides a capital deficiency in the proposal, viz. that no sum was specified; so that the Americans were left totally ignorant of what the demands of Britain might be. After a long debate, however, the question was carried in favour of administration by 274 to 88.

Britain.

583 Lord North's conciliatory bill.

The like fate attended a petition to the throne from the island of Jamaica. Instead of relaxing any thing of their severity, the ministry now included the southern colonies in the restrictions laid on New England. Still, however, the petitioners were indefatigable in their endeavours to be heard. The West India merchants and planters seconded their last petition by a large detail of circumstances relating to the British islands in that part of the world. This affair was conducted by Mr Glover, a gentleman equally celebrated for his literary talents and commercial knowledge. From his investigations it appeared, that, exclusive of the intrinsic worth of the islands themselves, their stock in trade and other property amounted to no less than 60 millions; the exportation to Britain had of late been near 200,000 hogsheads and puncheons of sugar and rum, amounting to no less than four millions in value; the direct revenue arising from which was 700,000 pounds, besides that which accrued from the collateral branches depending upon it. All this, however, was urged in vain. Conciliatory proposals were made by Mr Burke and Mr Hartley, but they were rejected by great majorities. These proposals, indeed, instead of serving the cause they were meant to promote, did the very reverse. A dread was entertained of the consequences which might ensue from the republican opinions now so prevalent in the colonies, and all partiality towards them was looked upon in such a criminal light, that their opponents became deaf, on many occasions, to the voice of reason and humanity when urged in their behalf. On the other hand, the favourers of America urged on by a furious zeal, and even resentment against those whom they looked upon to be promoters of arbitrary measures, erred equally in their opposition to ministry. This violent party spirit appeared not only among the people at large, but broke forth with the utmost fury in parliament, where the debates often resembled the railings of Billingsgate rather than the deliberations of the first assembly in a great and powerful nation.

584 Ineffectual endeavours of the West India planters.

585 Immense value of these islands.

586 All conciliatory proposals not only ineffectual but detrimental.

587 Extreme violence of both parties.

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In this temper of mind it is no wonder that the state of affairs was scarce ever truly represented by either party. Government continued to enact new laws, now in vain, against the Americans; their antagonists opposed these in a manner so little different from what has been already related, that any farther account of the debates would be as unentertaining as tedious. Other petitions were presented and treated with neglect. The increase of union and preparations for war among the colonists were by the ministerial party treated as the mere commotions of a headstrong mob; and by the other as an association of an injured and virtuous people, who were about to found a mighty empire in the west, while Britain was to sink in utter disgrace and contempt by their mere secession, without making any account of their exploits in the field, which could not fail to equal those of the heroes of antiquity. On the same principles the event of the skirmish at Lexington was magnified by the one into a "disgraceful defeat" on the part of the British; and by the other treated with absolute unconcern, as if no regard whatever was to be paid to it, nor any inference drawn from thence concerning the fate of the war in general. Thus also the battle at Bunkers Hill, and all the transactions of the year 1775, were unfairly stated by both parties; and the only consequence ensuing from these misrepresentations was the inflaming to a violent degree the resentment betwixt the two parties; one of which depressed the Americans to the rank of consummate poltroons, while the other exalted them almost to that of demigods.

588 Misrepresentations on both sides.

While these altercations continued to agitate the minds of the superior classes of people in Britain, the middle and lower ranks remained in a kind of indifference, or rather were against the proceedings of ministry. This opposition could not indeed influence the councils of the nation, but in other respects it proved very troublesome. The levies were obstructed, and the recruiting service was never known to go on so heavily; numbers of people of that description not only refusing the usual proffers, but even reprobating the cause in which they were solicited to engage. Besides this, several officers of high rank showed a great aversion at the service. Lord Effingham, who had distinguished himself by his opposition to ministerial measures, resigned the command of his regiment rather than fight against the cause he had espoused so warmly. His example was followed by that of several other officers; and it is not to be doubted that, while this step conferred upon them a very considerable share of popularity, it excited in the minds of ministry an equal degree of resentment. Lord Effingham, in particular, received the public thanks of the cities of London and Dublin; both of which showed an extreme aversion to the commencement of hostilities with America. The former, indeed, could scarce restrain themselves within any bounds of moderation. After the affair at Lexington they framed a remonstrance and petition, animadverting in the most severe manner on the ministry and parliament; and it was not without the greatest difficulty that the more moderate party procured one to be drawn up, under the name of an "humble petition," couched in less reprehensible terms.

589 Resignation of Lord Effingham and other officers.

590 The city of London resents the conduct of ministry.

In the mean time several inconveniences began to be felt in different parts of the nation. The suspension of the sale and purchase of negro slaves in the West Indies and in North America, and the prohibition to export arms and gunpowder, had greatly impeded the African trade from Bristol and Liverpool. In consequence of this, a great number of ships which formerly sailed from these ports had been laid up, and near 3000 sailors belonging to Liverpool dismissed from service. Their situation soon rendered them riotous; and it was not without the assistance of the military that they were quelled. These distresses, however, made no impression on administration; who having once laid it down as a maxim, that the subjection of America was the greatest political good that could happen to Britain, were, in a consistence with their own principles, obliged to overlook every disaster that might happen in the mean time as a temporal inconvenience, which ought not to be regarded in the prosecution of a great and magnificent plan.

591 Distresses of the nation in consequence of the American war.

But whatever might be the views of administration in this respect, it was far otherwise with the generality of the nation. They felt the present inconveniencies severely, while the subjugation of America presented them with no solid foundation to hope for an equivalent. It was with the utmost satisfaction, therefore, that they received the news of Mr Penn's arrival in 1775, with a new petition from the congress to be presented to the king; after which he was to give it to the public. Their expectation, however, was soon disappointed. The petition was delivered to Lord Dartmouth on the 1st of September; and in three days it was replied, that no answer would be given to it. This laconic procedure excited no small surprise, as it was universally allowed that the language of the petition was respectful, and that it expressed the highest desire of peace and reconciliation. Lord Dartmouth's answer, therefore, could not but be considered as a final renunciation of all friendly intercourse with the colonies, and which would drive them into a connexion with foreign powers; a resource at which they themselves had hinted when they first took up arms. It was also thought not only to be injudicious in itself, but very ill-timed, and not at all consistent with the situation of the affairs of Britain at that time. On the other hand, the friends of administration insisted, that the petition offered nothing that could in a consistency with the dignity of the British empire be taken any notice of. Instead of professing any repentance for their own conduct, they had offered stipulations, and even required concessions on the part of Britain. It was likewise said on the part of administration, that fear had a share in framing the proposals now held out. The Americans were very sensible, that though the first steps taken by Britain had not answered the purpose, much greater efforts would quickly follow; and that, without being allowed some time, it was impossible they could bring their matters to bear. The petition, therefore, might be considered as written with a view to procrastinate matters, which was by no means admissible on the part of Britain. The colonies were already well apprised of the conditions on which they would be restored to favour; and had it at any time in their power to put a stop to the operations of war by accepting these conditions: but it would be imprudent

592 Last petition of congress rejected.

to

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Britain. to stop the military preparations upon such an uncertain expectation as the petition from congress held out. It was also plain, that a great majority of the nation approved of the measures of government; for addresses were received from all quarters, recommending, in the most explicit manner, a vigorous exertion against America.

593 Revival of the distinction and animosity betwixt Whigs and Tories.

The rejection of this petition inflamed the minds of both parties more than ever against each other. The obsolete distinction of *Whig* and *Tory* was now revived, and that with such animosity, that Britain itself, as well as America, now seemed in danger of becoming a seat of war and bloodshed. The Tories were accused as the promoters of those sanguinary addresses already mentioned. They were said to be the great misinformers of government; and the false representations they industriously procured from all quarters had contributed more than any thing else to inflame the animosity and produce the civil war. They were upbraided with their attachment to the Stuart family. England, it was said, had, through their machinations, been made a scene of blood in the last century; and had been perpetually tottering on the brink of ruin from the Restoration to the Revolution. At that time indeed the more sensible part of the nation, wearied out with perpetual attempts to enslave them, took the resolution of expelling an ill-advised monarch, whom nothing could prevent from pursuing their pernicious plans to his own ruin. But the Tories were an incorrigible race, who could not be cured even by experience; for though they had seen repeated instances of the mischief attending their plans, they adhered to them with as great obstinacy as if the greatest benefits had on all occasions accrued from them. Dissension at home and disgrace abroad had been the constant attendants of their councils; while the only objects they ever had in view were the establishment and propagation of their own tenets; for these alone they laboured, the honour and interest of the nation being entirely out of the question. These they would willingly sacrifice to the points above mentioned; and as an instance of the effects of their councils, the treaty of Utrecht was mentioned. Here, said their antagonists, the fruits of a triumphant war, carried on for twelve years, were lost at once by those feuds which the Tories occasioned through their restless endeavours to compass their iniquitous projects.

On the other hand, the Tories said that the Whigs were the genuine descendants and representatives of those republican incendiaries who had in the last century overturned the constitution and desolated the kingdom. They pretended indeed to assert the liberty of Britain; but under this pretence they wished to engross all the authority to themselves, as might easily be proved by an impartial examination of their conduct in the unhappy times alluded to. In the present dispute, the principal question was, Whether the king and parliament, when united, were to be obeyed or resisted? The Tories insisted that they were to be obeyed; the Whigs that they were to be resisted. The truth was, therefore, that there were two parties in Britain; the one of which was of opinion, that the colonies owed obedience to Great Britain in all cases whatever, and that in case of refusal they ought to be compelled to obey; but the other, though it acknowledged the same obligation on the colonies, thought it was unadvisable to force it. The only constitutional method of deciding this question was by an appeal to parliament. That appeal had already been made, and parliament had determined on compulsion. The decision ought therefore to be considered as that of the voice of the nation; and were a parliamentary majority to be viewed in any other light, all things would fall into confusion, and no rule of government remain. The doctrines of the Whigs were also said to be inadmissible in sound policy. Authority, sovereign and uncontrouled, must reside somewhere; and allowing every charge of bribery and corruption (which were brought by the other party most liberally) to be true, it were still better to be governed in some instances by such means, than to have no government at all. This must at last be the case were continual appeals to be made to the people; as they would undoubtedly be followed by perpetual broils at home as well as disasters abroad. Britain

594 Misfortunes of the Newfoundland fleet.

To these violent bickerings at home, some very serious commercial misfortunes were now added. It had been represented as very probable, during the last session of parliament, that the bill for depriving the people of New England of the benefits of the Newfoundland fishery, would redound greatly to the interest of Great Britain, by throwing into her hands alone the profits which were formerly divided with the colonies. This expectation, however, proved totally void of foundation. The number of ships fitted out that year was scarcely greater than usual. The congress had also prohibited them from being supplied with provisions; so that not only those on board the ships, but even the inhabitants on the island of Newfoundland itself, were in danger of perishing. Many of the ships were therefore obliged to go in quest of provisions, instead of prosecuting the business on which they came. On the whole, therefore, instead of any increase, the profits of the fishery suffered this year a diminution of near 500,000l. Along with this, some natural causes cooperated, which, by the more superstitious, were considered as the effects of divine wrath. A most violent and uncommon storm took place in these latitudes during the fishing season. The sea rose full 30 feet above its ordinary level; and that with such rapidity, that no time was allowed for avoiding its fury. Upwards of 700 fishing boats perished, with all the people in them; and some ships foundered, with their whole crews. Nor was the devastation much less on shore, as the waters broke in upon the land, occasioning vast loss and destruction.

595 Violent and destructive storm.

596 Ineffectual petitions, &c.

By these misfortunes, the general stagnation of commerce, and the little success that had hitherto attended the British arms, the mercantile part of the nation were thrown into despair. Petitions were poured in from all quarters, the contents of which were similar to those already mentioned, and their reception was exactly the same. Ministers had determined on their plan; and the only difficulty was, how to put it in execution as quickly as they desired. For this purpose, application was made to the petty states of Germany, who are wont to hire out their forces, and who had frequently sent auxiliaries to Britain in former cases of exigency. At present, however, the scheme met with considerable difficulties, occasioned by the distance, as well as the danger,

597 Difficulty of procuring foreign succours.

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Britain.

danger, of the desertion of the mercenaries. The princes were likewise alarmed at the appearance of losing so many subjects for ever; while the latter were no less startled at the proposal of being transported across the ocean into a new world, there to be exposed to all the miseries of war, with very little hope of ever seeing their native country again. Other resources, however, were devised by calling in the assistance of the Hessians, and obtaining from Holland that body of Scots troops which had been so long in their service. But in both these views administration were disappointed. All the states of Europe looked upon Britain with an invidious eye, though none so much as Holland and France; these being the two powers who had most reason to hope for advantage from the quarrel. A very strong party in Holland contended for the American interest. Pamphlets were daily published at Amsterdam in justification of the colonies: their case was compared with that of the Netherlands in former times: and they were exhorted to persevere in their claims against the pretensions of Britain. Her they represented as insatiably covetous of wealth and power, and desirous of seizing every thing she could. She was also taxed with being of a domineering disposition, and that she had become intolerable, since her successes in the war of 1755, not only to her neighbours, but to the whole world: nay, that even during the war she had exercised an absolute sovereignty at sea, and did not scruple to avow a right and title to rule over that element.

598 France and Holland espouse the American cause.

But though these powers thus early expressed their hostile disposition towards Britain, it was otherwise with the princes of Hesse and Brunswick; by whom, and some other German princes of inferior note, a considerable number of troops were supplied. At the same time, that as many British forces as possible might be employed, large draughts were made from the garrisons of Gibraltar and Minorca, who were supplied in return with an equal number of men from the electorate of Hanover. In justice to the ministers, indeed, it must be owned, that they prosecuted the scheme they had undertaken with all possible vigour; insomuch that the expences already began to occasion considerable alarm. This was owing, in the first instance, to the bad success of the British arms, which occasioned a demand on this country altogether unlooked for. It had always been supposed, that the British army would be completely victorious; or at least would remain so far masters of the field, that they could easily command what supplies of fresh provisions were necessary. Instead of this, they were now cooped up in such a manner as to be actually in danger of perishing for want. The supplies, therefore, of necessity, were sent from Britain; and indeed the exertions for their relief were such as must give high ideas of the opulence and spirit of the British nation. For these troops there were shipped no fewer than 5000 live oxen, 14,000 sheep, with a proportionable number of hogs, immense quantities of vegetables, prepared with all possible care; 10,000 buts of small beer, and 5000 buts of strong beer. Some idea of the expences of these articles may be obtained from an account of what was paid for articles trifling in comparison of the above. For a regiment of light horse in Boston, 20,000l. were paid for oats, hay, and beans. The articles of vinegar, vegetables, and casks, at no less; and every thing else in proportion. The contingencies occasioned by military operations amounted to near 500,000l. The prodigious expences, therefore, of maintaining an inconsiderable armament at such a distance, could not fail to give a very unfavourable opinion of the war at large, and justly raise suspicions, that even the treasures of Britain would not be able to defray the expence. One advantage, however, was derived from such immense profusion; the price of every thing was augmented; that of shipping particularly rose one-fourth in the ton: and though the profits made by contractors and their numerous friends were complained of, the benefits which accrued to multitudes employed in the various branches of public business seemed in some measure to make amends for every thing.

599 Auxiliaries obtained from Hesse and Brunswick.

600 Vast sums expended to supply the garrison of Boston.

Britain.

601 Almost all the Boston stores destroyed or taken.

Misfortune, however, seemed now to attend every scheme in which Britain engaged herself. Some part of it, indeed, in the present case, might be derived from mismanagement. The sailing of the transports was delayed so long that their voyages were lost. They remained for a long time wind-bound; and, after leaving port, met with such stormy weather, that they were tossed to and fro in the Channel till most of the live stock they had on board perished. After clearing the coast of England, their progress was retarded by a continuance of bad weather. They were forced by the periodical winds from the coast of America into the ocean. Some were driven to the West Indies, others were captured by American privateers, and only a very few reached the harbour of Boston, with their cargoes, quite damaged, so that they could be of little or no use. Notwithstanding the immense supplies above-mentioned, therefore, a subscription was set on foot for the relief of the soldiers, as well as of the families of those who died in the service. This was liberal on the whole, though many refused to contribute, from their disapprobation of the cause; and bitter complaints were made of want of economy throughout the whole American department.

602 Violent animosities betwixt the two parties.

All this time the violent animosities between the parties continued; the desire of peace was gradually extinguished on both sides; and the foundation laid of an enmity scarcely ever to be extinguished. Each seemed to be seriously of opinion that the other would willingly ruin the nation if possible; a remarkable instance of which was the commitment of Stephen Sayre, Esq. banker (one of the sheriffs of the preceding year), to the Tower for high treason. The accusation laid against him was no less than that of having formed a design to seize his majesty as he went to the house of lords: but the scheme itself, and the method in which it was to be executed, appeared both so ridiculous, that the prisoner was very soon discharged; after which he commenced a process against Lord Rochfort for false imprisonment.

603 Mr Sayre committed to the Tower.

604 Parliamentary debates.

With respect to the parliamentary proceedings during this period, very little can be said, further than that every measure of administration, whether right or wrong, was violently opposed. The employment of foreign troops, and admitting them into the fortresses of Gibraltar and Minorca, were most severely censured, as being contrary to the bill of rights. Administration contended that this bill only forbade the introduction of a foreign military power into the kingdom during

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Britain. ring peace; but the times were not peaceable, and the introduction of the troops was evidently with a view to quell a rebellion. The force designed for the conquest of America was then declared to be inadequate to the purpose; but it was replied, on the part of ministry, that the design was to conciliate, not to conquer. The force (25,000 men) was sufficient to strike terror; and though this should not instantly be produced, conciliatory offers would still be held out after every blow that was struck.

605 Military operations of the Americans. In the mean time the Americans, sensible of the dangerous situation in which they stood, exerted themselves to the utmost to dislodge the British troops from Boston. This being at length accomplished in March 1776, they proceeded to put their towns in the most formidable state of defence; insomuch that they seem, if properly defended, to have been almost impregnable. This was evident from the repulse of Sir Peter Parker at Charlestown: but they did not exert equal spirit in the defence of New York; where, besides losing the town, they received such a defeat as seemed to threaten their affairs with total ruin. See AMERICA.

606 Their cause believed in Britain to be desperate. In this view it appeared to the generality of the people in Britain. The successful campaign of 1776 was looked upon as so decisive, that little room was left to suppose the Americans capable of ever retrieving their affairs. Opposition were much embarrassed, and now almost reduced to the single argument of the interference of foreign powers, which they had often unsuccessfully used before. Besides this, indeed, the obstinacy of the Americans in refusing the offers of Lord Howe, even at the moment of their greatest depression, seemed to be a very bad presage. The strength of ministry, however, now became so decisive, that

607 Vast expences attending the war. whatever they proposed was immediately carried. The number of seamen for 1777 was augmented to 45,000, and upwards of five millions voted for the expence of the navy, and to discharge its debt. The expences of the land-service amounted to near three millions, besides the extraordinaries of the former year, which amounted to more than 1,200,000l.; and though this vast provision became the subject of much complaint and animadversion, the power of ministry silenced every opposer.

608 Perplexity of administration on the news of General Burgoyne's defeat. But however administration might now triumph, their exultation was but of short continuance. The misfortune of General Burgoyne at Saratoga threw the whole nation into a kind of despair, and reduced the ministry to the greatest perplexity. The great difficulty now was to contrive means for raising a sufficient

609 They extricate themselves with great dexterity. number of forces to carry on the war: but from this they extricated themselves by what must be allowed a masterly contrivance. This was the encouraging levies for government service by cities and private persons; and as the design was kept a profound secret before the Christmas recess, they were not disturbed by the dangerous clamours of opposition. The recess was purposely extended in order to give time for the scheme to take effect; and before parliament met again it was actually accomplished, so that ministers could once more face their opponents without any fear.

610 The French resolve to assist America. Another and more weighty consideration, however, now occurred. The European states in general had long beheld the grandeur of Britain with an invidious eye. The news of the disaster at Saratoga was therefore received among them as those of the defeat of Charles XII. at Pultowa was among the powers whom he had so long commanded. Of all these the French, for obvious reasons, were the most active in supporting the Americans. Numbers of the young nobility were eager to signalize themselves in the American cause; and among the rest the marquis de la Fayette, a young nobleman of the first rank and fortune. Impelled by an enthusiastic ardour in favour of the American cause, he purchased a vessel, loaded her with military stores, and sailed in her with several of his friends to America, where he presented his services to congress. From them he met with a most gracious reception, and was invested with a command, in which he lost no opportunity of distinguishing himself. Besides this nobleman, several other officers from France and Germany actually entered the American service; and by their military talents greatly contributed to the exertions which the colonies were afterwards enabled to make.

This assistance, however, would have been but trifling, had not the French court also interested itself in their behalf; for by the time, or very soon after, the news of General Burgoyne's disaster arrived in Britain, a treaty was on foot between the French court and the United States of America.

Even before this time France had showed such an extreme partiality towards the Americans, as might have plainly indicated their design of ultimately assisting them in their national capacity. The encouragement given to the American privateers in all the ports of France had produced strong remonstrances on the part of Britain; and an order was at last demanded, that all these privateers with their prizes should depart the kingdom. With this they found it necessary to comply at that time, lest reprisals should be made by capturing their whole Newfoundland fleet then out on the fishery. So many delays, however, were made on various pretence, that not a single vessel was dismissed from any of their ports. So far indeed were the French court from any design of this kind, that in the month of July 1777 the whole body of merchants throughout the kingdom were assured from government that they might depend on protection in their trade with America.

All this time the greatest preparations were made throughout the whole kingdom of France for war; so that the most judicious politicians were of opinion that a rupture with that power would have immediately followed the commencement of hostilities with America, and for which the behaviour of the former furnished abundant reasons of justification. Whatever might have been the motives of the British ministry, however, it is certain, that in defiance of probability, even when joined by the most acrimonious censures of opposition, they continued to pretend ignorance of any hostile intentions in the court of France, until that court of its own accord thought proper to announce them. This was done by a formal notification to the court of Britain in the month of March 1778, and that in the most mortifying terms. In this declaration it was announced, not only that a treaty of friendship and commerce was concluded betwixt France and America, but Britain was insulted with being told that America was actually in possession of independency, as if the former

611 Treaty with America announced to the court of Britain.

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Britain.

mer had already exerted her utmost efforts without being able to reduce them. A merit was also made of having entered into no commercial stipulations in favour of France exclusive of Britain. Nothing, therefore, could be more offensive; and though it could not decently be said on the part of the French monarch that he wished for war, yet his pacific intentions were conveyed in such haughty terms, that the whole could only be considered as a declaration of those hostilities which he pretended to avoid.

612 Several charges against administration.

Both parties now united in their opinion that a war with France was unavoidable; but they were not for that reason any farther advanced towards a reconciliation. It must be owned, indeed, that the minority had now, according to their own account, received very great provocation. They had from the beginning reprobated the American war, and prognosticated its bad success. In this they had been overruled, and the character of the Americans represented in such a manner as almost to preclude the idea of their being able to resist. They had resisted, however; and by destroying or taking prisoners a whole army, verified those predictions which had been so often treated with ridicule. The popular party had, times without number, insisted in the most earnest manner for some kind of concession towards America; but this had constantly been refused with an unparalleled and inveterate obstinacy. They now saw these very concessions offered to America after the defeat of Burgoyne, which, had they been granted in time, would have prevented all the mischief. Added to all this, the expences for the ensuing year had been hurried through the house before the Christmas vacation; the levies had been raised by subscription without consent of parliament at all; yet both these proceedings had been determined to be strictly legal and constitutional. Every inquiry into the measures of government had been frustrated; and one into the state of the nation in general, which could not be absolutely rejected, was rendered ineffectual by delays and evasion. Lastly, They now saw their country involved in a foreign war with a nation well provided for all emergencies, while we had supinely suffered them to go on, without making the least effort to put ourselves in a proper state of defence.

613 Removal of the ministers insisted upon.

For these reasons opposition insisted that the present ministry ought no longer to be trusted with the management of public affairs. An acknowledgment of the independence of America was now by many supposed to be the only rational step that could be taken, which might now be done with a good grace, and which we would unavoidably be obliged to take at last whether we would or not. By acknowledging this independence before they had time to enter into exclusive engagements with France, their trade would be open to all the world. This of course would lessen their correspondence with France, and leave them at liberty to form such connections as they thought most proper. The ministerial party, however, still insisted on vigorous measures, representing it as a spiritless and disgraceful measure to bend beneath the power of France, and setting forth the resources of Great Britain as sufficient to resist the efforts of all her enemies. The dishonour of leaving the American loyalists exposed to the resentment of their countrymen was also set forth in the strongest manner. These, by very intelligent people, were said to be by far the greater number. Was it not more eligible, on the very strength of such an affirmation, to make trial of its veracity, and to put arms into their hands? Whatever the danger of the experiment might be, we could not abandon them without exposing our reputation, and losing that character of fidelity to our engagements for which we had hitherto been so justly respected. Unanimity in the present case was strongly, and indeed very justly, insisted upon; but when opposition complained of some occult irresistible influence, by which the counsels of the nation were directed, in despite of every suggestion of reason and argument, the charge was denied in the strongest manner, and ministers disclaimed every motive of their conduct, excepting that of an internal conviction of its own rectitude.

Britain.

Notwithstanding the violence of these altercations, however, the greatest courage and steadiness was manifested by the cool and deliberate part of the nation. The French resolved in the first place to excite a general terror by threatening an invasion. This was evidently impracticable, without their procuring first the superiority at sea: yet as multitudes in the country were apt to be terrified by the very mention of a French invasion, orders were issued to draw out and embody the militia, which was then composed of men in every respect as well exercised and disciplined as any regular troops. It was complained, however, that a French squadron of 12 ships of the line had sailed from Toulon without any obstruction, under the command of the count d'Estaing. The most grievous apprehensions were entertained from the great inferiority of Lord Howe's naval force, which might expose him to a total defeat, and the whole fleet of transports to be taken or destroyed by the enemy. But whatever might have been the probabilities in this case, it is certain that either the fortune or conduct of this commander were such, that no exploit of any great consequence was ever performed by him. That matters, however, might be put in the best situation possible, addresses were moved for the recalling of the fleets and armies from America, in order to station them in places where they might contribute more effectually to the defence of the kingdom. This was opposed not only by administration, but even by some of the most popular members of opposition themselves. Of this opinion were Lord Chatham and the earl of Shelburne; the former of whom resisted it with a vehemence of speech peculiar on this occasion.

614 Invasion threatened by the French.

615 D'Estaing sails with a squadron from Toulon.

The operations of the French in America, with the various success of the war, are related under the article *United States of America*. Here we have only to take notice, that d'Estaing having failed in his attempt on the British fleet at New York, and in assisting his allies in their attempt on Rhode island, as well as having by other parts of his conduct greatly disgusted them, sailed for the West Indies, where he unsuccessfully attacked the island of St Lucia*. Being repulsed in this attempt, he sailed to the island of Grenada, which he reduced, treating the vanquished in a very cruel manner†; while a body of troops dispatched by him also reduced the island of St Vincent.

616 Exploits of d'Estaing.

* See *St Lucia*.

† See *Grenada*.

By this time the French admiral was powerfully reinforced; so that his fleet consisted of 26 sail of the line

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Britain. line and 12 frigates. During the time he was employed at Grenada, Admiral Byron with the British squadron was accompanying the homeward-bound West-India fleet till out of danger; after which he sailed with a body of troops under General Grant for the recovery of St Vincent; but before they could reach that island, certain intelligence was received of the descent at Grenada. On this they steered directly for that island, where they encountered the French fleet without hesitation, notwithstanding the great superiority of the latter. At this time the French squadron amounted to 27 sail of the line and seven frigates; while that of Britain consisted only of 21 line of battle ships and one frigate. The British admirals, Byron and Barrington, endeavoured to bring the enemy to a close engagement, but this was as studiously avoided by d'Estaing; and such was the dexterity and circumspection with which the latter conducted matters, that it was only by seizing the transient opportunities of the different movements occasioned by the wind and weather, that some of the British ships could close in with their antagonists. Even when this was the case, the engagement was carried on upon such unequal terms, that the British ships were terribly shattered. For some time Captains Collingwood, Edwards, and Cornwallis, stood the fire of the whole French fleet. Captain Fanshaw of the Monmouth, a 64 gun ship, singly threw himself in the way of the enemy's van to stop them. Several of the British ships forced their way to the very mouth of St George's harbour in the island of Grenada; but finding it in the hands of the French, an end was put to the engagement; nor did the French care to renew it, though the British ships had suffered very much.

617 Engagement betwixt him and Admiral Byron.

618 Bravery of some English captains.

619 General state of the success of the American and West Indian war.

D'Estaing now having received fresh reinforcements, set sail for the continent of America, after convoying the homeward-bound fleet of French merchantmen in their return from the West-India islands. His disastrous attempt on the town of Savannah, with the subsequent disorder betwixt him and the colonists, are related under the article *United States of America*. Here we have only to take notice, that thus the fears which had been excited by the superiority of the French in the West Indian seas were effectually dissipated. The islands of Dominica, St Vincent, and Grenada, were indeed lost; the first being taken by the marquis de Bouille, governor of Martinico, and the two last by d'Estaign as already related*: but these successes were balanced by the failure of the French commander in every other enterprise; by his terrible disaster at the Savannah; and by the acquisition of St Lucia, which was taken in the year 1778 by Admiral Barrington and Generals Prescot and Meadows†. In other parts of the West Indian seas also the honour of the British arms was very effectually supported by the bravery and vigilance of the commanders on that station. Here Admiral Hyde Parker, assisted by Admiral Rowley, kept the enemy in continual alarm, and intercepted the trade of the French islands in such a manner as greatly distressed them. Three large frigates dispatched by Count d'Estaign after his failure in America were taken, and a great part of a convoy seized or destroyed in sight of M. de la Motte Piquet's squadron in the harbour of Fort Royal at Martinico, the admiral himself having narrowly escaped. He had sailed out of that harbour, in order to favour the escape of the convoy already mentioned; which having partly effected, he withdrew; but was pursued so closely, that he had scarcely time to shelter himself under the batteries on shore. Britain.

* See those articles.

† See *St Lucia*.

These successes, which happened in the years 1778, 1779, and beginning of 1780, kept the event of the war pretty much in an equilibrium on the western seas and continent; but in the mean time the most unhappy dissensions prevailed through every department of the British government in Europe, which threatened at last to involve the whole nation in confusion and bloodshed.

620 Bad condition of the British navy in Europe.

Among other charges brought by the members in opposition against the ministry, that of neglecting the navy had been one of the most considerable; nor indeed does it appear that the charge was altogether without foundation. Without a fleet, however, it was now impossible to avoid the danger of an invasion. At this time, indeed, the fleet was in a very weak condition, but the valour and experience of the officers seemed in some measure to compensate that defect. The chief command was given to Admiral Keppel, who had served with uncommon reputation during the last war. Admirals Sir Robert Harland and Sir Hugh Palliser served under him, both of them officers of undoubted courage and capacity. Arriving at Portsmouth towards the end of March 1778, Admiral Keppel exerted himself with so much industry and diligence, that, exclusive of those ships which it was found necessary to dispatch to the coast of North America under Admiral Byron, a fleet of 20 sail of the line was got in complete readiness by the beginning of June, and ten more in a forward state of preparation.

621 Operations of Admiral Keppel, and his engagement with the French fleet.

At the head of this fleet Admiral Keppel sailed from Portsmouth on the 13th of June, in order to protect the vast number of commercial shipping expected from all parts of the world, and at the same time to watch the motions of the French fleet at Brest.

On the arrival of the British fleet off the coast of France, two French frigates approached it, in order to make their observations. These were the Licorne of 32 guns and the Belle Poule of 26. In consequence of a signal to give chase, the Milford frigate overtook the Licorne towards the close of the day, and requested the French captain to come under the British admiral's stern; upon his refusal, a ship of the line came up, and compelled him to come into the fleet. Next morning, the Licorne seeming by her motions to be altering her course, a shot was fired across her way as a signal for keeping it. Hereupon she discharged a broadside and a volley of small arms into the America of 64 guns that lay close to her, and immediately struck. The behaviour of the French captain was the more astonishing, as Lord Longford, captain of the America, as at that instant engaged in conversation with him in terms of civility; but though such behaviour certainly merited severe chastisement, no hostile return was made.

The Arethusa of 26 guns, commanded by Captain Marshal, with the Alert cutter, was meanwhile in pursuit of the Belle Poule, that was also accompanied by a schooner, and the chase was continued till they were both out of sight of the fleet. On his coming up, he informed

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Britain. informed the French captain of his orders to bring him to the admiral, and requested his compliance. This being refused, the Arethusa fired a shot across the Belle Poule, which she returned with a discharge of her broadside. The engagement thus begun, continued more than two hours with uncommon warmth and fury.

The Belle Poule was greatly superior not only in numbers, but in the weight of her metal: her guns were all 12 pounders; those of the Arethusa only six: Notwithstanding this inferiority, she maintained so desperate a fight, that the French frigate suffered a much greater loss of men than the British. The slain and wounded on board the former, amounted, by their own account, to near 100; on board the latter they were not half that proportion.

Captain Fairfax in the Alert, during the engagement between the two frigates, attacked the French schooner, which being of much the same force, the dispute continued two hours with great bravery on both sides, when she struck to the English cutter.

The Arethusa received so much damage, that she became almost unmanageable; the captain endeavoured to put her into such a position, as to continue the engagement; but was unable to do it. Being at the same time upon the enemy's coast, and close on the shore, the danger of grounding in such a situation obliged him to act with the more caution, as it was midnight. The Belle Poule, in the mean time, stood into a small bay surrounded with rocks, where she was protected from all attacks: she had suffered so much that the captain, apprehending that she could not stand another engagement, had resolved, in case he found himself in danger of one, to run her aground; but her situation prevented any such attempt; and as soon as it was day-light, a number of boats came out from shore, and towed her into a place of safety. Notwithstanding the evident and great superiority on the side of the French, this action was extolled by them as a proof of singular bravery, and the account of it received with as much triumph as if it had been a victory.

On the 18th of June, the day following the engagement with the Belle Poule, another frigate fell in with the British fleet; and was captured by the admiral's orders, on account of the behaviour of the Licorne.

The capture of those French frigates produced such intelligence to the admiral, as proved of the utmost importance, at the same time that it was highly alarming. He was informed that the fleet at Brest consisted of 32 ships of the line and 12 frigates. This was in every respect a most fortunate discovery, as he had no more with him than 20 ships of the line and three frigates. The superiority of the enemy being such as neither skill nor courage could oppose in his present circumstances; and as the consequences of a defeat must have been fatal to this country, he thought himself bound in prudence to return to Portsmouth for a reinforcement. Here he arrived on the 27th of June, and remained there till the ships from the Mediterranean, and the Spanish and Portuguese trade, and the summer fleet from the West Indies, coming home, brought him a supply of seamen, and enabled him to put to sea again, with an addition of ten ships of the line. But still there was a great deficiency of frigates, owing to the great numbers that were on the American station, and the necessity of manning the ships of the line preferably to all others. Britain.

In the mean time, the preparations at Brest being fully completed, the French fleet put to sea on the 8th of July. It consisted of 32 sail of the line, besides a large number of frigates. Count D'Orvilliers commanded in chief. The other principal officers in this fleet were Counts Duchaffault, de Guichen, and de Grasse; Monsieur de Rochechoart and Monsieur de la Motte Piquet. A prince of the blood royal had also been sent to serve on board of this fleet; this was the duke of Chartres, son and heir to the duke of Orleans, first prince of the blood royal of France in the collateral line. He commanded one of the divisions in quality of admiral.

On the 9th day of July, the British fleet sailed out of Portsmouth in three divisions; the first commanded by Sir Robert Harland, the third by Sir Hugh Palliser, and the centre by Admiral Keppel, accompanied by Admiral Campbell, an officer of great courage and merit. The French had been informed that the British fleet was greatly inferior to their own; which was but too true at the time when they received this information. Being yet unapprised of the reinforcement it was returned with, the admiral sailed at first in quest of it, intending to attack it while in the weak condition it had been represented to him.

As the British admiral was equally intent on coming to action as soon as possible, they were not long before they met. On the 23d of July they came in sight. But the appearance of the British ships soon convinced the French admiral of his mistake, and he immediately determined to avoid an engagement no less cautiously than he eagerly sought it before.

Herein he was favoured by the approach of night: All that could be done on the part of the British was to form the line of battle in expectation that the enemy would do the same. During the night the wind changed so favourably for the French, as to give them the weather gage. This putting the choice of coming to action, or of declining it, entirely in their own power, deprived the British admiral of the opportunity of forcing them to engage as he had proposed.

During the space of four days, the French had the option of coming to action; but constantly exerted their utmost care and industry to avoid it. The British fleet continued the whole time beating up against the wind, evidently with a resolution to attack them. But notwithstanding the vigour and skill manifested in this pursuit, the British admiral had the mortification to see his endeavours continually eluded by the vigilance and precaution of the enemy not to lose the least advantage that wind and weather could afford.

The chase lasted till the 27th of July. Between 10 and 11 in the morning, an alteration of wind and weather occasioned several motions in both fleets, that brought them, unintentionally on the part of the French, and chiefly through the dexterous management of the British admiral, so near each other, that it was no longer in their power to decline an engagement. Both fleets were now on the same tack: had they so remained, the British fleet on coming up with the French would have had an opportunity of a fair engagement, ship to ship; which would hardly have failed of proving very decisive: but this was a manner of combat-

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Britain. ing quite contrary to the wishes of the French admiral. Instead of receiving the British fleet in this position, as soon as he found that an action must ensue, he put his ships on the contrary tack, that, sailing in opposite directions, they might only fire at each other as they passed by. By this means a close and sidelong action would be effectually evaded. As soon as the van of the British fleet, consisting of Sir Robert Harland's division, came up, they directed their fire upon it; but at too great a distance to make any impression: the fire was not returned by the British ships till they came close up to the enemy, and were sure of doing execution. In this manner they all passed close alongside each other in opposite directions, making a very heavy and destructive fire.

The centre division of the British line having passed the rearmost ships of the enemy, the first care of the admiral was to effect a renewal of the engagement, as soon as the ships of the different fleets, yet in action, had got clear of each other respectively. Sir Robert Harland, with some ships of his division, had already tacked, and stood towards the French; but the remaining part of the fleet had not yet tacked, and some were dropped to leeward, and repairing the damages they had received in the action. His own ship the Victory had suffered too much to tack about instantly; and had he done it, he would have thrown the ships astern of him into disorder. As soon as it was practicable, however, the Victory wore, and steered again upon the enemy before any other ship of the centre division; of which not above three or four were able to do the same. The other ships not having recovered their stations near enough to support each other on a renewal of action, in order to collect them more readily for that purpose, he made the signal for the line of battle ahead. It was now three in the afternoon; but the ships of the British fleet had not sufficiently regained their stations to engage. The Victory lay nearest the enemy, with the four ships above mentioned, and seven more of Sir Robert Harland's division. These twelve were the only ships in any condition for immediate service; of the others belonging to the centre and to Sir Robert Harland's division, three were a great way astern, and five at a considerable distance to leeward, much disabled in their rigging.

Sir Hugh Palliser who commanded the rear division during the time of action, in which he behaved with signal bravery, came of course the last out of it; and in consequence of the admiral's signal for the line, was to have led the van on renewing the fight; but his division was upon the contrary tack, and was entirely out of the line. The French, on the other hand, expecting directly to be re-attacked, had closed together in tacking, and were now spreading themselves into a line of battle. On discovering the position of the British ships that were fallen to leeward, they immediately stood towards them, in order to cut them off. This obliged the admiral to wear and to steer athwart the enemy's foremost division, in order to secure them; directing, at the same time, Sir Robert Harland to form his division in a line astern, in order to face the enemy till Sir Hugh Palliser could come up, and enable him to act more effectually.

The admiral, in moving to the protection of the leeward ships, was now drawing near the enemy. As Sir Hugh Palliser still continued to windward, he made a signal for all the ships in that position to come into his wake: Sir Hugh Palliser repeated this signal; but it was unluckily mistaken by the ships of his division as an order to come into his own wake, which they did accordingly; and as he still remained in his position, they retained theirs of course. Britain.

Sir Robert Harland was now directed to take his station ahead, and the signal repeated for Sir Hugh Palliser's division to come into his wake; but this signal was not complied with, any more than a verbal message to that purpose, and other subsequent signals for that division's coming into its station in the line, before it was too late to recommence any operations against the enemy.

In the night, the French took the determination to put it wholly out of the power of the British fleet to attack them a second time. For this purpose, three of their swiftest sailing vessels were fixed in the stations occupied during the day by the three admirals ships of the respective divisions, with lights at the mast-heads, to deceive the British fleet into the belief that the French fleet kept its position with an intent to fight next morning. Protected by this stratagem, the remainder of the French fleet drew off unperceived and unsuspected during the night, and retired with all speed towards Brest: they continued this retreat the whole course of the following day, and entered that port in the evening. Their departure was not discovered till break of day; but it was too late to pursue them, as they were only discernible from the mast-heads of the largest ships in the British fleet. The three ships that had remained with the lights were pursued: but the vessels that chaced them were so unable to overtake them from the damages they had received in the preceding day's engagement, that they were quickly recalled; and the admiral made the best of his way to Plymouth, as being the nearest port, in order to put his fleet into a proper condition to return in quest of the enemy.

The killed and wounded on board the British fleet, amounted to somewhat more than 500; but the French, it has been asserted on grounds of great credibility, lost 3000. This appears the less improbable, from the consideration that the French, in all their naval engagements, aim principally at the masts and rigging, and the British chiefly at the body of the ships.

This action, whatever might have been the merit of the commanders, proved a source of the most fatal animosities. The bulk of the nation had so long been accustomed to hear of great and glorious victories at sea, that it was supposed a kind of impossibility for a French and British fleet to encounter without the total ruin of the former. The event of the last engagement, therefore, became an object of very severe criticism; and complaints were made, that, through the bad conduct of the blue division, an opportunity had been lost of gaining a complete victory over the French fleet. These complaints were quickly introduced into the public papers; and were carried on with a warmth and vehemence that set the whole nation into a ferment of the most violent and outrageous nature. The friends of Sir Hugh Palliser, the vice-admiral of the blue, were no less violent in the defence of his conduct than his opponents were in its condemnation; while

611 Subsequent dissensions, and trial of the admiral.

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Britain. while those who espoused the cause of the admiral, manifested no less determination in accusing him of being the real cause of the escape of the French fleet, through his disobedience of the signals and orders of his commander, and by remaining at a distance with his division, instead of coming to the assistance of the rest of the fleet.

An accusation of so weighty a nature very much alarmed Sir Hugh Palliser. He therefore applied to Admiral Keppel for a justification of his conduct; and required of him to sign and publish a paper relative to the engagement of the 27th of July; therein specifying as a fact, that he did not intend by his signals on the evening of that day to renew the battle then, but to be in readiness for it the next morning.

On the rejection of this demand, Sir Hugh Palliser published in one of the daily papers a variety of circumstances concerning that engagement; reflecting severely on the conduct of the admiral, and prefacing the whole by a letter signed with his name.

An attack so public, and so detrimental to his character, induced Admiral Keppel to declare to the admiralty, that unless Sir Hugh Palliser should explain this matter to his satisfaction, he could not, consistently with his reputation, ever act conjointly with him.

This altercation happening before the meeting of parliament, was of course taken notice of when it met. In the house of peers an inquiry was demanded into the conduct of the commanders of the fleet on the 27th of July, on account of the declaration of Admiral Keppel, that he would not resume the command until such an inquiry had taken place.

In the house of commons also it was urged, that as Admiral Keppel had expressed a public refusal to serve in conjunction with Sir Hugh Palliser, the cause of such a declaration ought to be investigated. Admiral Keppel and Sir Hugh Palliser, who were both present in the house on this occasion, spoke severally to the point in question in support of their respective conduct. The issue of the contest between them was, that a motion was made for an address to the crown to bring Sir Hugh Palliser to a trial for his behaviour in the late engagement with the French fleet. In answer to this motion, Sir Hugh Palliser replied, in a speech of great warmth and vehemence, that he had already demanded and obtained a court martial to sit on Admiral Keppel, whom he charged with having through his misconduct caused the failure of success in that engagement.

This intelligence was received with great astonishment in the house. It had been, and still continued to be, the general desire of individuals of all parties, to heal this breach between the two officers at a time when the services of both were so much needed. It was therefore with universal concern the house was informed of the determination that had been taken to bring Admiral Keppel to a trial. The admiral, however, conducted himself on this occasion with remarkable temper and coolness of expression. He acquiesced without reluctance in the orders that had been laid upon him to prepare for a trial of his conduct; which he hoped would not, upon inquiry, appear to have been dishonourable or injurious to his country, any more than disgraceful to himself.

The conduct of the board of admiralty in admitting the charges against Admiral Keppel, and appointing a trial, was greatly condemned in the house. It was said to have been their duty to have laboured with the utmost earnestness, and exerted their whole official influence, to stifle this unhappy disagreement between two brave and valuable men; the consequences of which they well knew, and ought to have obviated, by interposing as reconciliators, instead of promoting the dispute, by consenting to bring it to a judicial and public hearing. On the other hand, it was answered, that they could not, consistently with the impartiality which they owed to every officer of the navy, refuse to receive all matters of complaint relating to subjects of their department. They had no right to decide on the merits of any case laid before them, but were bound to refer it to a court composed of naval officers, who were the only proper and competent judges of each others conduct in professional matters. In conformity with these principles, which were founded upon the clearest equity, they left the decision of the present altercation to the gentlemen of the navy; whose honour and integrity in all instances of this kind had never been called in question, and by whose verdict alone it was but just and reasonable that every officer in that line of service should wish to stand or fall. Britain.

The arguments upon this subject were urged with great heat and violence on both sides. They produced uncommon animosity and rancour, and gave rise to a spirit of contention that diffused itself through all classes of society. Such was the height of passion that prevailed everywhere, that the critical circumstances of the nation were wholly forgotten, and the attention of the public entirely absorbed in this fatal dispute. Individuals of all ranks and all professions engaged in it with as much zeal as if they had been personally concerned in the issue. The dissatisfaction that was excited upon this occasion among the upper classes in the navy, appeared in a memorial presented to the king by twelve of the eldest and most distinguished admirals, at the head of whom was the name of Lord Hawke. The conduct of Sir Hugh Palliser was therein condemned without reserve; that of the admiralty itself was severely censured, as having established a precedent pregnant with the most ruinous consequences to the naval service of the kingdom. By the measure it had now adopted, that board had submitted to become the instrument of any individual who might be prompted by iniquitous motives to deprive the navy of its best and highest officers. It was a destructive violation, they said, of all order and discipline in the navy, to permit and countenance long concealed, and afterwards precipitately adopted charges, and recriminatory accusations of subordinate officers against their commanders in chief. It was no less improper and scandalous, to suffer men at once in high civil office, and in subordinate command, previous to their making such accusation, to attempt to corrupt the judgment of the public, by publishing libels on their officers in a common newspaper, which tended at once to excite dissensions in the navy, and to prejudice the minds of those who were to try the merits of the accusation against the superior officer.

It was remarkable in this memorial, that the majority of those who subscribed it were not only officers of the first rank and importance in the navy, but unconnected with the opposition, and attached by various motives

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motives to the court and ministry. This evinced their conduct in the present instance to have been uninfluenced by considerations of party.

No business of any consequence was agitated in either of the houses of parliament while the trial continued. It began upon the 7th of January 1779, and lasted more than a month, not ending till the 11th day of February ensuing. After a long and accurate investigation of every species of evidence that could be produced, the court-martial acquitted Admiral Keppel of all the charges that had been brought against him in the most complete and honourable manner. He was declared to have acted the part of a judicious, brave, and experienced officer; and the accusation was condemned in the most severe manner.

Both houses of parliament voted him their thanks for the eminent services he had performed, and the whole nation resounded with his applause. The city of London bestowed every honour and mark of respect in its power upon Admiral Keppel; while the resentment against his accuser was so strong, that it constrained him to retire wholly from public life, and to resign all his employments.

But notwithstanding the high degree of national favour and esteem in which Admiral Keppel now stood, he thought it prudent to withdraw from a situation wherein he found himself not acceptable to those in power, by resigning his command.

623 Unsuccessful attack on the board of admiralty.

The conduct of those who presided at the admiralty board now became an object of severe censure; and a number of facts were cited to prove that its conduct for many years past had been highly reprehensible. The debates were uncommonly violent; and the resolution to condemn the conduct of the admiralty was lost only by a majority of 34. Administration, however, still kept their ground; for though a second attempt was made to show that the state of the navy was inadequate to the vast sums bestowed upon it, the point was again lost by much the same majority. The argument used by the ministry in defence of their conduct in this case was, that the ships now constructed were of a much larger size, and consequently much more expensive than formerly. But however they might be victorious in argument, it is certain that the conduct of the admiralty was very far from giving general satisfaction at present. Not only Admiral Keppel, but Lord Howe, declared his resolution to relinquish the service while it continued under the direction of its managers at that time. Their resignation was followed by that of Sir Robert Harland, Sir John Lindsay, and several others; nay, so general was the dislike to the service now become, that no fewer than 20 captains of the first distinction had proposed to go in a body to resign their commissions at once; and were prevented from doing so only by the great occasion they saw there was at that time for their services.

624 Resignation of admirals Keppel, Howe, and other officers.

This extreme aversion to the service produced a direct attack upon Lord Sandwich, at that time first lord of the admiralty. But though in this as well as other cases the ministry were still victorious, they could not prevent an inquiry into the cause of our want of success in the American war. This was insisted upon by Lord and General Howe, whose conduct had been so much reflected upon, that a vindication was become absolutely necessary. The inquiry was indeed very

625 Inquiry into the conduct of the American war;

disagreeable to administration, and therefore evaded as long as possible. From the evidence of Lord Cornwallis and other officers of high rank, however, it appeared that the forces sent to America were not at any time sufficient to reduce it; that the Americans were almost universally unfriendly to the British cause; and that the nature of the country was such, that the conquest of it must be excessively difficult. It appeared also, that the camp of the Americans on Long island was so strong, that it could not have been attacked with any probability of success, after their defeat in 1776, without artillery and other necessary preparations. In every instance, therefore, the general's conduct was shown to have been the most eligible and judicious possible. These facts, however, being directly opposite to what the ministry wished to appear, counter evidence was brought in, with a view to invalidate the testimony of the very respectable witnesses above mentioned. In this business only two were examined, viz. Major-general Robertson, and Mr Joseph Galloway an American gentleman. From the evidence of Mr Galloway especially, it appeared, that the conduct of General Howe had not been unexceptionable; that the greater part of the Americans were friendly to the cause of Britain; that the country was not so full of obstructions as had been represented; woods and forests being no obstructions to the marching of armies in as many columns as they pleased; that soldiers might carry provisions for 19 days on their backs, &c.

Though no stress could be laid upon such extravagant assertions proceeding undoubtedly from ignorance, yet they fully answered the purpose of ministry at this time, viz. procrastination, and preventing the disagreeable truths above-mentioned from striking the minds of the public too forcibly. The event of this inquiry, however, encouraged General Burgoyne to insist for an examination of his conduct; which indeed had been so unmercifully censured, that even the ministers began to think he had suffered too much, and that he ought to be allowed to vindicate himself. He was accordingly permitted to bring witnesses in his own behalf; and from the most respectable evidence it appeared that he had acted the part, as occasion required, both of a general and soldier; that the attachment of his army to him was so great, that no dangers or difficulties could shake it; and that, even when all their patience and courage were found to be ineffectual, they were still ready to obey his commands, and die with arms in their hands. A great number of other particulars relating to his expedition were also cleared up entirely to the honour of the general, and several charges against him were totally refuted. It appeared, however, that the Americans, far from being the contemptible enemy they had been called, were intrepid and resolute. On the whole, it was remarked by a great number of the most judicious people in the nation, that the spirit of defamation, which for some time had been so prevalent, must at last produce the most fatal effects; by depriving the nation of its best officers, through the aversion that would be produced in them, both in the sea and land departments, to enter into a service where they were certain of being calumniated.

626 Into General Burgoyne's conduct.

After the resignation of Admiral Keppel, the command of the Channel fleet was bestowed, though not without violent debates, on Sir Charles Hardy, a brave and

627 Accession of Spain to the confederacy against Britain.

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Britain.

and experienced officer, but now advanced in years, and who had retired from the service with a design of never returning to it, being at that time governor of Greenwich hospital. The choice of an admiral to command this fleet was now of the greater importance, on account of the accession of Spain to the general confederacy which took place this year †. The quarrel, like that with France, was formally intimated by the Spanish minister on the 17th of June 1779; and like that also was attended with new but ineffectual proposals of an accommodation with America, and removal of the ministry. The imminent danger, however, to which the nation was now exposed, required a vigorous exertion; and various projects for its internal defence were laid before the parliament. The principal of these were the raising of volunteer companies to be added to the regiments of militia belonging to the counties where they were raised, and the augmenting the number of militia. The latter was judged unadvisable, on account of the necessity there would be to send a great number of regular forces out of the kingdom, which would require new supplies of recruits; and the increase of the militia might prove detrimental to the recruiting service. The spirit and magnanimity displayed on this occasion, however, did the highest honour to the national character, and fully justified the opinion generally entertained of its opulence and valour. All parts of the kingdom seemed actuated by a laudable zeal to concur in every measure necessary for its defence; large sums were subscribed by people of rank and affluence; and companies were raised, and regiments formed, with such alacrity, as quickly banished all apprehensions for the safety of the kingdom.

† See *Spain*.

628 Schemes for the internal defence of the nation.

629 Vigorous efforts of the people on this occasion.

630 British settlements in Africa reduced.

On the other hand, the French, now thinking themselves secure of victory by the accession of the whole strength of Spain to their cause, began to extend their plans of conquest. A squadron was fitted out under the command of the marquis de Vadreuil, destined to reinforce the fleet commanded by D'Estaing. But before its proceeding thither, an attack was made on the British settlements on the rivers Senegal and Gambia in Africa. These were easily conquered; and on this occasion the French quitted their own island of Goree, which was very soon after taken possession of by Sir Edward Hughes in his way to the East Indies. These unimportant and distant conquests, however, being insufficient to produce any great eclat, it was resolved to strike a blow nearer home, by the conquest of Jersey and Guernsey. An attempt was accordingly made; but with so little success, that not a single man could be disembarked on the island they intended to conquer. The enterprise, however, proved indirectly of great service to the cause of America. A fleet of 400 merchantmen and transports was at that time on the point of sailing for New York, under the conduct of Admiral Arbuthnot; but that officer, being informed of the attack on Jersey, thought it his duty to come to the assistance of the island rather than proceed on his voyage. This delay was followed by another, occasioned by bad weather; so that the fleet, which was laden with warlike stores and necessaries, did not arrive till the end of August, and several important enterprises projected by Sir Henry Clinton were of course laid aside.

631 Unsuccessful attempt on Jersey.

The French, in the mean time, determined to make a second attempt on Jersey; but their squadron, being attacked by another under Sir James Wallace, was driven ashore in a small bay on the coast of Normandy, under cover of a battery. Thither they were pursued by the British commander, who silenced the battery, took a large frigate of 34 guns, with two rich prizes, and burned two other frigates and several other vessels.

Britain.

632 French squadron of frigates destroyed by Sir James Wallace.

Thus disappointed in their attempt on Jersey, a project was formed of invading Great Britain itself; and the preparations for it, whether serious or not, were so formidable, that they very justly excited a considerable alarm in this country. Not only were the best troops in the French service marched down to the coasts of the British channel, but transports were provided in great numbers, and many general officers promoted; the commanders also who were to have the charge of this important expedition were named by government. A junction was formed betwixt the French and Spanish fleets, in spite of the endeavours used on the part of the British to prevent it; and then the allies made their appearance in the British seas with upwards of 60 ships of the line, besides a vast number of frigates and other armed vessels.

633 Invasion of Great Britain projected.

634 Formidable appearance of the combined fleets.

All this formidable apparatus, however, ended in nothing more than the taking of a single ship, the Ardent, of 64 guns. They had passed the British fleet under Sir Charles Hardy in the mouth of the Channel without observing him. Sailing then along the coast of England, they came in sight of Plymouth, where they took the Ardent, as has been already mentioned; after which they returned, without making the least attempt to land anywhere. The British admiral made good his entrance, without opposition, into the Channel, on their quitting it, which a strong easterly wind obliged them to do. He endeavoured to entice them up the Channel in pursuit of him; but the great sickness and mortality on board their ships, as they gave out, obliged them to retire, in order to repair their ships, and recruit the health of their people. Thus ended the first, and indeed the greatest, exploit performed by the combined fleet in the British seas. An annual parade of a similar kind was afterwards kept up, which was as formally opposed on the part of the British; but not the least act of hostility was ever committed by either of the Channel fleets against each other.

635 They take only a single ship.

Though this ill success, or rather pusillanimity, manifest in the conduct of the combined fleets, was such that the French themselves were ashamed of it, the appearance of them in the Channel furnished opposition with abundance of matter for declamation. All ranks of men, indeed, now began to be wearied of the American war; and even those who had formerly been the most sanguine in defence of coercive measures, now began to be convinced of their inutility. The calamitous effects produced by the continuation of these measures, indeed, had by this time rendered the far greater part of the people exceedingly averse to them; and the almost universal wish was, that the oppressive burden of the American war should be cast off, and the whole national strength exerted against those whom, on account of our frequent contests with them, we had been accustomed to call our natural enemies.

636 American war generally disagreeable.

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Britain. For this purpose the national spirit continued to be exerted with unabated vigour. Large sums were subscribed in the several counties, and employed in raising volunteers, and forming them into independent companies; associations were also formed in the towns, where the inhabitants bestowed a considerable portion of their time in training themselves to the use of arms. The East India Company now forgot their quarrels with ministry, and not only presented government with a sum sufficient for levying 6000 seamen, but at its own cost added three 74 gun ships to the navy. Administration were not yet, however, weary of the plans they had laid down, and which they seemed inclined to prosecute, and indeed did prosecute, as long as the nation would support them. The virulence of opposition, therefore, still continued; and what was worse, every part of the kingdom seemed to imbibe their sentiments.

637 Ministry become obnoxious to the people at large. Among other charges now brought against them was that of misapplying the national force. An hundred thousand men were employed for the internal defence of the kingdom; which being much more than sufficient for the purpose, ought therefore to have been distributed into places where it might have acted to advantage. The army of Great Britain, it was said, now amounted to 300,000 men; the navy to 300 sail, including frigates and armed vessels; twenty millions had been expended on the service of the year 1779: and yet, with all this force and treasure, the utmost boast that ministers could make was, that the enemy had been hitherto kept at bay, and not allowed to invade Great Britain. Nor were the charges less heavy in other respects. Veteran officers had been passed by to make room for those of inferior merit. The discontents and miserable state of Ireland *, the losses of the West India islands, &c. were all put to the account of ministers; and it was said, that the universal cry of the nation was for their dismission. Their incapacity was now visible to every body; and it was a matter of universal surprise how they durst retain their places in opposition to the general desire of the nation.

* See *Ireland.*

To all this ministry replied in a resolute and determined manner, denying or refuting every circumstance; and at last, after violent debates, gained their point of an address without any amendment proposing their removal, in the upper house by 82 to 41, and in the lower by 253 to 134. The enormous expence already incurred, however, and hereafter to be incurred, for the carrying on of the war, occasioned such a general alarm, that it was no longer possible to refuse compliance with some scheme of economy, or at least giving it a patient hearing. The duke of Richmond proposed that the crown should set the example, and moved for an address to this purpose; but the motion was lost by 77 to 36. The earl of Shelburne next undertook the discussion of the subject; and having, in a most elaborate speech, compared the expences of former times with the present, and shown the immense disparity, he proceeded to show the reasons. These were, that ministers formerly employed fewer persons, and obliged them to be content with smaller profits. One contractor supplied all the troops in America during the last war, and his agreement was to furnish a ration of provisions at sixpence; but so different was the management now, that the ration of provisions,

638 Various schemes of economy rejected.

instead of sixpence, cost two shillings. One person only had enjoyed contracts to the amount of 1,500,000l.; 3,700,000l. had passed through the hands of another contractor to be transmitted to America: but no voucher had been given for the expenditure of this immense sum; the accounts being contained in a few lines, accounting for 20,000l. in one line, 30,000l. in another, &c. Thus, he said, the ministry acquired a most unbounded and unconstitutional influence; and having the dangerous power of expending the national treasure without any check, corruption and venality everywhere abounded. He moved, therefore, that the expenditure of those vast sums annually sunk in extraordinaries should be brought under some control; and that to extend the public expences beyond the sums granted by parliament, was an invasion of its peculiar and exclusive rights.

Though this motion of the earl of Shelburne's, and some others of a similar tendency, were rejected on solid principles according to the ministry, the minds of the people were far from being conciliated to their views. Instead of this, the opinion began to be so general, that ministers exercised an unconstitutional influence over the representatives, and that such influence was very much augmented within these few years, it was now supposed by numbers of people, that nothing short of a change in the constitution of parliament could remedy the evil complained of. To this purpose a petition was framed in the city of York, on the 30th of December 1779, where a number of the most respectable people in the county had assembled, and delegated 61 gentlemen as a committee to manage the correspondence necessary for carrying on the design, and forming an association to support and promote it. In the present petition it was set forth, that, in consequence of the war in which the nation was involved, the public debt was greatly augmented, taxes increased, and trade and manufactures much affected. The profusion attending the war was complained of; and parliament was requested, previous to the raising of any new taxes, to inquire into, and correct the abuse of expenditure in the public money; to reduce exorbitant emoluments, abolish sinecure places and unmerited pensions, and apply the produce to the exigencies of the state. This petition was followed by others of a similar kind from 27 of the principal counties, and most of the large towns in England. The most severe and opprobrious language was used in the county-meetings with regard to the ministry and parliament. The latter were represented as void of all principle, ready to sacrifice both conscience and reputation to the will of those in power; and, in short, bound by no ties but those of the most sordid interest; ready on all occasions to enrich themselves by the spoils of their country; and persons to whom the honour or interest of the kingdom were matters of no consideration. The court, on the other hand, was looked upon as the receptacle of every one who laboured ill designs against the people of Britain, and where nobody stood any chance of advancing himself but by adulation and extreme servility.

639 General opinion of unconstitutional ministerial influence.

640 Produces a number of petitions to the house of commons.

The emissaries of America and the other enemies of Great Britain are said to have been active in fomenting these discords, which at this period arose to a height unknown for a century past. The ministry, however,

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however, continued firm and undaunted. Previous to the taking of any of the petitions into consideration, they insisted on going through the business of the supply, by determining the ways and means; nor did either the number of English petitions, or an additional one from the island of Jamaica setting forth the extreme danger that island was in, make them alter their resolution in the least.

641 Mr Burke's plan of parliamentary independence and economy.

At last, in the beginning of February 1780, a plan was brought forward by Mr Burke, for securing the independency of parliament, and introducing economy into the various departments of government. This plan, among other things, proposed the abolition of the offices of treasurer, comptroller, and cofferer of the household; treasurer of the chamber, master of the household, the board of green cloth, with several other places under the steward of the household; the great and removing wardrobe, the jewel office, the robes, board of works, and the civil branch of the board of ordnance. Other reformations were also proposed; but though the temper of the times obliged the minister to admit the bills, and even to pretend an approbation of the plan, he meant nothing less than to admit it in its full extent, or indeed in any part, if it could possibly be prevented. When the plan, therefore, which he had approved in general, came to be particularly considered, he was found to be determined against every part of it. The general temper of the people, without doors, however, seemed now to have affected many of the members of parliament, and made them desert their old standard. An economical plan proposed in the house of lords by the earl of Shelburne was rejected only by a majority of 101 to 55. This was the strongest opposition that had appeared in that house for many years; but in the lower house matters still went worse. The first proposition in Mr Burke's plan was to abolish the office of secretary of state for the colonies; and the utmost efforts of administration could preserve this office only by a majority of 208 to 201. The board of trade was abolished by 207 to 198: but this was the only defeat sustained by ministry at present; all the rest of the plan being rejected excepting only one clause, by which it was determined that the offices of lieutenant and ensign, &c. belonging to the yeomen of the guards, should not any longer be sold, but given to officers in the army and navy on half pay, and of 15 years standing in their respective lines of service.

This ill success was very mortifying to Mr Burke, who had expected to save more than a million annually to the nation. Administration, however, had still a greater defeat to meet with than what they had experienced in the abolition of the board of trade. The 6th of April was the day appointed for taking into consideration the numerous petitions, from half the kingdom of England, already mentioned. They were introduced by Mr Dunning; who, in a very elaborate speech, set forth the many attempts that had been made to introduce reformation and economy into the plans of government. These had been defeated by ministerial artifice, or overthrown by mere dint of numbers; he concluded, therefore, and moved as a resolution of the house, That the influence of the crown had increased, was increasing, and ought to be diminished. This motion being carried after a long and violent debate, he next moved, that the house of commons was as competent to examine into and correct abuses in the expenditure of the civil list as in any other branch of the public revenue. To this another was added by Mr Thomas Pitt, That it was the duty of the house to provide an immediate and effectual redress of the abuses complained of in the petitions. The ministry now requested that nothing further might be done that night: but such was the temper of the house, that both these motions were carried without a division; after which they were read a first and second time, and agreed to without a division.

642 Remarkable defeat of the ministry on the 6th of April 1780.

Ministry had never received such a complete defeat, nor ever been treated with so much asperity of language. The news of the proceedings of the day were received by the people at large with as much joy as if the most complete victory over a foreign enemy had been announced. Opposition, however, though masters of the field at present, did not imagine they had obtained any permanent victory, and therefore resolved to make the most of the advantages they had gained. It was moved by Mr Dunning at the next meeting, that to ascertain the independence of parliament, and remove all suspicions of its being under undue influence, there should, every session, seven days after the meeting of parliament, be laid before that house an account of all the sums issued out of the civil list, or any other branch of the revenue, since the last recess, in favour of any of its members. This passed with little difficulty; but when he moved that the treasurers of the chamber and household, the cofferer, comptroller, and master of the household, with the clerks of the green cloth, and their deputies, should be excluded from having seats in the house, a warm debate ensued, and the motion was carried only by 215 against 213. This was the last triumph of the popular party; their next motion, for the exclusion of revenue officers, being throw out by 224 against 195. A last effort was made, by Mr Dunning's proposal of an address to the throne against proroguing or dissolving the parliament, until measures had been taken to prevent the improper influence complained of in the petitions. On this occasion the debates were long and violent: but the motion was lost by 254 against 203. Ministry would gladly have screened their friends from the vengeance of opposition; alleging the lateness of the hour, it being then past midnight. The speaker of the house, however, perceiving Mr Fox about to rise, insisted that the house should remain sitting; and thus the deserters from the popular party were condemned to hear their conduct set forth in such terms as perhaps were never applied on any other occasion to members of the British senate.

643 They again get a majority in their favour.

644 Dreadful disturbances on account of the popish bill.

This last victory of administration confirmed the dissatisfaction and ill opinion which the people had conceived of the majority of their representatives. It was in the height of that ill temper which the conduct of parliament had created in the multitude, that those discontents broke out which were so near involving the kingdom in universal desolation. The hardships under which individuals professing the Roman Catholic persuasion had laboured for many years in England, had lately awakened the consideration of the liberal minded. The inutility and impropriety of persecuting people from whom no danger was apprehended, and who

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Britain. who were not suspected of disaffection to the civil constitution of this country, induced several persons of rank and influence to undertake the procuring them relief. Britain

The calamities of the times had afforded the English Roman Catholics a very proper occasion to manifest their attachment to government. They presented a most loyal and dutiful address to the king, containing the strongest assurances of affection and fidelity to his person and the civil government of this country.

"Our exclusion (said they) from many of the benefits of that constitution, has not diminished our reverence for it. We behold with satisfaction the felicity of our fellow subjects; and we partake of the general prosperity which results from an institution so full of wisdom. We have patiently submitted to such restrictions and discouragements as the legislature thought expedient. We have thankfully received such relaxations of the rigour of the laws, as the mildness of an enlightened age, and the benignity of the British government have gradually produced; and we submissively wait, without presuming to suggest either time or measure, for such other indulgence as those happy causes cannot fail in their own season to effect.

"We beg leave to assure your majesty, that our dissent from the legal establishment in matters of religion is purely conscientious, that we hold no opinions adverse to your majesty's government, or repugnant to the duties of good citizens; and we trust that this has been shown more decisively by our irreproachable conduct for many years past, under circumstances of public discountenance and displeasure, than it can be manifested by any declaration whatever.

"In a time of public danger, when your majesty's subjects can have but one interest, and ought to have but one wish and one sentiment, we think it our duty to assure your majesty of our unreserved affection to your government, of our unalterable attachment to the cause and welfare of this our common country, and our utter detestation of the designs and views of any foreign power against the dignity of your crown, and the safety and tranquillity of your subjects.

"The delicacy of our situation is such, that we do not presume to point out the particular means by which we may be allowed to testify our zeal to your majesty, and our wishes to serve our country; but we entreat leave faithfully to assure your majesty, that we shall be perfectly ready, on every occasion, to give such proofs of our fidelity, and the purity of our intentions, as your majesty's wisdom and the sense of the nation shall at any time deem expedient."

This address was presented to the king on the first day of May 1778, and was signed by the duke of Norfolk, the earls of Surrey and Shrewsbury, the lords Stourton, Petre, Arundel, Dormer, Teynham, Clifford, and Linton; and by 163 commoners of rank and fortune.

The only obstacle that stood in the way of their wishes was, the difficulty of overcoming the prejudices of the lower classes, who would probably disapprove and condemn the indulgence shown to the people of a persuasion which they had been taught to look upon with horror and detestation. But notwithstanding the prepossessions of the vulgar, it was determined by several individuals of generous and liberal sentiments, to espouse their cause as far as it could be done consistently with the principles of the constitution and the general temper of the times. Their being patronized by some of the principal leaders in opposition, was a circumstance greatly in their favour; as it shewed that those who professed to be the most strenuous friends to the freedom and constitution of this country, did not imagine they would be endangered by treating the Roman Catholics with more lenity than they had hitherto experienced.

About the middle of May, Sir George Saville made a motion for the repeal of some penalties enacted against them. He grounded his motion on the necessity of vindicating the honour and asserting the true principles of the Protestant religion, of which the peculiar merit was to admit of no persecution. It ill became the professors of such a religion to be guilty of that intolerance with which they reproached others. The statutes he meant to repeal were such as gave occasion to deeds that debased and were a disgrace to human nature, by inciting relations to divest themselves of the feelings of humanity, and by encouraging the rapacity of informers.

He represented the address above quoted as a full proof of the loyal dispositions of the Roman Catholics, and as an unfeigned testimony of the soundness of their political principles. In order, however, to silence the objections of those who might suspect them of duplicity, a test was proposed of so binding and solemn a nature, that no man could be supposed to imagine that any authority could annul its efficacy.

The pains and penalties of the statutes to be repealed were laid before the house by Mr Dunning. By these statutes it was made felony in a foreign clergyman of the Roman communion, and high treason in one that was a native of this kingdom, to teach the doctrines or perform divine service according to the rites of that church; the estates of persons educated abroad in that persuasion were forfeited to the next Protestant heir; a son or any other nearest relation, being a Protestant, was empowered to take possession of his own father's, or nearest of kin's estate, during their lives; a Roman Catholic was disabled from acquiring any legal property by purchase.

The mildness of the British government did not indeed countenance the practice of the severities enacted by these statutes: but still the prospect of gain subjected every man of the Roman persuasion to the ill usage of informers; as on their evidence the magistrates were bound, however unwilling, to carry these cruel laws into execution.

In consequence of these representations, the motion made in favour of the Roman Catholics was received without one dissenting voice; and a bill in pursuance to its intent was brought in and passed both houses. The test or oath by which they were bound, was conceived in the strongest and most expressive terms. They were enjoined to swear allegiance to the king's person and family, and to abjure especially the pretensions to the crown assumed by the person called *Charles III.* They were to declare their disbelief and detestation of the following positions: That it is lawful to put individuals to death on pretence of their being heretics; that no faith is to be kept with heretics; that princes excommunicated by the pope and council, or by the

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Britain. see of Rome, or any other authority, may be deposed or murdered by their subjects or by any others; that the pope of Rome, or any other foreign prelate or sovereign, is entitled to any temporal or civil jurisdiction or pre-eminence, either directly or indirectly, in this kingdom. They were solemnly to profess, that they made the aforesaid declarations with the utmost sincerity, and in the strictest and plainest meaning of the words and language of the test, without harbouring any secret persuasion that any dispensation from Rome, or any other authority, could acquit or absolve them from the obligation contracted by this oath, or declare it null and void.

The indulgence shown to the Roman Catholics in England, encouraged those of the same persuasion in Scotland to hope for a similar relief. Several gentlemen of that nation of great rank and character, and who were members of parliament, expressed their warmest wishes that it should be extended to their country; and declared their intention to bring in a bill for that purpose the following session. The design was approved by the general assembly of the church of Scotland; who rejected, by a majority of no less than 100, a remonstrance that had been proposed against it. In consequence of these flattering appearances, a petition was prepared for parliament on behalf of the Roman Catholics in Scotland. But these expectations were soon damped. A pamphlet was published against the doctrine and professors of the Popish religion, which represented them as the common foes to mankind and the disturbers of all states; and this being circulated among all classes, raised a number of enemies to the intended petition.

The opposition was at first chiefly conducted by some persons at Edinburgh, who assumed the title of Committee for the Protestant Interest; and under that denomination carried on a correspondence with all those who coincided with their opinions, and who formed a very large proportion of the common people in Scotland. As the committee at Edinburgh, from its residence in the capital of the kingdom, was deemed to consist of persons of the first importance, it directed in a manner the motions of all the others.

The persons who made up this committee, however, acted from no mean or mercenary views: they aimed only at the preservation of the Protestant religion, and the liberties of their country; both which they conceived were in danger, from the indulgence of government to individuals of the Roman Catholic persuasion.

Actuated by these ideas, they exerted themselves with so much activity, that the principal gentlemen of the Catholic persuasion thought it requisite for their safety to convey an intimation to the British ministry, that they were desirous to drop the application they had proposed to make for an indulgence similar to that which had been granted to their fellow-subjects in England of the same communion.

They published also in the newspapers the representation they had made to ministry; hoping thereby to convince the public, that they were sincerely desirous to remove any cause of dissatisfaction on their own account, and to submit to any inconveniency sooner than occasion disturbance. But matters were now gone too far to be conciliated by any means.

On the 2d day of February 1779, the populace met according to appointment, in order to carry into execution the various projects they had in contemplation. They began by an attack upon a house inhabited by a Roman Catholic bishop, with others of his persuasion, and which contained a place of worship. They committed it to the flames. They destroyed in the same manner another house that had also a chapel; after which they proceeded to vent their resentment on several individuals of that persuasion by burning their effects.

The next objects of their vengeance were those who had patronized the Roman Catholics. They beset the houses of Dr Robertson and Mr Crosby; but, on hearing of the intentions of the rioters, the friends of both came to their assistance in such numbers, and so well prepared to repel the fury of the populace, that they did not dare to exercise the violence they had premeditated.

This disappointment, which was accompanied by farther precautions against their malevolent designs, put an end to the attempts of the mob at Edinburgh. But the spirit of dissatisfaction at the indulgence intended to the Roman Catholics still remained in full force. Ministry was held out as harbouring a secret determination to undermine the Protestant religion, and to introduce Popery; and loaded in consequence with the most outrageous invectives.

By degress the same ungovernable spirit was communicated to part of the English nation. The cry against Popery became daily more loud among the inferior classes, and that inveteracy which had subsided during so many years, began to revive in as powerful a degree, as if the nation were actually under the impending terrors of persecution. To this were added the secret fears of others; who still imagined it was not inconsistent with good policy to discourage a religion, from the professors of which so much danger had accrued to the constitution of this country in former times. These, though averse to all acts of violence, thought it necessary to keep alive the antipathy to it, and by no means to show the least willingness to grant any further indulgence than it had hitherto experienced.

From this motive they were of opinion, that a suspension of the laws enacted against it, though tacit and unauthorised, was sufficient to remove all complaints of harshness and oppression on the part of the Roman Catholics; and they looked upon the penal statutes as a requisite bar to confine them within the bounds of submission, and fear of offending.

Thus a society was formed in London, which took the title of the Protestant Association, of which Lord George Gordon, who had rendered himself conspicuous in Scotland by his opposition to the repeal, was elected president: and it now prepared to act in a decisive manner against the resolutions of the legislature.

On the 29th of May 1780, the associators held a meeting in order to settle in what manner they should present a petition to the house of commons against the repeal of the penal statutes. A long speech was made on this occasion by their president, who represented the Roman persuasion as gaining ground rapidly in this country; that the only method of stopping its progress, was to go up with a spirited remonstrance to their

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Britain. their representatives, and to tell them in plain and resolute terms that they were determined to preserve their religious freedom with their lives, &c.

This harangue being received with the loudest applause, he moved, that the whole body of the association should meet on the 2d day of June in St George's Fields, at ten in the morning, to accompany him to the house of commons on the delivery of the petition. This being unanimously assented to, he informed them, that if he found himself attended by fewer than 20,000, he would not present the petition. He then directed they should form themselves into four divisions; the first, second, and third, to consist of those who belonged to the City, Westminster, and Southwark; the fourth, of the Scotch residents in London. They were, by way of distinction, to wear blue cockades in their hats.

Three days previous to the presentation of the petition, he gave notice of it to the house, and acquainted it with the manner in which it was to be presented; but this was received with as much indifference and unconcern as all his former intimations.

On the 2d day of June, according to appointment, about 50 or 60,000 men assembled in St George's Fields. They drew up in four separate divisions, as had been agreed, and proceeded to the parliament house, with Lord George Gordon at their head. An immense roll of parchment was carried before them, containing the names of those who had signed the petition.

On their way to the house, they behaved with great peaceableness and decency; but as soon as they were arrived, great disturbances took place. The rioters began by compelling all the members of both houses they met with, to put blue cockades in their hats, and call out, "No Popery." They forced some to take an oath that they would vote for the repeal of the Popery act, as they styled it. They treated others with great indignity, posting themselves in all the avenues to both houses; the doors of which they twice endeavoured to break open.

Their rage was chiefly directed against the members of the house of lords; several of whom narrowly escaped with their lives.

During these disturbances, Lord George Gordon moved for leave to bring up the petition. This was readily granted; but when he proposed it should be taken into immediate consideration, it was strenuously opposed by almost the whole house. Enraged at this opposition, he came out several times to the people during the debates, acquainting them how averse the house appeared to grant their petition, and naming particularly those who had spoken against it.

Several members of the house expostulated with him in the warmest terms on the unjustifiableness of his conduct; and one of his relations, Colonel Gordon, threatened to run him through, the moment any of the rioters should force their entrance into the house. It was some hours before the house could carry on its deliberations with any regularity, which was not done till the members were relieved by the arrival of a party of the guards. Order being restored, the business of the petition was resumed; when Lord George Gordon told them it had been signed by near 120,000 British Protestant subjects. He therefore insisted that the petition should be considered without delay. But notwithstanding the dangers with which they were menaced, and the proof which the mover of the petition had given that no means should be left unemployed to compel them to grant it, the commons continued immoveable in their determination. Of 200 members, then present in the house, six only voted for it. Britain.

In the mean time the mob had dispersed itself into various parts of the metropolis, where they demolished two Romish chapels belonging to foreign ministers; and openly vented the most terrible menaces against all people of that persuasion.

On the 4th of June they assembled in great numbers in the eastern parts of London; and attacked the chapels and houses of the Roman Catholics in that quarter, stripping them of their contents, which they threw into the street, and committed to the flames.

They renewed their outrages on the following day, destroying several Romish chapels, and demolishing the house of Sir George Saville, in resentment of his having brought into parliament the bill in favour of the Roman Catholics.

Next day both houses met as usual; but finding that no business could be done, they adjourned to the 19th.

During this day and the following, which were the 6th and 7th of June, the rioters were absolute masters of the metropolis and its environs.

Some of those who had been concerned in the demolition of the chapels belonging to foreign ministers, having been seized and sent to Newgate, the mob collected before that prison, and demanded their immediate release. On being refused, they proceeded to throw firebrands and all manner of combustibles into the keeper's house; which unhappily communicated the fire to the whole building; so that this immense pile was soon in flames. In this scene of confusion, the prisoners were all released. They amounted to about 300; among whom several were under sentence of death. They set fire, in the same manner, to the King's Bench and Fleet prisons, and to a number of houses belonging to Roman Catholics. The terror occasioned by these incendiaries was such that most people hung out of their windows pieces of blue silk, which was the colour assumed by the rioters; and chalked on their doors and shutters the words, "No Popery," by way of signifying they were friendly to their cause.

The night of the 7th of June concluded these horrors. No less than 36 different conflagrations were counted at the same time. The bank had been threatened, and was twice assailed: but happily was too well guarded for their attempts. In the evening, large bodies of troops arrived from all parts, and came in time to put a stop to the progress of the rioters. They fell upon them everywhere, and multitudes were slain and wounded, besides the numbers that perished through intoxication. It was not until the afternoon of the 8th, that people began to recover from their consternation. During great part of the day the disorders of the preceding night had created so terrible an alarm, that the shops were almost universally shut up over all London. The melancholy effects of misguided zeal were not, however, confined solely to London. The outrageous disposition of the populace was preparing to

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to act the like horrid scenes in other parts of England. The mob rose in Hull, Bristol, and Bath; but through the timely interposition of the magistracy, these places were saved from their fury.

On the subsiding of this violent and unexpected commotion, it was thought proper to secure Lord George Gordon. He was arrested, and committed close prisoner to the Tower, after having undergone a long examination before the principal lords of the council.

On the 19th of June, both houses met again according to adjournment. A speech was made on this occasion from the throne, acquainting them with the measures that had been taken in consequence of the disturbances, and assuring them of the utmost readiness to concur in whatever could contribute to the safety and maintenance of the laws and liberties of the people. The speech was highly approved: but the conduct of administration was severely censured, and charged with unpardonable neglect for not calling forth the civil power, and employing the military, in due time to obviate the mischiefs that had been committed. Ministry excused itself, from the want of sufficient strength to answer all the demands of assistance that were made during the riots, and the absolute impossibility of suppressing them till the arrival of troops from the country. The various petitions were now taken into consideration that had been presented for the repeal of the act which had occasioned the riots; but the house continued in the same mind. Nevertheless it was thought proper to yield somewhat to the prejudices of the people, by passing a bill for preventing persons of the Popish persuasion from teaching or educating the children of Protestants; but this was afterwards thrown out by the lords.

645 Ministerial power confirmed by the riots.

Nothing could have happened more opportunely for the present ministry than the riots just now related; for such were the alarm and terror occasioned by them, that the ardour which had appeared for promoting popular meetings and associations, and for opposing the measures of government, was in a great degree suppressed. The county meetings were represented as having a tendency, like the Protestant Association, to bring on insurrections and rebellion. Many began to consider all popular meetings as extremely dangerous; and among the commercial and moneyed people, there was not an inconsiderable number, who were so panic-struck by the late riots, that all attention to the principles of the constitution was overruled by their extreme anxiety about the preservation of their property. Had it not been for these events, though the minister was again at the head of a majority in parliament, it is probable that the spirit of opposition which prevailed in the different counties would have compelled administration to make some concessions to the people. But these transactions extremely strengthened the hands of administration; and rendered the exertions of the popular leaders less formidable. The popular party were also somewhat weakened, by the dissensions which took place among them in the county meetings, and assemblies of that kind, relative to annual parliaments and other political regulations which were proposed to be adopted.

In the suppression of these riots, however, the interference of the military without the command of the civil magistrate became a matter of suspicion to the people at large. In the house of lords the duke of Richmond expressed an expectation that some of his majesty's ministers would rise, and give their lordships assurances, that the measures taken in order to suppress the riots, which were defensible only upon the ground of necessity, would be so stated; and that what was illegally done, on the ground of necessity, would be cured by an act of indemnity.

Various other observations were thrown out relative to the king's prerogative and military law: upon which Lord Mansfield observed, that neither the king's prerogative nor military law had any thing to do with the conduct of government in their endeavours to quell the late outrages. All men, of all ranks, descriptions, and denominations, were bound, by their oath of allegiance, to interpose for the prevention of acts of high treason, or felony, wherever any attempts to perpetrate such crimes were made in their presence; and were criminal, if they did not do it. In the whole of these proceedings, therefore, the military had not acted in their technical capacity as military, but had merely exercised their duty as civil men, which they, in common with other civil men, had both a right and an obligation to exercise. When a body of men were convened, without proceeding to the actual perpetration of treasonable or felonious acts, then, by a clause in the riot-act, the presence of the civil magistrate was necessary, before the military could interpose at all; and for this reason, that as no acts of felony were committed, they could have no plea in the civil character for meddling at all. But by the statute-law of the country, it became felonious in any combination of men to persevere in that combination, after the riot-act had been read by a justice of the peace; and this being done, then, and not till then, they had a constitutional reason for their interposition; namely, the privilege and duty of hindering the commission of felony, whenever they had it in their power. This being, therefore, the plain voice of the law, his lordship did not see how any prerogative of the king had been exercised, nor how military law had been established. Nothing had been done out of the regular course of the law, and no power had been assumed by the soldiery, which they did not possess as civil individuals, and not in their technical capacity as members of the military.

This doctrine was far from being agreeable to the nation in general, and was very freely censured both in newspapers and pamphlets. It was admitted, that if soldiers came accidentally, as individuals, to any place where felonies were committing, they might interfere, as well as others of the king's subjects, in the prevention of them. But this was a different case from that of bodies of armed troops being sent under officers commissioned by the king, and with orders to act against riotous and disorderly persons without any authority from the civil magistrate. It was maintained that the constitution of England knew no such character as a mercenary soldier, at the sole will of the executive power. Soldiers were held to their duty by laws which affected no other part of the community: and no soldier, as such, could be employed in the service of the constitution, without a particular act of parliament in his favour. The idea that a military

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Britain. litary man was convertible into a soldier, or a citizen, as royalty might move its sceptre, was a novel idea, and only made for the present occasion. Mercenary armies were understood to consist of men, who had either detached themselves or been forced from civil societies. Laws were made on those suppositions, regarding their liberties and lives, such as no members of civil society could submit to. Soldiers were only tolerated by annual bills, and under repeated pretences; and the very idea of blending them with the common subjects of the state, and giving persons of their description a right of judging on its most important occurrences, would have filled our ancestors with horror. The laws tolerated an army for certain periods, and under certain restrictions; but there was no law which admitted the interference of the military in any of the operations of civil government.

It was acknowledged, that the late atrocious riots had rendered an extraordinary exertion of power absolutely necessary: but it was at the same time contended, that the interposition of the army in those outrages, without any authority from the civil magistrate, was an act of prerogative unconstitutional and illegal, though perfectly seasonable and beneficial. The public safety and benefit might sometimes excuse exertions of power, which would be injurious and tyrannical on ordinary occasions: but the utmost care should be taken, that such extraordinary exertions should not be established as precedents, which might operate very fatally to the constitution. An act of indemnity to the ministry, therefore, on account of the necessity of the case, should be immediately passed. But if a large standing army was kept up, and the king was understood to be invested with a power of ordering the troops to act discretionally, whenever he should judge proper, without any authority from the civil magistrate, the people could have no possible security for their liberties. In vain might be their appeals to the courts of justice: for the efficacy of appeals of that kind, in such cases, would depend on the pleasure of the prince.

Many were filled with similar apprehensions, and alarmed at the dangerous precedent which the late exertions of the military afforded, however necessary they might be from the very singular circumstances of the case. Among others, Sir George Saville, in an address to his constituents some time afterwards, declared, that he considered them as "fully, effectually, and absolutely under the discretion and power of a military force, which was to act without waiting for the authority of the civil magistrates."

A letter written by Lord Amherst to Lieutenant-colonel Twisleton, who commanded the troops employed in London for the suppression of the riots, and which was understood to be an order for disarming the citizens, was much canvassed in both houses of parliament. The letter, however, was denied to have such a meaning, and was said to be levelled only at disorderly persons who were found in arms. It excited, nevertheless, no inconsiderable alarm; and was an inducement, added to the consideration of the late riots, to lead a great number of citizens to provide themselves with arms, and to join in plans of military association, that they might be enabled to protect themselves and the city from violence and outrage, without any future interposition of the military. Britain.

646 Various engagements at sea, &c.

We must now proceed to a detail of the operations of the war, which, notwithstanding the powerful confederacy against Great Britain, seemed rather to be in her favour than otherwise. The Spaniards had begun their military operations with the siege of Gibraltar, but with very little success *; and the close of the year 1779, and beginning of 1780, were attended with some considerable naval advantages to Great Britain. On the 18th of December 1779, the fleet under the command of Sir Hyde Parker in the West Indies captured nine sail of French merchant ships, which, with several others, were under the convoy of some ships of war. Two days after he detached Rear Admiral Rowley in pursuit of three large French ships, of which he had received intelligence, and which were supposed to be part of Mons. la Motbe Picquet's squadron returning from Grenada. His success there has been already mentioned; and about the same time several other vessels were taken by the same squadron commanded by Sir Hyde Parker.

* See Gibraltar.

On the 8th of January 1780, Sir George Brydges Rodney, who had been intrusted with the command of a fleet, one object of the destination of which was the relief of Gibraltar, fell in with 22 sail of Spanish ships, and in a few hours the whole fleet was taken.

In little more than a week after, the same fortunate admiral met with still more signal success. On the 16th of the month he engaged, near Cape St Vincent, a Spanish fleet, consisting of 11 ships of the line and two frigates, under Don Juan de Langara. The Spaniards made a gallant defence; but four of their largest ships were taken, and carried into Gibraltar. These were the Phœnix of 80 guns and 700 men, on board of which was the admiral, Don Juan de Langara: the Monarca, of 70 guns and 600 men, Don Antonio Oyarvide commander; the Princessa, of 70 guns and 600 men, Don Manuel de Leon commander; and the Diligente, of 70 guns and 600 men, Don Antonio Abornoz commander. Two other 70 gun ships were also taken; but one of them was driven on shore on the breakers and lost, and the other was likewise driven on shore, but afterwards recovered. Four ships of the line escaped, and the two frigates: but two of the former were much damaged in the action; in the course of which one Spanish ship, the San Domingo, of 70 guns and 600 men, was blown up. The five men of war taken were remarkably fine ships; and were afterwards completely refitted, manned, and put into the English line of battle. The Spanish admiral and his officers applied to Sir George Rodney to obtain the liberty of returning to Spain upon their parole of honour: but this he declined for some time, because he was informed that a great number of British seamen were then prisoners in Spain, who ought to have been released. However, afterwards receiving assurances that these should be immediately set at liberty, he released the Spanish admiral and officers upon their parole; and the prisoners in general were treated with such generosity and humanity, as appeared to make a great impression upon the court of Madrid and the Spanish nation. When Admiral Rodney had supplied the garrison of Gibraltar with

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Britain. with provisions, ammunition, and money, he proceeded on his voyage to the West Indies; having sent home part of his fleet, with his Spanish prizes, under the command of Rear-Admiral Digby; who took a French man of war on his return, the Prothée, of 64 guns and 700 men.

On the 20th of March there was an action in the West Indies, between some French and English men of war, the former under the command of Mons. de la Mothe Piquet, and the latter, being part of Sir Peter Parker's squadron, under that of Commodore Cornwallis. The engagement was maintained on both sides with great spirit; but the French at length gave up the contest, and made the best of their way for Cape François.

Admiral Rodney having arrived in the West Indies, and taken upon him the command of his majesty's ships at the Leeward islands, an action happened between him and the French fleet under the command of Count de Guichen, on the 17th of April. The British squadron consisted of 20 ships of the line, besides frigates; and the French fleet of 23 ships of the line, and several frigates. The action began a little before one, and continued till about a quarter after four in the afternoon. Admiral Rodney was on board the Sandwich, a 90 gun ship, which beat three of the French ships out of their line of battle, and entirely broke it. But such was at length the crippled condition of the Sandwich, and of several other ships, that it was impossible to pursue the French that night without the greatest disadvantage. The victory was, indeed, claimed on both sides; but no ship was taken on either: and the French retired to Gaudaloupe. Admiral Rodney's ship, the Sandwich, had suffered so much, that for 24 hours she was with difficulty kept above water. Of the British there were killed in this engagement 120, and 353 were wounded.

On the 15th of May, another action happened between the same commanders. It did not commence till near seven in the evening, only a few ships having engaged, which were soon separated; and the whole ended in nothing decisive. Of the British 21 were killed, and 100 wounded. The fleets met again on the 19th of the same month, when another action ensued; but this also terminated without any material advantage on either side. In the last engagement 47 of the British were killed and 193 wounded. According to the French accounts, the total of their loss, in these three actions, amounted to 158 killed, and 820 wounded.

It was a very unfavourable circumstance for Great Britain, that the French should have so formidable a fleet in the West Indies: and this great force of the enemy was augmented in June, by being joined with a Spanish squadron near the island of Dominica. The French and Spanish fleets, when united, amounted to 36 sail of the line. They did not, however, attack any of the British islands, or even reconnoitre the fleet under the command of Sir George Brydges Rodney, which then lay at anchor in Gros Islet bay. Such, indeed, were the vigilance and good conduct of that admiral, and so sensible were the inhabitants of these islands of his services, that the houses of assembly of St Christophers and Nevis presented addresses to him, testifying their gratitude for the security they enjoyed in consequence of his spirited and seasonable exertions. Britain.

In the month of June, Admiral Geary, who commanded the grand fleet, took twelve valuable merchant ships bound from Port au Prince to Bourdeaux and other ports of France: But in the month of July a very important and unexpected capture was made by the Spaniards, which could not but excite much alarm in Great Britain. On the 8th of August, Captain Moutray, who had under his command the Ramillies of 74 guns and two frigates, with the trade bound for the East and West Indies under convoy, had the misfortune to fall in with the combined fleets of France and Spain, which had sailed from Cadiz the preceding day. The Ramillies and the two frigates escaped: but the rest were so completely surrounded, that five East Indiamen were taken, and 50 merchant ships bound for the West Indies. Their cargoes were extremely valuable: it was one of the most complete naval captures ever made; and was a heavy stroke to the commerce of Great Britain. The Spaniards on this occasion behaved to their prisoners with great attention and humanity; and appeared disposed to make an adequate return for the generous treatment which their countrymen had experienced from Admiral Rodney. This loss, however, great as it was, was scarcely sufficient to compensate the capture of Fort Omoa from the Spaniards, where upwards of three millions of dollars were gained by the victors, and, among other valuable commodities, 25 quintals of quicksilver, without which the Spaniards could not extract the precious metals from their ores; the loss of which consequently rendered their mines useless.

But while the British were making the most vigorous efforts, and even in the main getting the better of the powers who opposed them fairly in the field, enemies were raised up throughout all Europe, who, by reason of their acting indirectly, could neither be opposed nor resisted. The power which most openly manifested its hostile intentions was Holland; but besides this, a most formidable confederacy, under the title of the *armed neutrality*, was formed, evidently with a design to crush the power of Great Britain. Of this confederacy the empress of Russia declared herself the head; and her plan was intimated on the 26th of February 1780, in a declaration addressed to the courts of London, Versailles, and Madrid. In this piece it was observed, that though from the conduct of her imperial majesty it might have been hoped that her subjects would have been allowed peaceably to enjoy the fruits of their industry, and of the advantages belonging to all neutral nations, experience had proved the contrary: her imperial majesty's subjects had been often molested in their navigation, and retarded in their operations, by the ships and privateers of the belligerent powers. Her imperial majesty therefore declared, that she found herself under the necessity of removing those vexations which were offered to the commerce of Russia, as well as to the liberty of commerce in general, by all the means compatible with her dignity and the welfare of her subjects; but before she came to any serious measures, and in order to prevent all new misunderstandings, she thought it just and equitable to expose to the eyes of all

647 Account of the armed neutrality.

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Britain. all Europe the principles which she had adopted for her conduct, and which were contained in the following propositions:

1. That neutral ships should enjoy a free navigation, even from port to port, and on the coasts of the belligerent powers.

2. That all effects belonging to the subjects of the belligerent powers should be looked upon as free on board such neutral ships, excepting only such goods as were stipulated contraband.

3. Her imperial majesty, for the proper understanding of this, refers to the articles 10. and 11. of her treaty of commerce with Great Britain, extending her obligations to all the other belligerent powers.

In the treaty made between Great Britain and Russia in 1734, it is said, "The subjects of either party may freely pass, repass, and trade in all countries which now are, or hereafter shall be, at enmity with the other of the said parties, places actually blocked up or besieged only excepted, provided they do not carry any warlike stores or ammunition to the enemy: as for all other effects, their ships, passengers, and goods, shall be free and unmolested. Cannons, mortars, or other warlike utensils, in any quantity beyond what may be necessary for the ship's provision, and may properly appertain to and be judged necessary for every man of the ship's crew, or for each passenger, shall be deemed ammunition of war; and if any such be found, they may seize and confiscate the same according to law; but neither the vessels, passengers, or the rest of the goods, shall be detained for that reason, or hindered from pursuing their voyage." The same enumeration of the goods, stipulated as contraband, was given in the treaty concluded between Great Britain and Russia in 1766.

4. That in order to determine what characterizes a port blocked up, that denomination should not be granted but to such places before which there were actually a number of enemy's ships stationed near enough so as to make its entry dangerous.

5. That these principles should serve as rules in the judicial proceedings and sentences upon the legality of prizes.

Her imperial majesty declared, that she was firmly resolved to maintain these principles; and that, in order to protect the honour of her flag and the security of the commerce and navigation of her subjects, she had given an order to fit out a considerable part of her naval forces. She added, that this measure would have no influence on the strict and rigorous neutrality which she was resolved to observe, so long as she should not be provoked and forced to depart from her principles of moderation and impartiality. It was only in that extremity that her fleet would be ordered to act wherever her honour, interest, and necessity should require. This declaration was also communicated to the States-general by Prince Gallitzin, envoy extraordinary from the empress of Russia; and she invited them to make a common cause with her, so far as such an union might serve to protect commerce and navigation. Similar communications and invitations were also made to the courts of Copenhagen, of Stockholm, and of Lisbon, in order, it was said, that, by the united care of all the neutral maritime powers, the navigation of all the neutral trading nations might be established and legalized, and a system adopted founded upon justice, and which, by its real advantage, might serve for rules to future ages. Britain.

The memorial of the empress of Russia, though very unfavourable to the views of Great Britain, received a civil answer from that court: but by other powers it was received, as it might naturally be expected, with much more cordiality. In the answer of the king of France it was said, that "what her imperial majesty claimed from the belligerent powers was nothing else than the rules prescribed to the French navy; the execution whereof was maintained with an exactness known and applauded by all Europe." He expressed his approbation of the principles and views of her imperial majesty; and declared, that from the measures she had now adopted, "solid advantages would undoubtedly result, not only to her subjects, but also to all nations." The kings of Sweden and Denmark also formally acceded to the armed neutrality proposed by the empress of Russia, and declared their perfect approbation of her sentiments. The States-general did the same: but on account of that slowness of deliberation which prevails in the councils of the republic, it was not till towards the close of the year that their concurrence was notified to the court of Russia. It was resolved by the powers engaged in this armed neutrality to make a common cause of it at sea against any of the belligerent powers who should violate, with respect to neutral nations, the principles which had been laid down in the memorial of the empress of Russia.

648 Origin of the war with the Dutch.

But though the British ministry could not openly engage in war with all the other powers of Europe, they determined to take severe vengeance on the Dutch, whose ingratitude and perfidy now became a general subject of speculation. It has already been observed, that, ever since the commencement of hostilities with the Americans, the Dutch had shown much partiality towards them. This continued to be the case even beyond what the natural avidity of a mercantile people could be supposed to produce: Frequent memorials and remonstrances had of consequence passed between the two nations, and the breach gradually grew wider and wider, until at last matters came to an extremity, by a discovery that the town of Amsterdam was about to enter into a commercial treaty with America. This happened in the beginning of September 1780, by the capture of Mr Laurens, lately president of the American congress, and who had been empowered by that body to conclude a treaty with Holland. Mr Laurens himself was instantly committed prisoner to the Tower of London, and a spirited remonstrance was made to the states of Holland, requiring a formal disavowal of the transaction. To this, however, no other answer could be obtained, than that they would take the matter into consideration according to the usages and forms of the country; and that a reply would be given as soon as the nature of their government would admit.

Such an equivocal answer could not by any means be satisfactory; and therefore the most vigorous measures were resolved on. On the 25th of January 1781, it was announced to the house, that his majesty had been obliged to direct letters of marque and reprisal to be issued against the States-general and their subjects. For the causes and motives of his conduct in this respect,

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Britain. spect, he referred to a public manifesto against that republic, which he had ordered to be laid before the house. The charges against the republic, however, were briefly summed up by Lord North in his speech on the occasion. The States, he said, in open violation of treaties, had not only refused to give Great Britain that assistance which those treaties entitled her to claim when attacked by the house of Bourbon, but had also, in direct violation of the law of nations, contributed as far as they could to furnish France with warlike stores, and had also at length thought proper to countenance the magistracy of Amsterdam in the insult which they had offered to this country, by entering into a treaty with the rebellious colonies of Great Britain, as free and independent states. By the treaty of 1678, it was stipulated, that, in case Great Britain was attacked by the house of Bourbon, she had a right to take her choice of either calling upon the States-general to become parties in the war, and to attack the house of Bourbon within two months, or of requiring an aid of 6000 troops, and 20 ships of war, which the States were to furnish immediately after the claim was made. But though this country had always preserved her faith with Holland, yet that republic had refused to fulfil the terms of this treaty.

His lordship farther observed, that the States-general had suffered Paul Jones, a Scotchman and a pirate, acting without legal authority from any acknowledged government, to bring British ships into their ports, and to refit there (A). A rebel privateer had also been saluted at the Dutch island of St Eustatius, after she had been suffered to capture two British ships within cannon-shot of their forts and castles. A memorial was presented at the Hague, in June 1779, on the breaking out of the war with Spain, to claim the aid we were entitled to require by the treaty of 1678; but of this not the least notice was taken on the part of the States. Two other notices had since been delivered, each of which met with the same reception. The British ministry had done all in their power to bring the States to a true sense of their interest; and when the necessity of the case compelled them to seize on the Dutch ships carrying stores to France, they had paid the full value for the cargoes, and returned the ships; so that neither the private merchant, the private adventurer, nor the States, had suffered. France only had felt the inconvenience, by her being deprived of that assistance which she would have received from those cargoes. Britain.

With respect to an observation that had been made, that the treaty laid before the house, between the Dutch and the Americans, was nothing more than a contemplative project, his lordship remarked, that it was actually signed and sealed; the names of Van Berkel the pensionary of Amsterdam, and Mons. de Neuville, a merchant and burgess of that city, being subscribed to it on the part of the magistracy of Amsterdam, and the name of John Lee, as commissioner or agent for the congress of America. The States-general had also refused to pay the least attention to the requisition in his majesty's memorial, delivered by Sir Joseph Yorke, that proper notice should be taken of Van Berkel and his associates; so far as such a refusal could be implied by a contemptuous silence. As to the principal magistrates of Amsterdam, they were so far from disavowing the fact, or attempting to palliate it, that they gloried in the whole transaction; and expressly declared, even to the States-general, that what they had done was what their indispensable duty required.

His lordship added, that he lamented the necessity of a war with Holland; but it appeared to him to be an unavoidable measure. He confessed the situation of this country to be truly alarming; but when he considered the powerful stand that had already been made against the most alarming confederacy that had ever been formed against Great Britain, the little success that the enemies of this country had met with in all their various attempts against it, and the spirit and resources of the nation, the public prospects appeared to him much less gloomy than some gentlemen thought proper to represent them. Our difficulties were certainly great; but he trusted that they were by no means insuperable. He was neither desirous of concealing their magnitude, nor afraid to meet them, great as they must be acknowledged; because he was convinced, that when the force of this country was fully exerted, it was equal to the contest; and that the only means of obtaining an honourable and a just peace, was to show ourselves capable of carrying on the war with spirit and with vigour.

Before this national resolution, however, could possibly have been communicated officially to the naval commanders in the West Indies, the Dutch were actually

(A) This man, who had been formerly a servant in Lord Selkirk's house, had landed in 1778 and plundered it of the plate, but without doing any farther mischief. The action, however, was very disagreeable to his own party; and at the desire of Dr Franklin, the plate was afterwards restored. After this exploit, he attempted to set fire to the town of Whitehaven, but without success. In 1779, he made a descent on the coast of Ireland, but without committing any act of hostility. His people indeed carried off some sheep and oxen, but their captain paid liberally for what they had taken. In the month of September 1779 he appeared in the frith of Forth with several prizes. They advanced up the frith above the island of Inchkeith, so as to be nearly opposite to Leith. His design was supposed to have been to burn the shipping there; but he was prevented from attempting this by a strong west wind; and such measures were also taken for the defence of the harbour, by erecting batteries and otherwise, that he would probably have miscarried had any attempt been made. On leaving the coast of Scotland, he fell in with the Serapis and Scarborough, both of which he took after a most desperate engagement; by which all the vessels were reduced almost to wrecks. These were carried into a Dutch harbour; and it was this transaction to which Lord North now alluded. He was called a *pirate*, on account of his not being at that time properly furnished with a commission either from France or America, though this was denied by the opposite party.

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649 Capture of St Eustatius.

ally attacked. The defenceless island of St Eustatius was, on the 3d of February 1781, summoned by Admiral Rodney and General Vaughan to surrender to the arms of Great Britain, and only one hour given to consider of it. The immense property on the island was confiscated, and a sale instituted, with such circumstances of apparent rapacity, as not only became the subject of a discussion in parliament, but drew upon this nation, whether justly or not we pretend not to determine, the ill will of all Europe *.

* See St Eustatius.

The Dutch nation seem not in the present case to have behaved with any degree of prudence. Notwithstanding their provoking conduct towards Britain, they had made no preparations for war in case of being attacked. Notwithstanding this inactivity, however, it still appeared that they retained their ancient valour, and were in fact the most formidable naval enemies Britain had to contend with. By the month of August 1781 they had equipped a considerable squadron, the command of which was given to Rear-admiral Zoutman. On the 5th of that month, this squadron fell in with the British fleet commanded by Admiral Hyde Parker. The force commanded by the Dutch admiral consisted, according to their own account, of one of 74 guns, one of 68, one of 64, three of 54, and one of 44, besides frigates: but the English account represents the Dutch fleet as consisting of eight two-decked ships. No gun was fired on either side till they were within the distance of half musket-shot. The action began about eight in the morning, and continued with an unceasing fire for three hours and forty minutes. Both sides fought with equal ardour, and little advantage was gained on either. When the heat of the action was over, both squadrons lay to a considerable time near each other, when the Dutch ships of war with their convoy bore away for the Texel; and the English ships were all too much disabled to follow them. A Dutch 74 gun ship sunk soon after the action. On board the British fleet 104 were killed and 339 wounded; and the loss of the Dutch was probably greater. Admiral Zoutman, in the account of the engagement transmitted by him to the stadtholder, said, that his men "fought like lions;" and it was said by the British admiral, in the account sent by him to the admiralty, that "his majesty's officers and men behaved with great bravery, nor did the enemy show less gallantry." The admiral of the Dutch fleet was promoted, honorary rewards were given to the principal officers, and two months pay to the men, for their behaviour in the action. When Admiral Parker's fleet arrived at the Nore, his majesty, in order to testify his sense of his merit, went on board his ship, with the avowed design, as it is said, of conferring on him the honour of knighthood: but this the admiral thought proper to decline; and it was generally supposed, that this veteran officer was much disgusted, that more ships had not been sent to him, for which he had applied, and which he conceived might have been spared, so that he might have been enabled to obtain a complete victory.

650 Desperate engagement with Admiral Zoutman.

651 Vast efforts of Britain.

Thus the war was still carried on in various parts of the globe in such a manner as seemed to evince the impossibility of crushing the power of Great Britain by any force whatever. In Europe, the utmost efforts of France and Spain were able to produce nothing more than the annual parade of a mighty fleet in the Channel. This was answered by the appearance of a British fleet so formidable that the allies never durst attack them. The states of Holland had drawn out their force; and this too was opposed by one, which, if insufficient to conquer, was at least able to prevent their effecting any thing detrimental to our possessions. In the East Indies the united powers of the French and Indians had been conquered, and the Dutch settlements had suffered severely *. In the year 1781, however, the British naval power in the West Indies seemed to sink, and some events took place which threatened a total ruin of the empire in these parts. This was owing to the vast superiority of the combined fleets of France and Spain, by whom that of Britain was now so far outnumbered, that they could not achieve any thing of consequence. An ineffectual attempt on the island of St Vincents † was made by Admiral Rodney; and an indecisive engagement took place, April 28th 1781, between Admiral Hood and the count de Grasse; the event of which, however, if not advantageous, was certainly honourable to Britain, as the French had a superiority of six ships of the line. The damage done to the British ships having obliged them to retire to Barbadoes to refit, the French took that opportunity to make a descent on the island of Tobago ‡. The governor, Mr Ferguson, made a gallant resistance; but was at last obliged to surrender, as no prospect of succours appeared. On his return to England he complained loudly that the island had been unnecessarily lost. Admiral Rodney had sent Rear-admiral Drake with six sail of the line, three frigates, and some troops, to the assistance of the island; but they were sent too late, and the island had capitulated before any relief was afforded it. In a letter of Admiral Rodney, which was published in the gazette, some surprise was expressed, that the place had surrendered so soon: upon which Governor Ferguson published an account of the siege, signed with his name, in all the London papers, in which he recriminated on the admiral. The governor's narrative was so perspicuous, so apparently satisfactory, and his charge against the admiral so strong, that it was thought incumbent on the latter to vindicate his conduct: but no answer to the governor's accusation ever appeared.

* See India.

652 Disastrous events of the year 1781.

† See St Vincents.

653 Tobago taken.

‡ See Tobago.

Besides the inconveniences which the British West India islands suffered in consequence of the war, it was also a misfortune to some of them that they were involved in domestic disputes, occasioned by their dissatisfaction at the conduct of their governors. This was particularly the case with Jamaica and Barbadoes, in both which islands there were frequent contests about this time between the houses of assembly and the governors. But the remonstrances of the inhabitants on the subject did not meet with much attention from those who had it in their power to afford them relief: for it seemed, indeed, to be a kind of maxim with the British administration at this period, to pay little regard to any complaints from the subjects of the empire, respecting any abuse of authority, from whatever quarter they might come, Ireland only excepted; and, with respect to that kingdom, they were induced to relax a little from the high tone they were accustomed to assume, by the powerful and energetic arguments of the Irish volunteers. See IRELAND.

654 Discontents in the West India islands.

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Britain. The great and decisive stroke, however, which happened this year, was the capture of Lord Cornwallis with the division of the army under his command. Other events, indeed, were sufficiently mortifying. The province of West Florida had been reduced by the Spaniards; Minorca was besieged by them with an apparent impossibility of holding out; the island of St Eustatius was surprised by the French; and in short every circumstance seemed to proclaim the necessity of putting an end to a war so calamitous and destructive.

655 Ministry still persist in their military schemes. All the disasters that had yet happened, however, were not sufficient to induce the ministry to abandon their favourite scheme of war with the colonies. The parliament met on the 27th of November 1781. It has already been observed, that in the year 1780 the ministry had received such a signal defeat as seemed to prognosticate the ruin of their power. They had indeed afterwards acquired a majority, and the extreme terror produced by the riots had contributed not a little to the establishment of their authority. The remembrance of what had passed, however, most probably induced them to a dissolution of parliament; while the successes at Charlestown and other parts of America, once more gave them a decided majority in both houses. But the disasters of the year 1781 involved them in the utmost difficulty and distress. In the

656 King's speech Nov. 1781. speech from the throne, his majesty observed, that the war was still unhappily prolonged by that restless ambition which first excited the enemies of his crown and people to commence it, and which still continued to disappoint his earnest desire and diligent exertions to restore the public tranquillity. But he should not answer the trust committed to the sovereign of a free people, nor make a suitable return to his subjects for their zealous and affectionate attachment to him, if he consented to sacrifice, either to his own desire of peace, or to their temporary ease and relief, those essential rights and permanent interests, upon the maintenance and preservation of which the future strength and security of Great Britain must depend. The events of war, he said, had been very unfortunate to his arms in Virginia, having ended in the loss of his forces in that province. No endeavours, he added, had been wanting on his part to extinguish that spirit of rebellion which his enemies had found means to foment and maintain in the colonies, and to restore to his deluded subjects in America that happy and prosperous condition which they had formerly derived from a due obedience to the laws; but the late misfortune in that quarter called loudly for the firm concurrence and assistance of parliament, in order to frustrate the designs of their enemies, which were equally prejudicial to the real interests of America, and to those of Great Britain. At the close of the speech, his majesty observed, that among the many ill consequences which attended the continuation of the present war, he sincerely regretted the additional burdens which it must unavoidably bring upon his faithful subjects: but he still declared his perfect conviction of the justice of his cause; and that he had no doubt, but that, by the concurrence and support of his parliament, by the valour of his fleets and armies, and by a vigorous, animated, and united exertion of the faculties and resources of his people, he should be enabled to restore the blessings of a safe and honourable peace to all his dominions. Britain.

A motion for an address of thanks, couched in the usual style, was made in the house of commons. It was urged, that a durable and advantageous peace could result only from the firm, vigorous, and unremitting prosecution of the war. The present was not the time to relinquish hope, but to resolve upon exertion. By despair we should invite calamity to overwhelm us; and it would ill become a great and valiant people, whose resources were yet powerful and numerous, to submit where they should resist; to look with indifference upon their political importance; and to tarnish, by indolent pusillanimity, the national and dear-bought glories both of remote and recent eras, instead of opposing, with augmented force, a combination whose inveterate efforts to throw out of the scale of Europe the whole political existence of Great Britain, were strengthened by the late victory over Lord Cornwallis in Virginia. But if a general spirit of unanimity, so requisite at one of the most alarming and important periods in the British annals, were to arise within the walls of parliament, and thence to diffuse itself throughout the body of the people, the gloom that hovered round us would rapidly disperse, and great successes would conduct the nation back to all its pristine splendour and felicity.

This was vehemently opposed by Mr Fox and Mr Burke. The latter remarked, that if there could be a greater misfortune than had already been undergone by this kingdom in the present disgraceful contest, it was hearing men rise up in the great assembly of the nation to vindicate such measures. If the ministry and the parliament were not to be taught by experience; if neither calamities could make them feel, nor the voice of God make them wise; what had this fallen and undone country to hope for? If any thing could tend to deject the people of England, to make them despair of their situation, and resign themselves to their fate, it must be to receive information that their ministers, after all that had been suffered, were yet determined to go on with the American war. A battle might be lost, an enterprise might miscarry, an island might be captured, an army might be lost in the best of causes, and even under a system of vigour and foresight; because the battle, after all the wisdom and bravery of man, was in the hands of heaven: and if either or all these calamities had happened in a good cause, and under the auspices of a vigilant administration, a brave people would not despair. But it was not so in the present case. Amidst all their sufferings and their misfortunes, they saw nothing so distressing as the weakness or wickedness of their ministers. They seemed still determined to go on, without plan, and without foresight, in this war of calamities; for every thing that happened in it was a calamity. He considered them all alike, victories and defeats; towns taken, and towns evacuated; new generals appointed, and old generals recalled; they were all alike calamities in his eyes, for they all spurred us on to this fatal business. Victories gave us hopes, defeats made us desperate, and both instigated us to go on. They were, therefore, both calamities; and the king's speech was the greatest calamity of all; for the king's speech showed

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Britain. showed us the disposition of the ministers: and this disposition was not to retreat an inch; to go on, to plunge us deeper, to make our situation more disgraceful and more unhappy.

In the course of the debate, it was contended on the part of administration, and particularly by Lord North, that by the address, as originally proposed, the house did not pledge themselves to any continuance of the American war: but this was strongly denied by the gentlemen in opposition. However, the point was at last decided in favour of ministry by a majority of 216 to 129; and the address was then carried as originally proposed.

In the house of peers, a motion for an address similar to that of the house of commons, was made by Lord Southampton, and seconded by Lord Walsingham. It was vigorously opposed by the earl of Shelburne; who observed, that seven years had now elapsed since blood was first drawn in America; and from that period to the present the affairs of Great Britain had been continually growing worse. A long progress in the war had left us in a situation in which there were no advantages to console; but dangers and calamities had arisen, which were unknown to us at the commencement of hostilities. Of nearly 87,000 men sent to America, how few had returned! What treasures had been in vain expended! What enormous debts accumulated! The most liberal national supplies had been followed by nothing but calamities; and the whole proceedings of the ministry manifested a want of system and of intelligence. Among other instances of mismanagement, his lordship remarked, that, instead of blocking up the French fleets within their own harbours, or immediately intercepting them on their putting out to sea, we had suffered them to sail far upon their expeditions to our distant settlements; and when they had acquired this great advantage, we slowly followed their powerful armaments with inconsiderable squadrons, and scarcely ever reached the place of destination till the enterprises of the enemy were totally accomplished. His lordship also declared it to be his opinion, that the capture of Earl Cornwallis was owing to the preceding capture of St Eustatius. As to the farther prosecution of the war with the least prospect of success, it was totally impossible: the nation was too much exhausted both of men and money; recruits were not to be procured for the army; and as to our navy, if we had the best first lord of the admiralty, and the ablest board that ever sat, it was impossible to provide for all the distant services of so extensive a war. The reason was obvious. The fine navy that belonged to Great Britain at the conclusion of the last war had been suffered to rot and moulder away; while France and Spain had recruited and repaired their marine during the whole period of the peace.

Among other strictures on ministerial conduct, it was observed by the duke of Richmond, that at present scarcely a seventh part of the people were represented, while all the remainder had no concern whatever, either virtually or individually, in the management of their own affairs; which their lordships well knew, the constitution of this country, as originally framed, gave them a right to have. He appealed to the house, whether many of their lordships did not name the members for several boroughs, and whether the representatives were not chosen only by the management of two or three burgesses. Were this point reformed, his grace declared, that he should still expect to see the country capable of regaining some portion of its former greatness. He also made some observations on the interior cabinet, which had, he said, been the ruin of this country. To prove its mischievous tendency, he instanced the declaration of the late earl of Chatham, who confessed to the house, "that he was duped and deceived, and that he had not been ten days in the cabinet before he felt the ground rotten under his feet." His grace likewise said, that though it was the middle of war, he made no scruple to recommend it most strenuously to government, immediately to set about curtailing the numbers of the army, and that as much as possible. He recommended, that arms should be put into the hands of the people, for the purposes of domestic defence; and he did not doubt but that in this case, they would act with greater power and success, than even the most numerous military forces. He also advised withdrawing the troops from America, augmenting the navy as much as possible, and sending such succours to the West India islands as might enable them effectually to resist any attempts from the enemy.

Lord Stormont defended the address as originally proposed; and observed, that the language of the speech from the throne was proper to be held by any prince worthy of the crown, in a moment like the present; and the long established custom rendered such an address as had been moved the fit answer to it. The preservation of America, as a dependent part of the British empire, was too important to be relinquished; and the present crisis, so far from justifying despair, called for a redoubled ardour, and for immediate exertion.

The lord-chancellor said, that the present speech from the throne, like all others at the commencement of a session, was no more than a brief state of the nation, delivered in the ancient style of composition, and conformably to established usage, from almost the first existence of parliament; and as to the address, its language not being specifically binding, their lordships might vote in favour of it, without pledging themselves to support any future ministerial measure whatever. The house at length divided, when Lord Shelburne's amendment was rejected by a majority of 75 to 31. A short protest against the address was entered by the duke of Richmond, the marquis of Rockingham, and Earl Fitzwilliam; in which they declared, that they dissented "for reasons too often urged in vain for the last seven years, against the ruinous prosecution of the unjust war carrying on by his majesty's ministers against the people of North America; and too fatally confirmed by repeated experience, and the late disgraceful loss of a second army, to stand in need of repetition."

Though ministers thus succeeded in carrying the addresses in the usual form, they did not meet with the like success in their main plan of carrying on the war. After the debate on the number of seamen, which was fixed to 100,000 for the ensuing year, Sir James Lowther moved as a resolution of the house, "That the war carried on with America had been ineffectual for the

657 Motions against the American war by Sir James Lowther.

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Britain. the purposes for which it was undertaken; and that all farther attempts to reduce that continent by force of arms would be in vain, and must be injurious to this country, by weakening her powers to resist her ancient and confederated enemies." This was supported by a number of arguments interlarded with the most severe reflections on ministerial conduct. In the course of this debate it was observed, and indeed with evident truth, that every state of consequence in Europe withheld its succours, and left us to contend alone against a multitude of enemies; so that we should search in vain for an ally from one corner of the universe to the other. As to the American war, in which the ministry so madly persisted, it was not like a war between two rival and two neighbouring states, about a barrier or a boundary; a contest which, however it ended, could not detract much from the importance or weight of either. It was a war in which the conclusion of every campaign was against us; in which we weakened no enemy by our efforts; in which we had suffered every thing, without gaining any thing. The American war had been a war of delusion from the beginning to the end. Every promise had been broken, every assertion had been falsified, every object had been completely given up. The ministry had said one thing one day; and the next day they had come down again, and with grave faces said what was directly contrary. But it was time to put an end to these delusions; not the least prospect of success in the war now remained; the period was therefore come, when it was indispensably necessary that the parliament should interfere, in order to avert that ruin with which this unhappy country was so immediately threatened.

658 Different plan of war proposed by Lord North.

The motion was opposed by Lord North; who said, that if it was agreed to by the house, it must put an end to the American war in every shape, and even cripple the hands of government in other respects. It would point out to the enemies of this country what were to be the mode and operations of the war; and thus inform the enemy in what manner they might best point their operations against this country during the next campaign. Great Britain must not retain any post in the colonies; for that would be considered as one mode of attempting to reduce the Americans to obedience by force. But was it not manifest, that there might be a necessity of retaining certain posts in America, for the convenience even of carrying on the war against France and Spain?

With respect to the American war in general, his lordship acknowledged, that it had been extremely unfortunate; but he affirmed, that the misfortunes and calamities which had attended it, though of a most serious and fatal nature, were matters rather to be deplored and lamented as the events of war, in themselves perpetually uncertain, than to be ascribed to any criminality in ministers. He had always considered the American war as a war of the most cruel necessity; but at the same time as a war commenced for the support of the just rights of the crown and of the parliament of Great Britain. He would also venture to declare, that as the war was unfortunate to all his fellow-subjects, so it was particularly distressing to himself. He had always considered it as the heaviest calamity of his life: and if, at any time, a sacrifice, not only of the emoluments of his situation, but even of the whole of his private fortune, could have purchased for his country a safe and honourable peace, he would have made that sacrifice with the utmost cheerfulness, and thought the opportunity of offering it the greatest blessing which could possibly have befallen him. His lordship added, that though he totally disapproved of the motion, yet he was willing to declare it to be his opinion, that it would not be wise nor right to go on with the American war as we had hitherto done; that is, to send armies to traverse from the south to the north of the provinces in their interior parts, as had been done in a late case, and which had failed of producing the intended and the desired effect. Britain.

659 Opposed by General Burgoyne.

This new method of carrying on the war was as much disapproved of as the other; nor indeed did it seem to be generally believed that any material alteration was to take place in the ministerial system. General Burgoyne observed, that declaring a design of maintaining posts in America, of the nature of New York, was declaring a design of offensive war; and that such a maintenance of posts would prove an improvident and a preposterous war. The great if not the only purpose of keeping places of arms upon an enemy's coast, and especially upon a continent, must be for offensive war. During the glorious administration of the earl of Chatham, a place of arms was intended to be established at St Malo's; and it was afterwards established at Belleisle upon a more extensive view than that of a mere inlet into the country. It made a powerful diversion, and drew a great military force from Germany, to protect the whole range of coast from Bayonne to Dunkirk, which was threatened by an embarkation from that place of arms. But the circumstance which rendered that menace against the French coast either practicable or formidable was, our dominion of the sea. At that resplendent era, our naval flag rode in the very bays of France as securely as if anchored at Spithead; and a few frigates would have convoyed an army of 20,000 men to any one point of the French or Spanish coast. This then could be produced as a just precedent for a place of arms. But what other precedents existed? The command of a strait, by which it was possible either to give an inlet for commerce, or to divide the ports of an enemy. Of such a nature was Calais, which, together with Dover, kept separate as often as we thought proper the great ocean and the German sea. Such also was Gibraltar; a place of arms that gave a virtual superiority to the navy of England, though with an inferior number of ships, as separating the ports of the house of Bourbon in the ocean from their ports in the Mediterranean, and preventing the junction of their fleets. But New York, as a place of arms, could answer no possible purpose but to feed an impracticable war, and to multiply that system of contracts, loans, and influence, which, after having operated to the loss of every dependence of the country, was ready to give the final blow to the last remains of property and liberty in the country itself.

660 He recants his original principles concerning America.

The general added, that he had not hitherto touched upon the principle of the American war. The impracticability of it was a sufficient justification for supporting the present motion. But he was now convinced that the principle of the American war was wrong, though he had not been of that opinion when he

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Britain. he formerly engaged in the service in America. He had been brought to this conviction by observing the uniform conduct and behaviour of the people of America. Passion, prejudice, and interest, might operate suddenly and partially; but when we saw one principle pervading the whole continent, the Americans resolutely encountering difficulty and death for a course of years, it must be a strong vanity and presumption in our own minds, which could only lead us to imagine that they were not in the right. It was reason, and the finger of God alone, that implanted the same sentiment in three millions of people. He would assert the truth of the fact against all which either art or contrivance could produce to the contrary. He was likewise now convinced, upon comparing the conduct of the ministry, as time had developed their system, that the American war formed only a part of a general design levelled against the constitution of this country and the general rights of mankind.

After some farther debate, Sir James Lowther's motion was rejected by a majority of 220 to 179. This, however, was a majority in which the ministry had little reason to exult; as it was sufficiently apparent, from the numbers who voted against administration, that the uninfluenced sense of that house was clearly and decisively against any farther prosecution of the American war.

661 Debate on the army estimate.

Other arguments to the same purpose with those of General Burgoyne, just mentioned, were used in the debate on the army estimates. On the 14th of December, the secretary at war informed the house, that the whole force of the army, including the militia of this kingdom, required for the service of the year 1782, would amount to 186,220 men, and for this force the parliament had to provide. The sum required for these troops for pay, clothing, and other articles, amounted to four millions two hundred and twenty thousand pounds. This military force exceeded that of the last year by 4074 men; and the expence was consequently greater by 29,067l. 15s. The increase was occasioned by the greater number of troops already sent, or then going, to the East Indies. But the expence of those troops was to be reimbursed by the East India Company.

After some farther statements relative to the military force of the kingdom, and its expence, had been made by the secretary at war, Colonel Barré rose, and with great vehemence declared, that the estimates of the army which were laid before that house were scandalous and evasive. There was a much greater number of non-effective men than were stated in the estimates. In fact, they amounted to a fifth part of the army. The house should also recollect, that the estimates lying on the table did not compose the whole of the expences of the army; for extraordinaries of several millions were yet to come. Neither were the men under the several descriptions given by the secretary at war the whole number of military force employed. Other troops were employed solely at the discretion of the minister, and paid irregularly and unconstitutionally, without the assent or knowledge of the legislature; particularly the provincial corps in America, amounting to nine thousand men in actual service, the statement of which force, though it had been called for from year to year, was never brought into the estimates.

With respect to the army estimates, the colonel proceeded to observe, that in many instances they were filled with such abandoned impositions, that there appeared an actual design to treat inquiries from the parliament with sovereign contempt. Several regiments, of which the number of men did not amount to one hundred, were set down at eight hundred; and others not having more than fifty were mentioned in the estimates as consisting of five, six, or seven hundred men. Indeed, too large a part of the armies, for which that house had been persuaded to give their votes, existed only upon paper. Amongst other regiments, the royal English fusileers had not even a fourth of their complement. The royal Scotch fusileers were in a worse predicament. Their number fell short of even one hundred men. The 60th regiment was stated as amounting to 3500 men, when the fact was, that it did not consist of 1500; and many others might be enumerated in the same situation. The statement of the estimates relative to garrisons, particularly those of Gibraltar and Minorca, were equally delusive and overcharged.

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Lord George Germaine said, that the reason why the provincial corps had not been included in the estimates was, that some share of the public money might be spared, by avoiding to vote an establishment for these troops. They were raised and paid in a manner by much the most economical for the nation. They were solely under the management of the commander in chief; and an officer, called the *inspector-general of the provincial corps*, regularly took care to muster them from time to time; nor was a single man paid for if not in actual employ. His lordship also informed the house, that the ministry were unanimously of opinion, that, considering the present situation of affairs, and the misfortunes of the war, it would not be right to continue any longer the plan on which it had hitherto been conducted; and therefore that a fresh army would not be sent to supply the place of that captured at York-town under Earl Cornwallis.

Sir George Saville expressed the strongest disapprobation of any farther prosecution of the American war, or of raising any more troops for that purpose. He adverted to the intimation which had been given by the ministry, that a change was to be made in the mode of conducting the American war. This, he said, was in fact telling the house that they were determined to prosecute the war with all the feeble efforts of which they were yet capable. Every unprejudiced and sensible observer must perceive, that so extraordinary a conduct resembled, if it did not indicate, the violence of insanity. General Conway declared, that he entirely disapproved of a continuance of the American war in any form, as he wished that it might totally cease. He eagerly desired the recal of our fleets and armies, and was anxious for an entire and immediate prevention of those calamities which had almost completed the destruction of the empire. He considered an avowal of the independence of America as a severe misfortune, and a debasing stroke against Great Britain; but of the two evils he would choose the least, and he would submit to the independency of America. In short, he would almost yield to any circumstance whatsoever, rather than persist a day longer in the prosecution of so pernicious a war. Ideas had been

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Britain. been started relative to a war of posts, among which New York had been particularly mentioned. But on what military authority did the ministry presume to think that New York was tenable? What garrison would be able to maintain it? The diversity of military opinions given on this subject served rather to alarm than to convince. To secure New York, the possession of Long island, which is a hundred miles in length, is absolutely necessary; and it was well known that Sir Henry Clinton, with all his troops, did not consider himself as secure. Notwithstanding these and other arguments, however, the question was carried in favour of ministry by a considerable majority, and the supplies were voted accordingly.

Besides the grand question for and against the continuance of the American war, several other matters of smaller moment were agitated this session; particu- lee Eu- larly the affair of St Eustatius * as already mentioned, tions. an inquiry into the state of the navy, and into the causes of our bad success in the American war. All these questions were carried in favour of ministry, though not without a strength of opposition they had never experienced before. A motion for censuring Lord Sandwich was lost only by 236 to 217; and so general did the desire of a change of administration now appear, that it excited no small degree of surprise that the present ministers should still retain their places.

661. Nothing could set in a more striking point of view the bates on detestation in which they were held, than the extreme mitting aversion shown at admitting Lord George Germaine to rd the dignity of peerage. On this occasion, the Minden orge business was not only ripped up, but after his actual rmaine it in the investiture, and when he had taken his seat in the se of house, under the title of Lord Viscount Sackville, a second debate ensued relative to the dishonour the peers had sustained by his admission into their house. It was moved by the marquis of Caermarthen, that "it was reprehensible in any minister, and highly derogatory to the honour of that house, to advise the crown to exercise its indisputable right of creating a peer, in favour of a person labouring under the heavy censure of a court martial," which was particularly stated in the motion, and also the public orders given out on the occasion by the late king. The marquis urged, that the house of peers being a court of honour, it behoved them most carefully to preserve that honour uncontaminated, and to endeavour to mark out, as forcibly as possible, the disapprobation which they felt at receiving into their assembly, as a brother peer, a person stigmatized in the orderly books of every regiment in the service. The earl of Abingdon observed, that he could not help conceiving, that although there was not a right of election, there was and must be a right of exclusion, vested in that house, when the admission of any peer happened to be against the sense of their lordships. His judgment of this arose not only from the idea, that that house was possessed of original rights, as independent of the crown as of the people; but from the circumstance of their being the hereditary counsellors of the crown, against the sense of whom, he held, the crown could not of right exert itself. His lordship declared, that he considered the admission of Lord George Germaine to a peerage, to be no less an insufferable indignity to that house, than an outrageous insult to the people at large. It was an indignity to that house, because it was connecting them with one Britain. whom every soldier was forbidden to associate with. It was an insult to the people; for what had the person raised to the peerage done to merit honours superior to his fellow-citizens? He had only one claim to any kind of promotion; and that was, that he had undone his country, by executing the plan of that accursed, invisible, though efficient cabinet, from whom, as he had received his orders, so he had obtained his reward.

Lord Sackville declared, that he neither knew by whose advice he had been raised to this dignity, nor thought, that, in a point of this nature, the recommendation of any minister was in the least needful. To bestow honours was the peculiar and universally admitted prerogative of the crown, provided that the parties advanced to them were competent to receive them. This he insisted was the case at present. The sentence of the court-martial was stated as the ground of the objection against his elevation to the peerage; but even such a sentence did not amount to any legal disability whatsoever. Twenty-three years had elapsed since the court-martial which sat upon him had pronounced that sentence; and he should naturally suppose, that such of their lordships, and of the public in general, as were at all acquainted with the peculiarly hard and unfair circumstances which accompanied his trial, had been long accustomed to behold this business in its proper point of view. Assailed by an excess of acrimony, at least equal to any that a British officer could have experienced from enemies at once implacable and unjust, he was condemned, unheard, and punished previously to his trial. In these circumstances, it was well known, that he had challenged his accusers to come forward; that he had provoked inquiry; and had insisted upon a trial. He was assured at the time, that if the determination of the court-martial should even prove capital, it would be carried into execution: but no intimations of this kind could dissuade him from insisting that a trial should take place; and he flattered himself, that the candour and equity of their lordships would lead them to conclude, that such behaviour, under such circumstances, could only result from a consciousness of innocence. To the sentence of it he had submitted; and, as the result of such submission, he thought that he had then acquitted himself to his country and to the public. At the present moment, it was extremely singular, that although neither the charge, nor the defence, nor the evidence, nor in short any one part of the proceedings on the trial, was before their lordships, they were called upon to put the sentence a second time in force against him. He trusted, however, that their lordships would call to mind the occurrences which had taken place with respect to himself, subsequent to that period. In 1765, not more than four years after the trial, he was appointed to an office in administration. Previously to his acceptance of the propositions then made to him that he should bear a part in administration, it was agreed for him to become a member of the council-board. There he accordingly took his seat; and thenceforward considered such a circumstance as virtually a repeal of the sentence of the court-martial. A revision of the proceedings of the court-martial was now unattainable; for during the space of

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Britain. 23 years, the period of time which had elapsed since the trial, every member who had sat upon it except one had been dead and buried. An attempt to investigate the motives which actuated the several members of the court was equally impracticable. He hoped, therefore, their lordships would be of opinion, that he was fully competent to receive the title which his sovereign had been graciously pleased to bestow upon him; and that it was neither expedient, necessary, nor becoming, for that house, to fly in the face of the crown, or to oppose its indisputable prerogative, because it had advanced an old and faithful servant to the dignity of a seat among their lordships.

The duke of Richmond observed, that from the reign of Edward III. to the time of Henry VII. it was expressly stated, in every new patent of the creation of a peer, that such creation was made *with the consent of parliament;* nor did a single instance occur, during the whole of this period, of any title being granted without the particular acquiescence of the house of lords. After the reign of Henry VII. the crown carried with a considerably less restraining hand this exercise of the prerogative; and during the later eras, it had been generally regarded as an incontestable and established right. It appeared, however, that the ancient principles of the British constitution had set boundaries to restrain this exercise of the prerogative; and that formerly a legal disability was not the only circumstance which might amount to a disqualification for the peerage. Some insinuations had been thrown out respecting the decision of the court-martial, which were far from being well-grounded. When the court-martial took place, for the purpose of determining the criminality or the innocence of the noble viscount, the times were not, as had been represented, remarkable for the predominance of clamour or of faction. He observed, that their lordships were not ignorant, that the noble viscount rested a considerable part of the vindication of his behaviour at the battle of Minden, upon the supposed existence of a striking variation in the orders delivered from Prince Ferdinand to the commander of the cavalry. It was understood that the first order was, that *the cavalry* should advance; and the second, that the *British cavalry* should advance. Yet even under these supposed contradictory orders, it was evident that the noble lord should advance; and, certainly, the distance being short, he enjoyed a sufficient space of time for obedience to his instructions. Lord Southampton, who delivered one of the messages, was now present in the house; and it should seem, that he had no choice, on this occasion, but to acknowledge, either that he did not properly deliver such orders to the noble viscount, or that the latter, having properly received them, neglected to obey them. But whatever difficulties might have arisen, during the endeavours to determine exactly how much time had actually been lost, in consequence of the non-compliance of the noble viscount with the orders which he received, his grace said, that he could with much facility have solved what all the witnesses examined as to this point were not able positively to determine. If, as he was summoned to appear upon the trial, his deposition had been called for, he could have proved, because he held all the while his watch within his hand, and seldom ceased to look at it, that the time lost when the noble viscount delayed to advance, under pretence, that, receiving such contradictory orders, it was impossible for him to discover whether he ought to advance with the *whole* cavalry, or only with the British cavalry, was *one hour and a half.* It was, therefore, extremely evident, that the noble lord had it in his power to have brought up the cavalry from the distance of a mile and a quarter; in consequence of which, by joining in the battle, they might have rendered the victory more brilliant and decisive. But, before the arrival of this cavalry, the engagement was concluded. Such was the testimony, his grace said, which, having had the honour to serve, at the battle of Minden, under Prince Ferdinand of Brunswick, he must have borne, if, being summoned, the members of the court-martial had thought proper to have examined him on the trial. Under such circumstances, the noble viscount could have little reason to complain of the sentence of the court-martial, of the orders which followed, or of the loss of his commission. Britain.

The motion was powerfully supported by other arguments, both by the duke of Richmond himself and other peers; but, however, was rejected by a majority of 93 against 28. A protest was entered, signed by nine peers, in which the sentence and the public orders were particularly stated; and in which they declared, that they "could not look upon the raising to the peerage a person so circumstanced, in any other light than as a measure fatal to the interests as well as to the glory of the crown, and to the dignity of that house; insulting to the memory of the late sovereign, and likewise to every surviving branch of the illustrious house of Brunswick; repugnant to every principle of military discipline, and directly contrary to the maintenance of the honour of that house, and to that honour which has for ages been the glorious characteristic of the British nation, and which, as far as could depend on them, they found themselves called upon, not more by duty than inclination, to transmit pure and unsullied to posterity." 665 Protest against receiving him.

The ruinous tendency of the American war was now so strikingly apparent, that it became necessary for those who had a just sense of the dangerous situation of their country, who wished well to its interests or even to prevent its destruction, to exert their most vigorous efforts to put an end to so fatal a contest. Accordingly, on the 22d of February, a motion was made by General Conway, "That an humble address should be presented, earnestly imploring his majesty, that, taking into his royal consideration the many and great calamities which had attended the present unfortunate war, and the heavy burdens thereby brought on his loyal and affectionate people, he would be graciously pleased to listen to the humble prayer and advice of his faithful commons, that the war on the continent of North America might no longer be pursued for the impracticable purpose of reducing that country to obedience by force; and expressing their hope that the earnest desire and diligent exertion to restore the public tranquillity, of which they had received his majesty's most gracious assurances, might, by a happy reconciliation with the revolted colonies, be forwarded and made effectual; to which great end, his majesty's faithful commons would be ready most cheerfully to give 664 Motion for an address against the American war rejected.

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Britain. give their utmost assistance." In the speech by which he introduced this motion, the general set forth the enormities with which the British arms had so frequently been stigmatized by opposition, and the excessive animosity of the Americans. Not a single friend to the British government (he said) could be discovered amongst the inhabitants of North America from one end of the country to the other. We had, indeed, at present no object to contend for: for if it could be admitted for a moment, even for the sake of argument, that it were possible we might conquer at the last, what benefits would repay the struggle for the victory? We should then only gain a desert, a country depopulated by the war, which our despotism and barbarity, our avarice and ambition, our antipathy for freedom, and our passion for injustice, had kindled in her bosom. But all expectations of this kind were in the highest degree vain and absurd; though he had received intelligence (the general said) from a person lately arrived from America, in whose veracity, experience, and discernment, he could implicitly confide, that the people of that country, although in arms against us, were still anxious for the accomplishment of peace. He was also assured, that certain individuals, at no considerable distance, were empowered on the part of the congress to treat with the ministers of Great Britain for the attainment of so essential an object. These circumstances were not unknown to government; and a noble lord, who had lately retired from the office of a secretary of state for the American department, had been particularly applied to on this interesting occasion. What reason could the ministers assign why they had neglected to improve this singular advantage, and seemed to spurn at all ideas of negociation? Could it be possible, that a series of ignominious miscarriages and defeats had not yet operated as a cure for the inhuman and destructive love of war? Such was the situation of the nation, that it behoved the ministers to negociate for peace almost on any terms. But as they had hitherto done nothing of this kind, it was indispensably necessary that the parliament should interfere, and put an immediate end to a war so calamitous, so fatal, and so destructive. The motion was seconded by Lord John Cavendish, who remarked, that the American war had been a war of malice and resentment, without either dignity in its conduct, probability in its object, or justice in its origin. It was, however, vigorously opposed by administration, who had still sufficient strength to gain their point, though only by a single vote, the motion being rejected by 194 to 193.

665 Second motion for the address. The increasing strength of opposition now showed that the downfal of ministry was at hand. The decision of the last question was considered as a victory gained by the former, and Mr Fox instantly gave notice that the subject would be resumed in a few days, under another form. It was accordingly revived on the 27th of February; on which day a petition from the city of London was presented to the house, soliciting the house to interpose in such a manner as should prevent any farther prosecution of the American war; after which General Conway moved, that it should be resolved, "That it was the opinion of that house, that the farther prosecution of offensive war on the continent of North America, for the purpose of reducing the revolted colonies to obedience by force, would be the means of weakening the efforts of this country against her European enemies, and tend, under the present circumstances, dangerously to increase the mutual enmity so fatal to the interests both of Great Britain and America; and, by preventing a happy reconciliation with that country, to frustrate the earnest desire graciously expressed by his majesty to restore the blessings of public tranquillity." Britain.

In the speech by which he introduced this motion, the general took notice of some objections that had been made to his former motion, under the idea that it was unconstitutional in that house to interfere with its advice in those things which especially and indisputably belonged to the executive power. It appeared, however, from the journals, that from the days of Edward III. down to the present reign, parliament had at all times given advice to the crown in matters relating to war and peace. In the reign of Richard II. it was frequently done; and also in that of Henry IV. One remarkable instance of this was in the reign of Henry VII. when that prince consulted his parliament respecting the propriety of supporting the duke of Britanny against France, and also of declaring war against the latter; and he told his parliament that it was for no other purpose than to hear their advice on these heads that he called them together. In the reign of James I. the parliament interfered repeatedly with their advice respecting the Palatinate, the match with Spain, and a declaration of war against that power. In the time of Charles I. there were similar interferences; and in the reign of his son Charles II. the parliament made repeated remonstrances, but particularly in 1674 and 1675, on the subject of the alliance with France, which they urged ought to be renounced, and at the same time recommended a strict union with the United Provinces. To some of these remonstrances, indeed, answers were returned not very satisfactory; and the parliament were informed, that they were exceeding the line of their duty, and encroaching upon the prerogative of the crown. But so little did the commons of those days relish these answers, that they addressed the king to know who it was that had advised his majesty to return such answers to their loyal and constitutional remonstrances. In the reign of King William, repeated instances were to be found in the journals, of advice given by parliament relative to the Irish war and the war on the continent. The like occurred frequently in the reign of Queen Anne: that princess, in an address from the parliament, was advised, not to make peace with France until Spain should be secured to Austria; and also, not to consent to peace until Dunkirk should be demolished. In short, it was manifest from the whole history of English parliaments, that it was ever considered as constitutional for parliament to interfere, whenever it thought proper, in all matters so important as those of peace and war. The general urged other arguments in support of his motion, which was seconded by Lord Althorpe; and petitions from the mayor, burgesses, and commonalty of the city of Bristol, and from the merchants, tradesmen, and inhabitants of that city, against the American war, were read. In order to evade coming to any immediate determination on the question, a proposition was made by Mr Wallace,

666 Parliament has a right to advise the king.

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Britain.

lace, the attorney-general, that a truce should be entered into with America; and that a bill should be prepared to enable his majesty's ministers to treat on this ground: and under the pretence of allowing time for this measure, he moved, "that the present debate should be adjourned for a fortnight." The house divided upon this motion, when there appeared for it 215, and against it 234; so that there was a majority of 19 against the minister. The original motion of General Conway was then put and carried without a division. The general immediately followed up his first motion with another for an address to the king, in which the American war was spoken of precisely in the same terms made use of in the motion, and in which his majesty was solicited to put a stop to any farther prosecution of offensive war against the colonies. This motion was agreed to; and it was also resolved, that the address should be presented to his majesty by the whole house. The address was accordingly presented on the first of March; when his majesty returned an answer, in which he declared, that there were no objects nearer to his heart than the ease, happiness, and prosperity of his people; that the house of commons might be assured, that, in pursuance of their advice, he should take such measures as should appear to him to be most conducive to the restoration of harmony between Great Britain and her revolted colonies, so essential to the prosperity of both; and that his efforts should be directed, in the most effectual manner, against our European enemies, until such a peace could be obtained as should consist with the interests and permanent welfare of his kingdoms. But though the proceedings of the house of commons, in addressing his majesty against any farther prosecution of the American war, gave general satisfaction, the royal answer, however, was not thought sufficiently explicit. It was therefore observed by General Conway, in the house of commons, on the 4th of March, that he hoped he should be supported by the house in his desire of securing the nation against the possibility of a doubt that the American war was not now completely concluded. Something, perhaps, might yet be wanting, by which ministers might be so expressly bound, that, however desirous of evasion, they would not have it in their power to evade the injunction of that house. He therefore moved, "That an humble address should be presented to his majesty, to return his majesty the thanks of that house for his gracious answer to their last address; that house being convinced, that nothing could, in the present circumstances of this country, so essentially promote those great objects of his majesty's paternal care for his people as the measures which his faithful commons had most humbly, but earnestly, recommended to his majesty." This motion was unanimously agreed to; after which the general made a second motion, that it should be resolved by that house, "That, after the solemn declaration of the opinion of that house, in their humble address presented to his majesty on Friday last, and his majesty's assurance of his gracious intentions, that house would consider as enemies to his majesty and this country, all those who should endeavour to frustrate his majesty's paternal care for the ease and happiness of his people, by advising, or by any means attempting, the farther prosecution of offensive war on the continent of North America, for the purpose of reducing the revolted colonies to obedience by force." After some debate, the motion was agreed to without a division; and on the 6th of the month, after a number of papers had been read in the house of peers relative to the surrender of Earl Cornwallis and the army under his command, the two following motions were made by the duke of Chandos. First, "That it was the opinion of that house, that the immediate cause of the capture of the army under Earl Cornwallis in Virginia, appeared to have been the want of a sufficient naval force to cover and protect the same." Secondly, "That the not covering and protecting the army under Earl Cornwallis in a proper manner, was highly blameable in those who advised and planned the expedition." After some debate, the motions were rejected, upon a division, by a majority of 72 to 37.

667 Motion for the address carried.

668 Address presented, with his majesty's answer.

669 Second address.

Britain.

670 Resolutions concerning the capture of Cornwallis rejected.

Thus the ministry still kept their ground, and with the most astonishing resolution combated the powers of opposition, which were daily increasing. On the 8th of March several resolutions were moved by Lord John Cavendish; one of which was, that "the chief cause of all the national misfortunes was the want of foresight and ability in his majesty's ministers." Another respected the immense sum expended on the war, which was not denied to be less than 100 millions. The expenditure of this sum became an object of severe scrutiny; but still all inquiry was frustrated. Mr Burke affirmed, that all public documents relative to the finances, exhibited the mismanagement, profusion, and enormities, of an unprincipled administration; as an instance of which he adduced the presents given to the Indians for their services during the last year, amounting to no less than 100,000l. Several other particulars were pointed out; but the motions were lost by 226 to 216.

671 Resolutions against ministry proposed.

The unpopularity of Lord North was now farther augmented by his proposal of some new taxes, particularly on soap, the carriage of goods, and places of entertainment. Opposition therefore still determined to force him to resign; which indeed it seemed improbable that he would voluntarily do. On the 15th of March it was moved by Sir John Rous, that "the nation could have no farther confidence in the ministers who had the conduct of public affairs." The debate was remarkable for an argument, in the affairs of America, perfectly original, and unprecedented in all that had been said or written on the subject. Sir James Marriot informed the house, that though it had been frequently pretended, that the inhabitants of the colonies were not represented in the British parliament, yet the fact was otherwise; for they were actually represented. The first colonization, by national and sovereign authority, he remarked, was the establishment of the colony of Virginia. The grants and charters made of those lands, and of all the subsequent colonies, were of one tenor, and expressed in the following terms: "To have and to hold of the king or queen's majesty, as part and parcel of the manor of East Greenwich, within the county of Kent, *reddendum*, a certain rent at our castle of East Greenwich, &c." So that the inhabitants of America were, in fact, by the nature of their tenure, represented in parliament by the knights of the shire of the county of Kent. This curious le-

672 Another motion against the ministry.

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Britain.

gal discovery, that the American colonies were part and parcel of the manor of East Greenwich, though delivered by the learned judge with all proper gravity and solemnity, yet excited so much merriment in the house, that it was with great difficulty, for some time, that the speaker could preserve any kind of order.

673 Lord North's defence of his own conduct.

Lord North endeavoured to vindicate his own administration. He affirmed, that it could not be declared with truth, by that house, that the national calamities originated from the measures of the present administration. The repeal of the American stamp-act, and the passing of the declaratory law, took place before his entrance into office. As a private member of parliament, he gave his vote in favour of both; but, as a minister, he was not responsible for either. When he accepted his post, the times were scarcely less violent than the present. He approached the helm when others had deserted it; and, standing there, he had used his utmost efforts to assist his country. That the American war was just and requisite, and prosecuted for the purpose of supporting and maintaining the rights of the British legislature, was a position, for the truth of which he would ever contend, whilst he enjoyed the power of arguing at all upon the subject. As to peace, he not only wished most earnestly for it, but also for the formation of such a ministry as might at once prove welcome to the country, and with unanimous cordiality co-operate for the welfare and the honour of the state. It was not an attachment to the honours and emoluments of office which had kept him so long in place; and he should disdain to throw impediments in the way of any honourable and salutary coalition of parties, though for the adjustment of an administration from which he might perceive himself excluded. The house at length divided upon the question, when there appeared for it 227, and against it 236; so that there was a majority of nine in favour of administration.

674 The ministers at last quit their places.

Notwithstanding this seemingly favourable determination, it was so well known that the ministry could not stand their ground, that, four days after, a similar motion to that made by Sir John Rous was to have been made by the earl of Surrey; but when his lordship was about to rise for that purpose, Lord North addressed himself to the speaker, and endeavoured to gain the attention of the house. This occasioned some altercation, it being contended by many members, that the earl of Surrey ought to be heard first. But Lord North being at length suffered to proceed, he observed, that as he understood the motion to be made by the noble earl was similar to that made a few days before, and the object of which was the removal of the ministers, he had such information to communicate to the house, as must, he conceived, render any such motion now necessary. He could with authority assure the house, that his majesty had come to a full determination to change his ministers. Indeed, those persons who had for some time conducted the public affairs were no longer his majesty's ministers. They were not now to be considered as men holding the reins of government, and transacting measures of state, but merely remaining to do their official duty, till other ministers were appointed to take their places. The sooner those new ministers were appointed, his lordship declared, that, in his opinion, the better it would be for the public business, and the general interests of the nation. He returned thanks to the house for the many instances of favour and indulgence which he had received from them during the course of his administration; and he declared, that he considered himself as responsible, in all senses of the word, for every circumstance of his ministerial conduct, and that he should be ready to answer to his country whenever he should be called upon for that purpose.

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The earl of Surrey informed the house, that the motion which he intended to have made was designed to declare to the nation, and to all Europe, that the ministry were not dismissed because they wanted to avoid the fatigues of office, but because the parliament had totally withdrawn from them their good opinion and their confidence, and were determined no longer to permit the perpetration of those violent abuses of their trust, to which, with impunity, and to the disgrace and detriment of the state, they had for such a length of time proceeded. His lordship, however, agreed, in consequence of the declaration of Lord North, to wave his intended motion; and, after some farther debate, the house adjourned.

675 Military operations in 1782.

Thus an end was put to an administration which had for so long been obnoxious to a great part of the nation, and whose removal contributed very much to allay those dangerous ferments by which every part of the British dominions had been so long agitated. Peace now became as much the object of ministry as war had been formerly. Before we proceed to any account of the negociation for that desirable event, however, it will be necessary to take notice of those military events which disposed the other belligerent powers to an accommodation. The bad success of Britain in America has already been taken notice of. The disaster of Cornwallis had produced a sincere desire of being at peace with America: but that could not be accomplished without making peace with France also; and that power was haughty and elated with success. Minorca had now fallen into the hands of the Spaniards; and though it is certain that the capture of a few miserable invalids, attended with such extreme difficulty as the Spaniards experienced †, ought rather to have intimidated them than otherwise, they now projected the most important conquests. Nothing less than the entire reduction of the British West India islands became the object of the allies; and indeed there was too much reason to suppose that this object was within their reach. In the beginning of the year 1782, the islands of Nevis and St Christopher's were obliged to surrender to M. de Grasse the French admiral, and the marquis de Bouille, who had already signalized himself by several exploits *. Jamaica was marked out as the next victim; but an end of all these aspiring hopes was fast approaching. The advantages hitherto gained by the French in their naval engagements with the British fleet had proceeded from their keeping at a great distance during the time of action, and from their good fortune and dexterity in gaining the wind. At last, the French admiral, de Grasse, probably prompted by his natural courage, determined, after an indecisive action on the 9th of April 1782, to stand a close engagement with his formidable antagonist Admiral Rodney. This, with him, appears to have been a matter of choice, as he interfered to prevent

† See *Minorca*.

* See *Nevis* and *St Christopher*.

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Britain.

676 De Grasse entirely defeated and taken prisoner by Admiral Rodney.

vent the loss of a disabled ship, by parting with which he might have avoided the disaster that followed. This memorable engagement took place off the island of Dominica, three days after the former. The British fleet consisted of 37 ships of the line, and the French of 34. The engagement commenced at seven o'clock in the morning, and continued with unremitting fury till half past six in the evening. It is said, that no other signal was made by the admiral but the general one for action, and that for close fight. Sir George Rodney was on board the Formidable, a ship of 90 guns; and the count de Grasse was on board the Ville de Paris, a ship of 110 guns, which was a present to the French king from the city of Paris. In the course of the action, the Formidable fired nearly 80 broadsides; and for three hours the admiral's ship was involved in so thick a cloud of smoke, that it was almost invisible to the officers and men of the rest of the fleet. The van division of the British fleet was commanded by Sir Samuel Hood, and the rear division by Rear-admiral Drake; and both these officers greatly distinguished themselves in this important action. But the decisive turn on this memorable day was given by a bold manœuvre of the Formidable, which broke the French line, and threw them into confusion. The first French ship that struck was the Cæsar, a 74 gun ship, the captain of which fought nobly, and fell in the action. It is said, that when she struck she had not a foot of canvas without a shot hole. Unfortunately, soon after she was taken possession of, she took fire by accident, and blew up, when about 200 Frenchmen perished in her, together with an English lieutenant and ten English seamen. But le Glorieux and le Hector, both 74 gun ships, were also taken by the British fleet; together with l'Ardent of 64 guns; and a French 74 gun ship was also sunk in the engagement. It was a very close and hard fought action on both sides, but the French fleet was at length totally defeated. It was almost dark when the Ville de Paris struck, on board of which the count de Grasse had fought very gallantly. Five thousand five hundred troops were on board the French fleet, and the havock among them was very great, as well as among the French seamen. The British had 230 killed and 759 wounded. Captain Blair, who commanded the Anson, and several other officers, were killed in the action; and Lord Robert Manners, who commanded the Resolution, died of his wounds on his return home. On the 19th of the same month, a squadron which was detached from the main fleet, under the command of Sir Samuel Hood, captured the Cato and the Jason, two French men of war of 64 guns each, and also l'Aimable of 32 guns, and the Ceres of 18. About the same time also the fleet under Admiral Barrington took from the French, off Ushant, le Pegase of 74 guns, l'Actionnaire of 64, and ten sail of vessels under their convoy.

It was universally allowed, that in this engagement the French, notwithstanding their defeat, behaved with the greatest valour. De Grasse himself did not surrender till 400 of his people were killed, and only himself and two others remained without a wound. The captain of the Cæsar, after his ensign staff was shot away, and the ship almost battered to pieces, caused his colours to be nailed to the mast, and thus continued fighting till he was killed. The vessel, when taken, was a mere wreck. Other French officers behaved in the same manner. The valour of the British requires no encomium; it was evident from their success.

Britain.

This victory was a very fortunate circumstance both for the interest and reputation of the British admiral. Before this event, the new ministry had appointed Admiral Pigot to supervede him in the command in the West Indies; and it was understood, that they meant to set on foot a rigid inquiry into the transactions at St Eustatius. But the splendour of this victory put an end to all thoughts of that kind: he received the thanks of both houses of parliament for his services; and was created an English peer, by the title of Baron Rodney, of Rodney Stoke, in the county of Somerset. Sir Samuel Hood was also created Baron Hood of Catherington, in the kingdom of Ireland; and Rear-admiral Drake, and Captain Affleck, were created baronets of Great Britain. Some attempts were also made, in the house of commons, to procure a vote of censure against the new ministry, for having recalled Lord Rodney; but the motions made for this purpose were rejected by the majority.

The count de Grasse, after his defeat, was received on board the Barfleur man of war, and afterwards landed on the island of Jamaica, where he was treated with great respect. After continuing there some time, he was conveyed to England, and accommodated with a suit of apartments at the Royal Hotel in Pall-mall. His sword, which he had delivered up, according to the usual custom, to Admiral Rodney, was returned to him by the king. This etiquette enabled him to appear at court, where he was received by their majesties and the royal family in a manner suitable to his rank. From the time of his arrival in London to his departure, which was on the 12th of August 1782, he was visited by many persons of the first fashion and distinction, and was much employed in paying visits to the great officers of state, and some of the principal nobility of the kingdom, by whom he was entertained in a very sumptuous and hospitable style. He received, indeed, every mark of civility which the British nation could bestow; and was treated with much respect even by the common people, from the opinion that was generally entertained of his valour and merit.

Though the designs of the French against Jamaica were now effectually frustrated, the victory was not followed by those beneficial consequences which by many were expected. None of the British islands which had been taken by the French in the West Indies were afterwards recaptured; though it was hoped that this would have been the result of our naval superiority in those seas. It was also an unfortunate circumstance, that some of those ships which were taken by Admiral Rodney were afterwards lost at sea; particularly the Ville de Paris, Glorieux, and Hector. A British man of war, the Centaur, of 74 guns, was also sunk in lat. 48 deg. 33 min. and long. 43 deg. 20 min. on the 24th of September 1782, in consequence of the disabled state to which it was reduced by some very violent storms. Before the ship sunk, the officers and crew had sustained great hardships; most of them at last went down with the ship; but the lives of Captain Inglefield the commander, and ten other officers and seamen, were preserved by their getting on board a pinnace. But even this was leaky; and when they went

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ritain. went into it they were nearly in the middle of the Western ocean, without compass, quadrant, great coat or cloak; all very thinly clothed, in a gale of wind, and with scarcely any provisions. After undergoing extreme hardships and fatigues for 16 days, they at length reached the island of Fayall, one of the Azores. They were so much reduced by want of food and incessant labour, that, after they had landed, some of the stoutest men belonging to the Centaur were obliged to be supported through the streets of Fayall. The Jamaica homeward-bound fleet was also dispersed this year by a hurricane off the banks of Newfoundland, when the Ramillies of 74 guns and several merchantmen foundered.

The British navy also sustained, about this time, a considerable loss at home, by the Royal George, of 100 guns, being overset and sunk at Portsmouth. This melancholy accident, which happened on the 29th of August, was occasioned by a partial heel being given to the ship, with a view to cleanse and sweeten her; but the guns on one side being removed to the other, or at least the greater part of them, and her lower deck ports not being lashed in, and the ship thwarting on the tide with a squall from the north-west, she filled with water, and sunk in the space of about three minutes. Admiral Kempenfelt, a very brave and meritorious officer, other officers, upwards of 400 seamen and 200 women, besides many children, perished in her.

Thus the prosecution of the war seemed to be attended with endless disasters and difficulties to all parties. The signal defeat above mentioned not only secured the island of Jamaica effectually from the attempts of the French, but prevented them from entertaining any other project than that of distressing the 677 dson's and the hama nds re- ed. commerce of individuals. In the beginning of May an expedition was undertaken to the remote and inhospitable regions of Hudson's Bay; and though no force existed in that place capable of making any resistance, a 74 gun ship and two 36 gun frigates were employed on the service. All the people in that part of the world either fled or surrendered at the first summons. The loss of the Hudson's Bay company, on this occasion, amounted to 500,000l.; but the humanity of the French commander was conspicuous, in leaving a sufficient quantity of provisions and stores of all kinds for the use of the British who had fled at his approach.

Another expedition was undertaken by the Spaniards to the Bahama islands, where a like easy conquest was obtained. The island of Providence was defended only by 360 men, who being attacked by 5000, could make no resistance. A very honourable capitulation was granted by the victors, who likewise treated the garrison with great kindness afterwards. Some settlements on the Mosqueto shore were also taken by the Spaniards: but the Bay-men, assisted by their negroes, bravely retook some of them; and having formed a little army with the Indians in those parts, headed by Colonel Despard, they attacked and carried the posts on the Black River, making prisoners of about 800 678 nish ar- ment troyed re Gi- ltar. Spanish troops. The great disaster which befel this power, however, was their failure before Gibraltar, which happened in the month of September 1782, with such circumstances of horror and destruction as evinced the absurdity of persisting in the enterprise. Thus all parties were taught that it was high time to put an end to their contests. The affair of Cornwallis had shown that it was impossible for Britain to conquer America; the defeat of de Grasse had rendered the reduction of the British possessions in the West Indies impracticable by the French; the final repulse before Gibraltar, and its relief afterwards by the British fleet *, put an end to that favourite enterprise, in which almost the whole strength of Spain was employed; while the engagement of the Dutch with Admiral Parker showed them that nothing could be gained by a naval war with Britain. Britain.

* See Gibraltar.

679 Change of ministry in Britain. We have already taken notice, as fully as the limits of this article would admit, of the events which led to the removal of Lord North and the other ministers who for so long a time had directed public measures in this kingdom. On this occasion it was said that his majesty expressed a considerable agitation of mind at being in a manner compelled to make such an entire change in his councils: for the members in opposition would form no coalition with any of the old ministry, the lord chancellor only excepted. On the 29th and 30th of March 1782, the marquis of Rockingham was appointed first lord of the treasury; Lord John Cavendish chancellor of the exchequer; the earl of Shelburne and Mr Fox principal secretaries of state; Lord Camden president of the council; the duke of Richmond master of the ordnance; the duke of Grafton lord privy seal; Admiral Keppel first lord of the admiralty; General Conway commander in chief of all the forces in Great Britain: Mr Thomas Townshend secretary at war; Mr Burke paymaster of the forces; and Colonel Barré treasurer of the navy. Other offices and honours were likewise conferred on different members of the opposition; and some were raised to the peerage, particularly Admiral Keppel, Sir Fletcher Norton, and Mr Dunning.

680 Negociation for peace. The first business in which the new ministry engaged, was the taking such measures as were proper to effectuate a general peace. No time was lost in the pursuit of this great object, or in taking the necessary steps for its attainment. Accordingly, the empress of Russia, having offered her mediation, in order to restore peace between Great Britain and Holland, Mr Secretary Fox, within two days after his entrance in office, wrote a letter to Mons. Simolin, the Russian minister in London, informing him, that his majesty was ready to enter into a negociation for the purpose of setting on foot a treaty of peace, on the terms and conditions of that which was agreed to in 1674 between his majesty and the republic of Holland; and that, in order to facilitate such a treaty, he was willing to give immediate orders for a suspension of hostilities, if the States-general were disposed to agree to that measure.

But the states of Holland did not appear inclined to a separate peace; nor perhaps would it have been agreeable to the principles of sound policy, if they had agreed to any proposition of this kind. However, immediately after the change of ministry, negociations for a general peace were commenced at Paris. Mr Grenville was invested with full powers to treat with all the parties at war; and was also directed to propose the independency of the 13 United Provinces of America, in the first instance, instead of making it a condition of a general treaty. Admiral Digby and General Carleton were

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were also directed to acquaint the American congress with the pacific views of the British court, and with the offer that was made to acknowledge the independence of the United States.

681 Death of the marquis of Rockingham occasions new changes in the ministry.

But before this work of pacification had made any considerable progress, the new ministry sustained an irreparable loss by the death of the marquis of Rockingham in July 1782. Even before this event, considerable apprehensions were entertained of their want of union; but the death of the nobleman just mentioned occasioned an absolute dissolution. The earl of Shelburne, who succeeded him as first lord of the treasury, proved so disagreeable to some of his colleagues, that Mr Fox, Lord John Cavendish, Mr Burke, Mr Frederick Montague, and two or three others, instantly resigned their places. Others, however, though little attached to the earl, kept their places; and his lordship found means to attach to his interest Mr William Pitt, son to the late earl of Chatham. Though then in an early stage of life, that gentleman had distinguished himself greatly in parliament, and was now prevailed upon to accept the office of chancellor. The seceding members of the cabinet were at pains to explain their motives to the house for taking this step. These were in general a suspicion that matters would be managed differently from the plan they had proposed while in office, and particularly that American independence would not be allowed: but this was positively denied at the time; and with truth, as appeared by the event. There appeared indeed a duplicity in the conduct of the earl of Shelburne not easily to be accounted for. Even after it had been intimated by General Carleton and Admiral Digby, that the independence of the United Provinces should be granted by his majesty in the first instance, instead of making it a condition of a provisional treaty, his lordship expressed himself to the following purpose: "He had formerly been, and still was, of opinion, that whenever the independence of America was acknowledged by the British parliament, the sun of England's glory was set for ever. This had been the opinion of Lord Chatham and other able statesmen; nevertheless, as the majority of the cabinet were of a contrary opinion, he acquiesced in the measure, though his ideas were different. He did not wish to see England's sun set for ever, but looked for a spark to be left which might light us up a new day. He wished to God that he had been deputed to congress, that he might plead the cause of America as well as Britain. He was convinced that the liberties of the former were gone as soon as the independence of the states was allowed: and he concluded his speech with observing, that he was not afraid of his expressions being repeated in America; there being great numbers there who were of the same opinion with him, and perceived ruin and independence linked together."

682 Strange speech of Lord Shelburne on American independence.

683 Gives occasion to the Americans to rail against Britain.

If his lordship really was of opinion that his oratorial powers were able to persuade the Americans out of a system for which they had fought so desperately for a number of years, it is much to be feared he overrated them. No obstruction, however, arose to the general pacification. As early as November 30. 1782, the articles of a provisional treaty were settled between Britain and America *. By these it was stipulated, that the people of the United States should continue to enjoy, without molestation, the right to take fish of every kind on the grand bank, and on all the other banks of Newfoundland; and that they should likewise exercise and continue the same privilege in the gulf of St Lawrence, and at every other place in the sea, where the inhabitants used heretofore to fish. The inhabitants of the United States were likewise to have the liberty to take fish of every kind on such part of the coasts of Newfoundland as British seamen shall resort to; but not to cure or dry them on that island. They were also to possess the privilege of fishing on the coasts, bays, and creeks of the other dominions of his Britannic majesty in America; and the American fishermen were permitted to cure and dry fish in any of the unsettled bays, harbours, and creeks of Nova Scotia, Magdalen islands, and Labrador. But it was agreed, that, after such places should be settled, this right could not be legally put in practice without the consent of the inhabitants and proprietors of the ground. It was accorded, that creditors upon either side should meet with no impediment in the prosecution of their claims. It was contracted, that the congress should earnestly recommend it to the legislatures of the respective states, to provide for the restitution of all estates and properties which had been confiscated, belonging to real British subjects, and of the estates and properties of persons resident in districts in the possession of his majesty's arms, and who had not borne arms against the United States. It was resolved, that persons of any other description should have free liberty to go to any part whatsoever of any of the thirteen united states, and remain in it for twelve months unmolested in their endeavours to recover such of their estates, rights, and properties, as might not have been confiscated; and it was concerted that the congress should earnestly recommend to the several states a revision of all acts or laws regarding the premisses, so as to render them perfectly consistent, not only with justice and equity, but with that spirit of conciliation which, on the return of the blessing of peace, should universally prevail. It was understood that no future confiscations should be made, nor prosecutions commenced against any person, or body of men, on account of the part which he or they had taken in the present war; and that those who might be in confinement on such a charge, at the time of the ratification of the treaty in America, should be immediately set at liberty. It was concluded that there should be a firm and perpetual peace between his Britannic majesty and the United States; that all hostilities by sea and land should immediately cease; and that prisoners on both sides should be set at liberty. It was determined that his Britannic majesty should expeditiously, and without committing destruction of any sort, withdraw all his armies, garrisons, and fleets, from every port, place, and harbour, of the United States. The navigation of the river Mississippi, from its source to the ocean, was to remain for ever free and open to the subjects of Great Britain and the citizens of the United States. In fine, it was agreed in the event, that if any place or territory belonging to Great Britain, or to the United States, should be conquered by the arms of either before the arrival of the provisional articles in America, it should be restored without compensation or difficulty.

In the treaty between Great Britain and France, it was

* See *America*.

Britain.

684 Articles the provisional ty with America

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Britain.

685 Preliminary articles with France;

was agreed that Newfoundland should remain with England, as before the commencement of the war; and to prevent disputes about boundaries, it was accorded that the French fishery should begin from Cape St John on the eastern side, and going round by the north, should have for its boundary Cape Ray on the western side. The islands of St Pierre and Miquelon, which had been taken in September 1778, were ceded in full right to France. The French were to continue to fish in the gulf of St Lawrence, conformably to the fifth article of the treaty of Paris. The king of Great Britain was to restore to France the island of St Lucia, and to cede and guarantee to her that of Tobago. The king of France was to surrender to Great Britain the islands of Grenada and the Grenadines, St Vincent, Dominica, St Christopher's, Nevis, and Montserrat. The river of Senegal and its dependencies, with the forts of St Louis, Podor, Galam, Arguin, and Portendice, were to be given to France; and the island of Goree was to be restored to it. Fort James and the river Gambia were guaranteed to his Britannic majesty; and the gum trade was to remain in the same condition as before the commencement of hostilities. The king of Great Britain was to restore to his most Christian majesty all the establishments which belonged to him at the breaking out of the war on the coast of Orixa and in Bengal, with the liberty to surround Chandernagore with a ditch for draining the waters; and became engaged to secure to the subjects of France in that part of India, and on the coasts of Orixa, Coromandel, and Malabar, a safe, free, and independent trade, either as private traders, or under the direction of a company. Pondicherry, as well as Karical, was to be rendered back to France; and his Britannic majesty was to give as a dependency round Pondicherry the two districts of Valanour and Bahour; and as a dependency round Karical, the four contiguous Magans. The French were again to enter into the possession of Mahe, and of the cemptoir at Surat. The allies of France and Great Britain were to be invited to accede to the present pacification; and the term of four months was to be allowed them, for the purpose of making their decision. In the event of their aversion from peace, no assistance on either side was to be given to them. Great Britain renounced every claim with respect to Dunkirk. Commissioners were to be appointed respectively by the two nations to inquire into the state of their commerce, and to concert new arrangements of trade on the footing of mutual convenience. All conquests on either side, in any part of the world whatsoever, not mentioned or alluded to in the present treaty, were to be restored without difficulty, and without requiring compensation. It was determined that the king of Great Britain should order the evacuation of the islands of St Pierre and Miquelon, three months after the ratification of the preliminary treaty, and that, if possible, before the expiration of the same period, he should relinquish all connexion with St Lucia in the West Indies, and Goree in Africa. It was stipulated in like manner, that his Britannic majesty should at the end of three months after the ratification of the treaty, or sooner, enter into the possession of the islands of Grenada and the Grenadines, St Vincent, Dominica, St Christopher's, Nevis, and Montserrat. France was to be put into possession of the towns and comptoirs which were to be restored to her in the East Indies, and of the territories which were to serve as dependencies round Pondicherry and round Karical, six months after the ratification of the definitive treaty; and at the termination of the same term she was to restore the towns and districts which her arms might have taken from the English or their allies in that quarter of the globe. The prisoners upon each side were reciprocally to be surrendered, and without ransom, upon the ratification of the treaty, and on paying the debts they might have contracted during their captivity. Each crown was respectively to reimburse the sums which had been advanced for the maintenance of their prisoners by the country where they had been detained, according to attested and authentic vouchers. With a view to prevent every dispute and complaint on account of prizes which might be made at sea after the signing of the preliminary articles, it was mutually settled and understood that the vessels and effects which might be taken in the Channel, and in the North seas, after the space of twelve days, to be computed from the ratification of the present preliminary articles, were to be restored upon each side; that the term should be one month from the Channel and the North seas, as far as the Canary islands inclusively, whether in the ocean or the Mediterranean; two months from the Canary islands as far as the equinoctial line or equator; and lastly, five months without exception in all other parts of the world.

Britain.

These preliminary articles of peace were concluded at Versailles on the 20th of January 1783, between Mr Alleyne Fitzherbert, minister plenipotentiary on the part of his Britannic majesty, and Charles Gravier, comte de Vergennes, the minister plenipotentiary on the part of the king of France. At the same time the preliminary articles of peace between Great Britain and Spain were also concluded at Versailles between Mr Fitzherbert and the comte d'Aranda, the minister plenipotentiary for the Spanish monarch. It was agreed that a sincere friendship should be re-established between his Britannic majesty and his Catholic majesty, their kingdoms, states, and subjects, by sea and land, in all parts of the world. His Catholic majesty was to keep the island of Minorca; and was to retain West Florida. East Florida was to be ceded to him by the king of Great Britain. Eighteen months from the date of the ratification of the definitive treaty were to be allowed to the subjects of the latter who had settled in the island of Minorca and in the two Floridas, to sell their estates, to recover their debts, and to transport their persons and effects, without being restrained upon account of their religion, or on any other pretence whatsoever, except that of debts and prosecutions for crimes. His Britannic majesty was, at the same time, to have the power to cause all the effects that might belong to him in East Florida, whether artillery or others, to be carried away. The liberty of cutting logwood, in a district of which the boundaries were to be ascertained, without molestation or disturbance of any kind whatsoever, was permitted to Great Britain. The king of Spain was to restore the islands of Providence and the Bahamas, without exception, in the condition in which they were when they were conquered by his arms. All other conquests of territories

686 with Spain.

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Britain.

tories and countries upon either side, not included in the present articles, were to be mutually restored without difficulty or compensation. The epoch for the restitutions to be made, and for the evacuations to take place, the regulations for the release of prisoners, and for the cessation of captures, were exactly the same as those which have already been related, as stipulated in the preliminary articles with France.

687 The peace vehemently condemned.

No sooner were these articles ratified and laid before parliament, than the most vehement declamations against ministry took place. Never had the administration of Lord North himself been arraigned with more asperity of language. The ministry defended themselves with great resolution; but found it impossible to avoid the censure of parliament. An address without any amendment was indeed carried in the house of lords by 72 to 59; but in the lower house it was lost by 224 to 208. On the 21st of February, some resolutions were moved in the house of commons by Lord George Cavendish, of which the most remarkable were, that the concessions made by Britain were greater than its adversaries had a right to expect; and that the house would take the case of the American loyalists into consideration. The last motion indeed his lordship consented to wave; but all the rest were carried against ministry by 207 to 190. These proceedings, however, could make no alteration with regard to the treaty, which had already been ratified by all the contending powers, the Dutch only excepted. The terms offered them were a renewal of the treaty of 1674: which, though the most advantageous they could possibly expect, were positively refused at that time. Afterwards they made an offer to accept the terms they had formerly refused; but the compliment was then returned by a refusal on the part of Britain. When the preliminary articles were settled with the courts of France and Spain, a suspension of arms took place with Holland also; but though the definitive arrangements with the other powers were finally concluded by the month of September, it was not till then that the preliminary articles were settled with Holland. The terms were a general restitution of all places taken on both sides during the war, excepting only the settlement of Negapatnam in the East Indies, which was to remain in the hands of Britain, unless an equivalent was given on the part of Holland. The navigation of the eastern seas was to remain free and unmolested to all the British shipping. The other articles concerned only the exchange of prisoners and such other matters as are common to all treaties.

688 Peace concluded with the Dutch.

689 Event of the war more favourable to Britain than to her enemies.

Thus an end was put to the most dangerous war in which Britain was ever engaged; and in which, notwithstanding the powerful combination against her, she still remained in a state of superiority to all her enemies. At that time, and ever since, it has appeared, how much the politicians were mistaken who imagined that the prosperity of Britain depended in a great measure on her colonies: Though for a number of years she had not only been deprived of these colonies, but opposed by them with all their force; though attacked at the same time by three of the greatest powers in Europe, and looked upon with an invidious eye by all the rest; the damage done to her enemies still greatly exceeded that she had received. Their trade by sea was almost ruined; and on comparing the loss of ships on both sides, the balance in favour of Britain was 28 ships of the line and 37 frigates, carrying in all near 2000 guns. Notwithstanding this, however, the state of the nation appears to have been really such, that a much longer continuance of the war would have been impracticable. In the debates, which were kept up with the greatest violence on account of the peace, Mr Pitt set forth our situation with great energy and strength of argument. "It was in vain (he said) to boast of the strength of our navy; we had not more than 100 sail of the line: but the fleets of France and Spain amounted nearly to 140 ships of the line. A destination of 72 ships of the line was to have acted against Jamaica. Admiral Pigot had only 46 sail to support it; and it was a favourite maxim of many members of the house, that defensive war must terminate in certain ruin. It was not possible that Admiral Pigot could have acted offensively against the islands of the enemy; for Lord Rodney, when flushed with victory, did not dare to attack them. Would Admiral Pigot have recovered by arms what the ministers had regained by negociation? With a superior fleet against him, and in its sight, is it to be conceived that he could have retaken Grenada, Dominica, St Christopher's, Nevis, and Montserrat? On the contrary, is it not more than probable that the campaign in the West Indies must have terminated in the loss of Jamaica?

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690 Mr Pitt's account of the state of the nation at the conclusion of the peace.

"In the east, it was true that the services of Sir Edward Hughes had been highly extolled; but he could only be commended for a merely defensive resistance. Victory seemed to be out of the question; and he had not been able to prevent the disembarkation of a powerful European armament which had joined itself to Hyder Ally, and threatened the desolation of the Carnatic*. At home and in our own seas, the fleets of the enemy would have been nearly double to ours. We might have seized the intervals of their cruize, and paraded the channel for a few weeks; but that parade would have only served to disgrace us. It was yet the only achievement in our power; for to have hazarded an engagement would have been equivalent to a surrender of the kingdom.

* See *Infra*.

"Neither, in his opinion, was the state of our army to be considered as formidable. New levies could not be raised in a depopulated country. We might send upon an offensive scheme five or six thousand men; and what expectation could be excited by a force of this kind? To have withdrawn troops from America was a critical game. There were no transports in which they might be embarked; and if it had been possible to embark them, in what miraculous manner were they to be protected against the fleets of the enemy.

"As to our finances, they were melancholy. Let the immense extent of our debts be weighed; let our resources be considered; and let us then ask, what would have been the consequence of the protraction of the war? It would have endangered the bankruptcy of the public faith; and this bankruptcy, it is obvious, if it had come upon us, might have dissolved all the ties of government, and have operated to the general ruin.

"To accept the peace on the terms already related, or to continue the war, was the only alternative in the power of ministers. Such was the *ultimatum* of France. At the same time, however, it ought to be remembered,

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ed, that the peace obtained was better than could have been expected from the lowness of our condition. We had acknowledged the American independence; but what was that but an empty form? We had ceded Florida; but had we not obtained the islands of Providence and the Bahamas? We had granted an extent of fishery on the coast of Newfoundland; but had we not established an exclusive right to the most valuable banks? We had restored St Lucia, and given up Tobago; but had we not regained Grenada, Dominica, St Christopher's, Nevis, and Montserrat? And had we not rescued Jamaica from inevitable danger? In Africa we had given Goree; but Goree was the grave of our countrymen; and we had secured Fort James and the river Gambia, the best and the most healthy settlement. In Europe we had relinquished Minorca; but Minorca is not tenable in war, and in peace it must be supported at a ruinous expence. We had permitted the reparation of the port of Dunkirk; but Dunkirk could only be an object when ships of a far inferior draught to the present were in use; the change in the operations of naval war had taken away its importance. In the East Indies cessions had been made; but let it be remarked that these cessions are inconsiderable in themselves, and could not be protected by us in the event of hostilities. In fine, it was objected that we had abandoned the unhappy loyalists to their implacable enemies. What is this but to impute to congress by anticipation a violence which common decency forbids us to expect? But let it be considered, that the principle of assisting these unfortunate men would not have justified ministers to have continued the war. And let it be considered, that a continuation of the war would not have procured them any certain indemnity. The accumulation of our distresses must have added to theirs. A year or two hence, harder terms of peace might have been forced upon our acceptance. Their fate then must have been desperate indeed! But as matters were now situated, there were hopes of mercy and reconciliation."

Having thus given as full an account as our limits would allow of the great national events to the conclusion of the peace in 1783, we shall now give a detail of some others, which, though of sufficient importance to deserve notice, could not be previously inserted without interrupting the narrative. It has repeatedly been observed, that through the violence of parties, a general temper of distrust and suspicion took place throughout the nation, insomuch that the most improbable stories with respect to individuals began to gain credit, of which an instance was given in the case of Mr Sayre. From certain circumstances, however, it appeared, that there undoubtedly were persons in the kingdom who wished if possible to destroy the national strength in such a manner as to render it impossible for us to make head against the attempts of our enemies. On the 8th of December 1776, a fire broke out in the ropehouse of the dockyard at Portsmouth, which totally consumed it, but without doing any very material damage. For some time the affair passed as an accident; but in clearing away the rubbish, a tin-box was found with a wooden bottom, containing matches which had been lighted, and underneath was a vessel with spirits of wine: however, the fire not having been properly supplied with air, had extinguished of itself before it touched the spirit of wine. Had it catched fire, all the stores in the storehouse, sufficient to rig out 50 sail of men of war, would have been destroyed. In the beginning of the year 1777, a fire happened at Bristol, which consumed six or seven warehouses; and by the finding of machines similar to those already mentioned, it was evident that the fire had not been accidental. The terror of the public was now greatly increased, and the most violent accusations against each other were thrown out by the ministerial and popular parties. On this point, however, they soon came to a right understanding, by the discovery of the author of all this mischief. This was one James Aiken, *alias* John the Painter, a native of Edinburgh. Having been from his early years accustomed to a vagrant life, to which indeed his profession naturally led him, he had gone through many different adventures. He had enlisted as a soldier, deserted, and when pinched by want, made no scruple of betaking himself to the highway, or committing thefts. Having traversed a great part of America, he there imbibed the prejudices against Britain to such a degree, that he at last took the extraordinary resolution of singly overturning the whole power of the nation. This he was to accomplish by setting on fire the dockyards at Portsmouth and Plymouth, and afterwards the principal trading towns of the nation. With this view, he inspected with the utmost care those docks and other places on which his attempts were to be made, in order to learn with what care they were guarded. This he found in general as negligent as he could wish: and indeed had he not been some way or other very deficient in the construction of his machines, he must certainly have done a great deal of mischief; for as his attempts were always discovered by finding his machines, it was apparent that he had met with abundance of opportunities.

For some time the affair at Portsmouth passed, as has already been mentioned, for an accident. It was soon recollected, however, that a person had been seen loitering about the rope-house, and had even been locked up one night in it; that he had worked as a painter, and taken frequent opportunities of getting into that house, &c. These circumstances exciting a suspicion that he was the incendiary, he was traced to different places, and at last found in a prison, to which he had been committed for a burglary. On his examination, however, he behaved with such assurance and apparent consciousness of innocence, as almost disconcerted those who were authorized to examine him. At last he was deceived into a confession by another painter, a native of America, who pretended to compassionate his case. Thus evidence was procured against him, but he still maintained his character to the very last; rejecting and invalidating the testimony of his false friend, on account of his baseness and treachery. He received his sentence with great fortitude; but at length not only confessed his guilt, but left some directions for preventing the dock-yards and magazines from being exposed to the like danger in time to come.

Thus it appeared that the whole of this alarm of treason and American incendiaries was owing to the political enthusiasm of a wretched vagabond. Still, however, it appeared that the French court were very well

691 A general distrust and suspicion of treachery prevailed during the war.

692 Heightened by a fire at Portsmouth,

693 and at Bristol.

694 The incendiary discovered.

695 He is apprehended, tried, and executed.

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well acquainted with many particulars relating to the state of this kingdom, and the movements of our squadrons, which ought by all means to have been kept secret. These treacherous proceedings were first detected in the month of June 1780. One Ratcliffe, master of a cutter, gave information that he had been hired by one Mr Rogere to carry packets to France, for which he was to be paid 20l. each time, and to have 100l. besides at a certain period. Apprehending at last, however, that he might incur some danger by continuing this employment, he gave information of what was going on to one Mr Steward, a merchant at Sandwich, by whom his last packet was carried to the secretary of state. After being opened and sealed up again, it was returned, and he was directed to carry it to France as formerly. This was the fate of several succeeding packets, though it was some time before Ratcliffe saw the principal party concerned. At last this was accomplished by his complaining to Mr Rogere that he had not been paid the 100l. according to promise. A meeting being thus procured, it was found that the person who gave intelligence to the enemy was one M. Henry de la Motte, a French gentleman then residing in London. On searching his house, no papers of any consequence were found; but on his arrival, he being absent when the messengers first arrived, he threw some out of his pockets, unperceived by any body, as he thought. The papers, however, were taken up by the messengers, and gave plain indications not only of a treasonable correspondence with the enemy, but that he was connected with one Henry Lutterloch, Esq. a German, who then resided at Wickham near Portsmouth. This person being also apprehended, not only made a full discovery of the treasonable correspondence with France, but gave abundant proofs of himself being one of the most depraved and hardened of all mankind, lost to every sensation excepting the desire of accumulating wealth. His evidence, however, and other strong circumstances, were sufficient to convict M. de la Motte, who was accordingly executed, though the king remitted that dreadful part of his sentence, of having his heart taken out alive, &c. During his trial, and on every other occasion, he behaved in such a manner as showed him to be an accomplished gentleman; and not only excited the compassion, but the admiration of every one who saw him.

696 Intelligence treacherously conveyed from Britain to the French court.

697 La Motte, a Frenchman, apprehended for high treason.

698 He is executed.

During the whole course of the war, only one other person was detected in any act of treason; and he appears to have been actuated merely by mercenary motives, though La Motte and John the Painter probably acted from principle. This was one David Tyrie, a native of Edinburgh. Having been bred in the mercantile line, and engaged in a number of speculations with a view to gain money, in all of which he discovered considerable abilities, he at last engaged in the dangerous one of conveying intelligence to the French of the ships of war fitted out in Britain, the time of their sailing, &c. For this he was apprehended in February 1782. The discovery was made by means of one Mrs Askew, who passed for his wife, having delivered a bundle of papers in a hurry to a schoolmistress, and desiring her not to show them to any body. Instead of this, however, she not only inspected them herself, but showed them to another, by whom they were sent to the secretary at war. By this, and another packet discovered by William James, who had been employed to carry it to France, Tyrie was convicted and executed in the month of August 1782. He behaved with great resolution, and at the last showed rather an indecent levity and unconcern, by laughing at the place of execution. The sentence not only took place in the dreadful manner appointed by law, but the crowd behaved with the most shameful and unexampled barbarity. "Such (say the accounts of his execution) being the *singular conduct* of many who were near the body, that happy was he who could procure a finger, or some vestige of the criminal!"—This unhappy man, while in prison, had, with his companions, contrived a method of effecting their escape, by working through a brick wall three feet thick, and covering the hole with a plank coloured like the bricks; but the scheme was discovered by the imprudence of Tyrie himself asking the keeper how thick the wall was.

699 David Tyrie a Scotsman, apprehended, tried, and executed for corresponding with the French.

700 Barbarity of the crowd who attended his execution.

On the whole, it appears that notwithstanding the excessive altercation and virulence of parties, which even went to such a length as to produce duels between some members of parliament, neither the one nor the other entertained any designs against what they believed to be the true interest of the nation. The one seems to have regarded its honour too much, and been inclined to sacrifice even its existence to that favourite notion: the other perhaps regarded the national honour too little; as indeed no advantageous idea could have been formed of the spirit of the nation which could submit to the dismemberment of its empire without any struggle. The event, however, has shown, that the loss of the colonies, so far from being a disadvantage, has been the very reverse. The commerce of Britain, instead of being dependent on America, has arrived at a much greater height than ever, while the consequent increase of wealth enabled the nation to support that enormous debt, great part of which has been contracted, first in defending, and then attempting to conquer the colonies.

701 Present flourishing state of Great Britain.

Returning here to our narrative, it has been already remarked, that in the debates in the house of commons upon the treaties concluded under Lord Shelburne's administration, by which the American war was brought to a close, the terms of those treaties were disapproved of by the majority of the house, and this disapprobation was expressed by carrying an amendment to the ministerial motion for an address of thanks to his majesty. It does not appear, however, that the nation at large disapproved of the conditions of the peace. All ranks of men had long been weary of the war with the American colonies, and were willing to relinquish every claim of sovereignty over them. This point being decided, other objects of negociation were of too diminutive value to excite any great degree of public interest. The majority which now voted against administration, consisted of men brought together by views little connected with the accomplishment of any patriotic object, and in a manner which well merits the attention of the historian.

702 The narrative resumed.

703 Nature of the opposition to Lord Shelburne's administration.

The death of the marquis of Rockingham left in a very disjointed state the party which opposed the American war. Lord Shelburne's administration appears to have been formed under the influence of the crown alone,

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alone, to the exclusion of Lord North and his friends, as well as of Mr Fox and the other principal members of the former opposition. Thus an attempt appears to have been made to govern the kingdom without supporting the royal prerogative by the strength of any faction or political party. Here, however, an event occurred of a nature undoubtedly not a little dangerous to the constitution; but which, being new in itself, seems not to have been foreseen by speculative writers upon the British government.

704 mportance quired Lord orth and s adhe- nts.

The American war was conducted with a profusion of expence totally unexampled in former wars. The service of government became of itself an immense object of trade, or an employment in which thousands of all kinds of artists, manufacturers, and merchants, were engaged. The patronage enjoyed by the minister for the time was proportionally extensive. In consequence of this circumstance, he and his friends, and a long train of their friends and dependents, were enabled to accumulate great wealth, and rose to the enjoyment of influence in all parts of the country. The impracticability of accomplishing the great object of the war at last led to its termination; and the minister who had been unsuccessful in conducting it was dismissed, as had usually been done upon such occasions in Britain, to make way for his antagonists, who had long recommended, and who could, therefore, with a better grace, adopt measures of pacification. But the dismission of the minister and his friends from their official situations, did not at once destroy their political importance in the state. They constituted a very formidable body of men in both houses of parliament; and such was the influence which the possession of power had conferred upon Lord North, that to the latest period of his life he was understood to be able to carry along with him, at all times, upwards of 40 votes in the house of commons. Such a power was evidently of a very dangerous nature, to be attached to a subject of a free state; and so indeed it proved to be.

705 k's party spair of tting in- power their n ength.

Mr Fox, and the other gentlemen who had led the opposition to Lord North's measures during the American war, but who had retired from administration on the accession of Lord Shelburne to the place of first lord of the treasury, after the death of the marquis of Rockingham, appear to have at last become weary of an unprofitable opposition, and to have become eager, upon almost any terms, to enter into the enjoyment of power. This passion had probably been augmented in their minds by the short gratification of it under the marquis of Rockingham. But the party, though possessing very great talents, was too weak, in point of numbers, to be able to contend against the minister of the day, supported by the whole patronage of the crown. On the other hand, though Lord North and his friends formed in both houses of parliament a very formidable phalanx, still they also were too few to contend against ministerial influence, and what were in these days usually called the *king's friends*. From the natural course of things they might also expect that their numbers would gradually diminish. They had risen by attaching themselves to the service of the state; and the changes which mortality produces, would, by degrees, enable the existing government to supplant them by a new race of ambitious men.

In this state of affairs, the national business, exposed to the strict inspection of rival factions, could not fail to have been well conducted under the legitimate authority of the ministers of the crown; but such an experiment was not suffered to be tried. The two opposition parties, led by Lord North and Mr Fox, thought fit to come to an agreement to unite their strength, which would enable them to form a complete majority in parliament, and thus to impose themselves upon the sovereign, as the only men whom he could have the power of employing as his ministers. In this way the majority was produced which opposed Lord Shelburne's administration, and it has been since known under the appellation of the *coalition*.

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706 Coalition of Lord North and Mr Fox.

The effect produced upon the public mind by this coalition was extremely important; and it is probable, that even at the end of twenty years its consequences are not entirely understood. In almost any other country than Britain, and at many former periods of our history, such a combination of powerful men, possessing a predominance in the legislature, could not have failed to prove fatal to the constitution, and destructive of the internal tranquillity of the state. If the king gave way to such an aristocratical combination, and received its leaders into his service, it was to be feared, that by putting into their hands the whole patronage of the crown, together with the authority of the royal name, added to the majority which they already possessed in the rest of the legislature, they would speedily find means to fortify themselves by new institutions and laws, which would render them independent both of the king and people. No hope appeared from a dissolution of parliament, as the public at large were not at once aware of the critical situation into which the constitution had been brought by the coalition. A prince of a rash character, would, in such circumstances, perhaps, have seen no other resource for the protection of his own prerogative, than an attempt to govern without a parliament, the majority of which were evidently acting not the part of dutiful subjects or faithful representatives of the people, but of individuals conspiring to seize for their own private advantage, the emoluments and authority of office.

707 Dangerous tendency of the coalition.

This judgment will not be regarded as too severe, when it is considered, that at this time no pretext for opposition to the crown existed, founded upon any complaint of the nation against the abuse of its prerogatives; and that the individuals who now united could not be induced to do so upon any footing of political principle. Lord North, the steady assertor and supporter of the royal prerogative, and the conductor of the American war, now joined Mr Fox, the opponent of that war, and the eloquent champion of the privileges of the people. Neither of these men, nor their friends, pretended that they had relinquished their former opinions. The purpose of the present union was therefore notorious. The outrageous abuse with which they had formerly treated each other, served only to afford a new example how completely ambition is capable of subduing every resentment, and all the ordinary passions of the human mind.

The party now called the *coalition*, had displayed the superiority of their numbers in the house of commons in the debates upon the treaty of peace in the middle of February. From that period, it was considered as obvi-

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Britain. ous, that a new administration must be formed. Hence from that time public business remained at a stand, and the nation was kept in suspense. The period was critical, on account of the termination of the war, at which great bodies of troops and seamen were to be discharged, and many pecuniary arrears paid off. The different regiments of militia were at this time disembodied, and sailors and soldiers dismissed in a state of turbulence, natural to men accustomed to arms, whose pay is not correctly paid. These and other circumstances, joined with the unsettled state of the government, produced various disorderly proceedings at Portsmouth, Plymouth, and other places. In the mean time, a loan could not be negociated by the ministry while they wanted the countenance of the house of commons. They still, however, during the whole month of March, lingered in their places, and a variety of negociations were carried on by the court for the purpose of attempting to form a new ministry, without an unconditional transfer of the government of the kingdom to the coalition. Confident of their own strength, however, this combination of men were desirous of attaining power upon their own terms, and continued to display their superiority in the house of commons, with a view to force their own reception at court. On the 24th of March, on the motion of Mr T. W. Coke, which was seconded by Lord Surrey, an address was voted, requesting his majesty to take into consideration the distracted state of the empire after an exhausting war, and to comply with the wishes of the house, by forming an administration entitled to the confidence of his people. His majesty answered, that it was his earnest desire to do every thing in his power to comply with the wishes of his faithful commons. The delay, however, continued, and all descriptions of men were involved in doubt, suspense, and anxiety. On the 31st of the same month, on the motion of Lord Surrey, a new address was voted, urging in very earnest terms the formation of what was called an "efficient and responsible administration, formed upon principles of strength and stability, suited to the state of his majesty's affairs both at home and abroad." At last, on the 2d of April, his majesty, yielding to what appeared necessity, appointed an administration consisting of the leaders of the coalition. The duke of Portland was promoted to be first lord of the treasury; Lord North and Mr Fox were appointed principal secretaries of state; Lord John Cavendish was made chancellor of the exchequer; Lord Keppel was made first lord of the admiralty; Lord Stormont was created president of the council, and the earl of Carlisle was advanced to be keeper of the privy-seal. These formed the cabinet; and the other offices of government were filled by their supporters and friends. The right honourable Charles Townshend was appointed treasurer of the navy; Mr Burke paymaster general of the forces; Lord Viscount Townshend was made master-general of the ordnance. The seals were put in commission: At the head of the commission was Lord Loughborough. The right honourable Richard Fitzpatrick was appointed secretary at war; James Wallace, Esq. was made attorney-general; John Lee, Esq. solicitor-general; the earl of Northington was appointed lord-lieutenant of Ireland; and, in Scotland, the honourable Henry Erskine was made lord-advocate, in the room of Mr Henry Dundas.

1782 Coalition ministry.

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The new administration was no sooner installed, than an opposition to it was formed, which, in the house of lords, was led by the duke of Richmond and Lord Thurlow; and in the house of commons by Mr Pitt, and Mr Jenkinson, afterwards created, at different times, Lord Hawkesbury and earl of Liverpool.

1782 Opposition to the coalition ministry.

The new administration, on entering into office, were under the necessity of instantly negociating a loan of twelve millions, to supply the necessities of the state. To provide for the interest of this loan various taxes were proposed by Lord John Cavendish, the chancellor of the exchequer. These were imposed on bills of exchange, receipts, probates of wills and legacies, bonds, and law proceedings, stage coaches, quack medicines, carriages, letters-patent, &c.; registers of births, marriages, and deaths, were also taxed. These taxes gave rise to debates which produced little interest. The case was otherwise, however, with regard to another subject in which Mr Pitt took the lead.

1782 Taxes.

Towards the close of the American war, when want of success had begun to render it unpopular, it had repeatedly been urged both in parliament and in various publications, that the ministerial majorities in favour of the measures pursued against the colonies, would never have existed if the people of this country had been fairly represented in the house of commons. By degrees this sentiment attracted attention; and to give countenance to a parliamentary reform, came to be regarded as a sure step towards the attainment of popular favour. Accordingly, Mr Pitt, then a very young man, thought fit to endeavour to recommend himself to notice, by engaging eagerly in the pursuit of this object. He opened the subject in the house of commons on the 7th of May, with an eloquent speech, in which, after declaring his admiration of the general fabric of the British constitution, and that he wished not to alter but to restore its true spirit, which time and changes, accident and events, had enfeebled and diminished, he asserted, that the state of parliamentary representation was partial and inadequate, the progress of undue influence alarming and ominous; that the true spirit of liberty had decayed, and that the powers of controul, in different branches of the government, were debilitated: that wild speculations of reform were afloat without doors; but that he was about to propose the most moderate and safe, but necessary measures: He stated his plan of reform under three resolutions: 1. That measures ought to be taken to prevent bribery and expence at elections. 2. That for the future, when the majority of voters of any borough should be convicted of notorious corruption, the borough should be disfranchised; and the minority of votes, not so convicted, should be entitled to vote for the county in which the borough might be situated. Lastly, That an addition ought to be made to the representation, to consist of knights of the shire, and of representatives of the metropolis. Mr Pitt was opposed with much earnestness by Lords North and Mulgrave, and also by Mr Powis. He was supported, however, by Mr Fox and Mr Beaufoy, and also by Mr Thomas Pitt, who offered, as a testimony of his sincerity, to make

1782 Mr Pitt's motion for a reform in parliament

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make a voluntary sacrifice of his borough of Old Sarum. Mr Henry Dundas, who now attached himself to Mr Pitt, supported on this occasion the motion of his friend, and asserted, that to comply with the wishes of the people, would be the happiest means of putting an end to their complaints. Mr Pitt's resolutions were lost by a majority of 293 to 149.

712 ish independence ill.

During the same session, the new administration brought forward a bill, admitting in express terms the exclusive rights and absolute supremacy of the parliament and courts of Ireland, in matters of legislation and judicature; and for preventing any writs of error or appeal from the courts of that country to the courts of Great Britain. The bill passed with little opposition. It tended at the time to gratify the people of Ireland, though, by increasing the line of separation between the countries, it placed them in greater hazard of disunion, an event which could not be intended by government, and which therefore seems to show, that this administration had formed no plan for establishing the connection between the two countries on a permanent basis. An act was passed during the same session for regulating the future commercial intercourse of Great Britain and America. This act, however, appears to have been merely intended as a temporary measure till a commercial treaty could take place.

713 Mr Dundas's India ill.

Mr Dundas, during the present session, obtained leave to bring into parliament a bill for regulating the affairs of India. The chief features of his plan consisted of subjecting the presidencies of Madras and Bombay, to a controuling jurisdiction, to be granted to the government of Bengal. This last government he wished to establish in the person of a governor, who should be entitled to act when he thought fit, in opposition to the opinion of his council. Another object of his bill was to secure to the native proprietors their estates in perpetuity, on payment of a fixed tribute, and to extend these provisions to the nabob of Arcot and the rajah of Tanjore. Mr Dundas justified the necessity of this statute, in consequence of the improper conduct and tyranny of the servants of the East India Company, and especially of their principal servant Mr Hastings, whom he proposed to recal, and to send out to India Lord Cornwallis, as governor-general, in his stead. The scheme, however, proved abortive, but it led to other legislative efforts upon the same subject.

714 Mr Pitt's office-reform bill.

Though Mr Pitt had been unsuccessful in his proposal to reform the representation of the people in parliament; he did not fail immediately to bring forward a bill containing the project of an inferior species of reform, that of the fees, gratuities, and perquisites in the different departments of the public offices. The object of it was economy, for the purpose of enabling the nation to support the debt incurred in supporting the late war. The bill passed through the house of commons, but was rejected in the house of lords.

715 Petition of the American loyalists.

Towards the close of the session, a petition from the American loyalists was presented to the house of commons by Lord John Cavendish, in consequence of his majesty's command. It stated, that the petitioners, some of whom were men of the first character, fortune, and consequence, having adhered to Great Britain in the late contest with the colonies, had been attainted in N. America as traitors, and their effects confiscated by the legislatures of the different states. Many of the petitioners were widows and orphans, who had lost husbands and fathers, in consequence of their adherence to the British cause, others were military and civil officers, clergy or other professional men, who had lost their means of subsistence in the same manner. They prayed the house of commons to grant them such relief as might seem adequate to their circumstances. Accordingly, upon the motion of the chancellor of the exchequer, an act was passed appointing commissioners to inquire into the circumstances of such persons as were reduced to distress by the late dissensions in America.

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716 Establishment of the prince of Wales.

On the 23d of June, a message from his majesty requested assistance towards making a separate establishment for the prince of Wales. Sixty thousand pounds only were demanded for this purpose; and it was stated by the minister of finance, Lord John Cavendish, that his majesty intended to allow the prince 50,000l. a-year out of the civil list, without requiring from the public any farther assistance than the above sum of 60,000l. which would be requisite to defray the extraordinary expence attending a new establishment. This last sum was more readily granted, because rumours had gone abroad, which were alluded to by Mr Pitt in the house of commons, that an intention had existed on the part of the administration, particularly of Mr Fox, to give the prince a very splendid establishment at the public expence; but that this proposal was not acceptable to his majesty. Mr Fox said, that he undoubtedly considered the proposed establishment as too low; that if it had remained with him to have advised an establishment, he would most assuredly have proposed a sum more adequate to the object in view. The person, however, most proper to decide in the business, had been of an opinion very different, and it was his duty to submit.

717 Recess. State of the nation.

Parliament was speedily thereafter prorogued. The nation was now in a state of tranquillity. Some anxiety, however, existed in the minds of men with regard to the public welfare. The load of public debt which had been incurred seemed excessive. Though commerce began to flow into new and extensive channels, the returns of trade necessarily required some time to exhibit themselves in the form of a flourishing revenue. In the interval, therefore, between the period at which the ministerial expenditure for the support of the war ceased, and that at which the first profits of foreign trade were received, a considerable shortcoming took place in the public revenue, and individuals experienced many difficulties. These, however, gradually passed away.

718 New inventions.

Two inventions were, by degrees, brought to perfection, which of themselves brought a profit to the public, almost equivalent to the burdens to which it had submitted in consequence of the American war. These were the machine for spinning cotton, the invention of a man, originally of low rank (Arkwright), and the valuable kinds of pottery contrived by Mr Wedgwood. The first of these, by producing at a cheap rate the most beautiful cotton fabrics, put an end in a great measure to the use of silk, and gave to the British manufactures a kind of monopoly of many of the most useful articles of clothing; while the other not only drew to the nation immense sums from foreign countries, but from the bulky nature of the commodity, employed an immense tonnage of shipping in its exportation.

In the mean time, men had leisure to reflect upon the

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the nature of the coalition of political parties, which had recently taken place. The tendency of that measure, and the possible evils which might result from it, did not at once present themselves to the minds of men, because it was not known to the public at large, that the sovereign had felt his own independence affected by the event. The general sentiment, however, was that of indignation against the political parties, who had so far forgotten all the principles which they had so long and loudly professed, as to be capable of uniting with each other, for the sake of power or private emolument. It was universally said that no honesty was to be found among political men, and that no profession of patriotism ought henceforth to be trusted. Thus a severe wound was inflicted upon the public morals of the nation, by the want of consistency which its most conspicuous characters had exhibited. The wound was the more deep, in consequence of the apparent strength of administration, which included in itself the men of greatest political influence in the kingdom, who were considered as likely long to retain the power which they now possessed.

719 Sentiments of the public concerning the coalition.

720 Meeting of parliament, Nov. 1783.

In this state of affairs, parliament assembled on the 11th of November. In the speech from the throne, the necessity of providing for the security of the revenue, and of attending to the situation of the East India Company, were stated to both houses, as apologies for calling them together after so short a recess. After some days past in discussions relative to different parts of the revenue, Mr Secretary Fox moved for leave to bring in two bills relative to the affairs of the East India Company. By the first of these bills, it was proposed to take from the East India Company the whole administration of their territorial and commercial affairs, and to vest it in seven directors named in the bill; viz. Earl Fitzwilliam, the right honourable Frederick Montague, Lord Viscount Lewisham, the honourable George Augustus North, Sir Gilbert Elliot, Sir Henry Fletcher, and Robert Gregory, Esq. These directors, or commissioners, were to hold their office during four years, not to be removable by his majesty, without an address of either house of parliament. The directors were to be assisted by a board consisting of nine assistant directors, who were to be removable by five of the principal directors. The directors were to have full authority over all the company's servants and affairs, civil or military. The second bill, which accompanied the first in all its stages, was intended to regulate the administration of affairs in India. It forbade the exchange, acquisition, or invasion of any territory in India, by the general council, or any presidency there. It abolished all monopolies in India; prohibited the acceptance of presents, and made them recoverable by any person for his sole benefit. It secured an estate by inheritance to the native landholders, and provided against the alteration or increase of rents. It prohibited the molestation of princes subject to the company, and restrained the company's servants from collecting or farming their revenues, or having any pecuniary transactions with them. It prescribed a mode for adjusting the disputes between the nabob of Arcot, and the rajah of Tanjore, and between them and their British creditors. It disqualified the agents of the company, or of any protected Indian prince, from sitting in the British house of commons, and directed all offences against the act to be prosecuted in the courts of India, or in the court of king's bench.

721 Mr Fox's India bills.

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The East India Company's affairs had hitherto been governed in terms of the charters of the company, by a court of proprietors, and a court of directors, elected by the proprietors. The rights of these courts, however, were thus to be absolutely taken away, and their whole powers, or the sovereignty of British India, was to be vested during four years certain in the hands of seven individuals, nominated by the present administration, through the medium of their parliamentary majority. It was undoubtedly a bold measure openly to assault the privileges of such a body of men as the East India Company; but it was still more new and singular under the British constitution, in the form in which it had existed for more than a century, to vest a large portion of the executive power, including the command of armies, and an immense pecuniary patronage, in the hands of a few individuals, who were to hold their places for a fixed period, independent of the will of the crown. It was immediately said, that by taking possession in this manner of the patronage of Hindostan, the present administration had found means to render themselves for a certain time avowedly independent of their sovereign, and that they would not fail to renew their own powers at the end of that period. They were represented as not scrupulous in the measures adopted by them, to accomplish this object of their ambition, seeing they treated with contempt, what has always been accounted extremely sacred in England, the chartered privileges of an incorporation.

It is to be observed, however, that the present administration had in some degree been led by circumstances, which previously occurred, and which did not originate with them, to adopt some decisive measures for reducing India under better management than that in which it had been placed under the care of the East India Company. Of these it will not be improper here to take a short review.

723 Circumstances which gave rise to Mr Fox's bill.

The circumstance of a great and wealthy empire, having been vanquished by a company of merchants was a thing so new in the history of the world, that it could not fail to be attended with a variety of inconveniences. The European nations have a near resemblance to each other in laws, manners, arts, and religion. The mutual jealousy, which for some centuries they had been accustomed to entertain of each other, had prevented any of them from making great conquests. When any power happened to acquire an addition of territory, this addition was never very great; and the laws of neighbouring states being nearly alike, the conquered province scarcely experienced any misfortune from a change of masters. Hence the evils attending upon great conquests, had ceased to be known among the nations of Europe. The conquerors and the conquered, being in all cases men of similar characters and talents, easily mingled with each other. The nobles of Alsace were as well received at the court of France, as those belonging to the ancient dominions of that crown; and the natives of the Netherlands regarded with much indifference their transition from the dominion of Spain, to that of Austria and of France. But when the British made conquests in Hindostan, all the evils occurred

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Britain. ned which naturally attend the loss of national independence, and that most wretched of all states of human affairs, in which a race of strangers enjoys permanent dominion, while the natives of a country are subjected to hopeless depression and slavery. The British invaders of India undoubtedly possessed, or speedily acquired, the same rapacity with other conquerors; and as they were the servants of a company of merchants, whose only principle of exertion is profit, it is probable that under them avarice and extortion assumed more vexatious forms, because accompanied with greater assiduity and a more persevering temper than could be exhibited by the former conquerors of that country, who issued from the deserts of Tartary and Arabia. The people of Great Britain, accustomed at home to the mildest of all governments, and to the most equitable administration of justice that the world ever saw, heard with horror of the crimes, the robberies, the perfidies, and the massacres which their countrymen had committed, and by which their national name and character had been rendered odious in the east. The British government being no party to these crimes, wished to see them remedied, and very naturally supposed, that the best remedy would consist of taking India under its own immediate management. Some public-spirited men dreaded the accession of influence which the crown would thus necessarily acquire. Men of humanity, however, were willing to encounter considerable hazard, for the sake of altering the unjustifiable mode of management, which was admitted to exist in the east.

Early in the year 1781, two committees were appointed by the house of commons, to inquire into the mal-administration of the East India Company's affairs both at home and abroad. All parties in the house appear to have concurred in these measures. The first, which was styled a select committee, was directed to take into consideration the state of the administration of justice, in the provinces of Bengal, Bahar, and Orixa, and how the British possessions in the East Indies might be held and governed with the greatest advantage to this country, and happiness to the native inhabitants. The business of this committee was conducted by some of the most distinguished members of opposition. The second was a secret committee, under the management of persons in the confidence of administration. It was directed to inquire into the causes of the war in the Carnatic, and the condition of the British possessions in those parts.

724 Report of the secret committee on India affairs.

On the 9th of April 1782, Mr Henry Dundas, then lord advocate of Scotland, and chairman of the secret committee, moved that the reports of that committee should be referred to a committee of the whole house. On this occasion, Mr Dundas, in a speech which lasted nearly three hours, enumerated the causes of the calamities of the east, particularly the departure of the company's presidencies from the line of policy prescribed to them, of avoiding military operations with a view to conquest; the corrupt interference of their servants in the domestic and national quarrels of the country powers; their breaches of faith and disregard of treaties; their peculation and scandalous oppression of the natives; together with the criminal relaxation which prevailed on the part of the directors at home in the exercise of their controlling power over their servants, and their ready connivance at the grossest misconduct. Instances of all these were given by Mr Dundas, and he inferred the necessity of legislative interposition for the purpose of punishing delinquents, and to take the power out of those hands in which it had been so grossly abused. Britain.

725 Sir Thomas Rumbold and Mr Hastings accused by Mr Dundas.

At the same time Mr Dundas brought forward a variety of other resolutions, which were adopted by the house, and which criminated in strong terms the late governor of Madras, Sir Thomas Rumbold, and Mr Hastings, then governor-general of Bengal. Among various other charges, it was stated in the resolutions, that Sir Thomas Rumbold had remitted to Europe, between the 8th of February 1778 (the day of his arrival at Madras), and the beginning of August in the same year, the sum of 41,000l. and during the two subsequent years, a farther sum of 119,000l. the whole amounting to 160,000l. although his salary did not exceed 13,335l. per annum, and he had no other fair means of acquiring wealth. He was charged with having abolished the committees, instituted to superintend the payment of the revenue due by the zemindars, or natives holding lands under the company, and with having compelled those zemindars to travel many hundred miles, to negotiate separately with himself, the terms on which they were to be allowed to hold their estates. He was charged with having suffered his private secretary to receive a bribe of no less than 20,000l.; with having concealed other peculations of the company's servants; with having given a lease of lands to the nabob of Arcot, in direct disobedience to the company's orders; and with having violated the most solemn treaties, entered into with the nizam of the Decan. In consequence of these, and other accusations contained in the resolutions moved by Mr Dundas, leave was given to bring in a bill of pains and penalties against Sir Thomas Rumbold, and two of his associates, Peter Perry and John Whitehill, for breaches of public trust and high crimes and misdemeanours; at the same time, an act was passed, restraining those persons from leaving the kingdom, obliging a discovery of their property, and preventing its alienation. Sir Thomas Rumbold was heard by council at great length in his defence, so that nothing could be done during the short period that remained of the session 1782. The unsettled state of public affairs prevented much attention from being given to the subject, till the middle of the session 1783. The variety of accusations rendered a very minute defence necessary, to which the members gradually became somewhat remiss in giving attention. At last, on the 1st of July, a motion was made, and carried, for adjourning the further consideration of the bill till the 1st of October, by which means the whole proceeding fell to the ground. Sir Thomas Rumbold appears to have been willing to accept of indemnity without acquittal, and Mr Dundas never afterwards thought fit to revive the discussion.

In other resolutions brought forward on the 15th of April 1782, Mr Dundas stated a variety of accusations against Warren Hastings, Esq. and Mr Hornsby, and prevailed with the house to adopt a resolution, declaring it to be the duty of the directors of the East India Company to recal the governor-general, and Mr Hornsby the president, from their respective offices. Accordingly, the court of directors issued orders for this purpose; but these were appealed from, to a court

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Britain. of proprietors, who, on the 31st of October 1782, prohibited the court of directors from complying with the resolution of the house of commons: the result was, that Mr Hastings retained his office, and Mr Dundas, in the following session of parliament, brought forward the bill which we have already mentioned, but which was not enacted into a law.

726 Report of the select committee.

At the same time that Mr Dundas, as chairman of the ministerial or secret committee, brought forward the resolutions already mentioned, the select committee, which chiefly consisted of members of opposition, presented their report; and on the 18th of April 1782, General Smith, their chairman, proposed various resolutions, in some of which Mr Hastings was criminated along with Sir Elijah Impey, chief justice of the supreme court of Bengal. It is understood that by means of investigations, which they carried on in this last committee, the leading members of opposition, particularly Mr Fox and Mr Burke, qualified themselves for directing at a future period the attention of the legislature, and of the public, to the state of Indian affairs.

727 Of the East India Company.

Mr Fox made use of his knowledge to bring forward the two important bills already mentioned, which proposed to vest the management of the whole affairs in India, for behoof of the proprietors or stockholders, in seven commissioners to be named by parliament. To justify this strong measure, it was alleged, that, by the mismanagement of the courts of directors and proprietors, the affairs of the company had been brought into a state of extreme embarrassment.

728 Arguments by which Mr Fox supported the bills.

But the argument chiefly rested upon consisted of the enormous abuses committed under the company's government in India, which rendered it absolutely necessary to vest the administration in other hands. These abuses were arranged under three heads, as they affected, 1st, The independent powers of India; 2dly, The states in alliance with us; and 3dly, Our own territorial possessions.

Under the first class were ranged the extravagant projects and expensive wars entered into by the company to extend their dominions; their violations of treaty; the sale of their assistance in support of the ambition, rapacity, and cruelty of others; and the betraying in his turn every prince, without exception, with whom they had formed any connexion in India. The second class of abuses comprehended the corrupt and ruinous interference of the company in the internal government of the princes dependent on them; the unjust exaction of exorbitant aids and tribute; the enormous peculations of the company's civil servants, and the rapacity of the military.

With respect to the management of the countries under the immediate dominion of the company, it was asserted by Mr Fox, and the supporters of administration, that the general system of their conduct in India was directed to a single end, the transmission of wealth from that country to this. With this view, at one time, monopolies had been established, not only of every article of trade, but even of the necessaries of life. At another period the privilege of pre-emption was secured to the company, and these were followed by a variety of no less ruinous arbitrary preferences. By this oppressive conduct the merchants and bankers of India, many of whom in extent of trade and credit, were scarcely equalled by those of the first class in Europe, being disabled from all undertakings of magnitude, fell gradually into decay, whilst the native cultivators and manufacturers were obliged to accept of a bare sufficiency for their maintenance, measured out to them by the judgment of those who were to profit by their labour. But this was not the worst; for, in the progress of these destructive measures, the oppressions and cruelties used by those to whom the execution of them was committed went far beyond the extent of the original evil. The servants of the company adopting, as might naturally be expected, the principles of their employers; extended the practice of them to their own private purposes; and, to complete the mischief, they found themselves under the necessity of supporting the injuries done to the natives for their selfish ends, by new injuries done in favour of those before whom they were to account. Britain

The case of the zemindars, and of the renters under them, was, if possible, still more deplorable. At the time we obtained the dewanee, or stewardship, from the Mogul, the provinces of Bengal and Bahar had been laid waste by a famine, that had carried off upwards of one-third of their inhabitants. The first thing done for their relief was to exact from the remaining part of the inhabitants the same tribute that had before been paid by the whole. The country daily declining, and the distress occasioned by this rapacious conduct threatening the loss of the object for the sake of which it had been adopted, the company's government in India had proceeded to perhaps one of the most arbitrary, the most unjust, and most cruel acts of power recorded in history. They had set up to public auction the whole landed interest of Bengal, without the least regard to the rights of private property, or even a preference being given to the ancient possessors. The zemindars, most of them persons of ancient families and respectable fortunes, were under the necessity either of bidding against every temporary adventurer and desperate schemer, or of seeing their estates transferred or delivered up to the management of strangers. The lowest and most knavish jobbers entered into their patrimonial lands; and the banyan or black steward of the governor-general, in particular, was found after this auction to be in possession of farms amounting to the annual value of upwards of 130,000l.

These sufferings of the natives under our dominion in India were greatly aggravated by their being almost wholly excluded from any share in the expenditures of the company's government. All the principal collections of the revenue, all the honourable and the lucrative situations in the army, all the supplies and contracts of every kind, were solely in the hands of the English. So that the natives, with very few exceptions, were only employed as the servants or agents of Europeans, in subordinate stations in the army, and in the inferior department of collection, where it was impossible to proceed a step without their assistance.

It was further urged, that the present government of India was not in its nature capable of reform. Nothing could be expected from the court of proprietors or stockholders, because the members, as individuals, derived more profit from giving support to Indian delinquents, than they could ever hope to receive from the

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Britain. the fair dividends of the company. The court of directors, being a representative body, naturally partook of the imperfection of its constituents. The influence of delinquent servants in India equally domineered there, and from the same causes, as in the court of proprietors. The interest that a director possessed from his qualification in the company's profits did not exceed 160l. a-year; but the support he could thereby lend to an obnoxious servant abroad might be turned to much better account, by being repaid with a share of the boundless plunder of the east. It was stated, that the son of a person who had been for some time the chairman of that court, before he was in Bengal two months, sold the grant of a single contract for 40,000l.

Upon these and other topics, Mr Fox was supported by the highest efforts of the splendid eloquence of Mr Burke. This last gentleman pointed out a few of the many lines of difference which were to be found between the vices of the company's government and those of the conquerors who preceded us in India. The several irruptions of Arabs, Tartars, and Persians, had been, for the greater part, wasteful in the extreme: our entrance into the dominion had been with small comparative effusion of blood, and was less effected by open force than by various frauds and delusions. But the difference in favour of the first conquerors was this; the Asiatic conquerors had soon abated of their ferocity, because they made the conquered country their own. Fathers there deposited the hopes of their posterity, and children there beheld the monuments of their fathers. Poverty, sterility, and desolation, were not a recreating prospect to the eye of man, and few there were that could bear to grow old among the curses of a whole people. If their passion or their avarice drove the Tartar lords to acts of rapacity or tyranny, there had been time enough in the short life of man to repair the desolations of war by the arts of magnificence and peace. But under the English government all this order was reversed. Our conquest there, after 20 years, was as cruel as it had been the first day. The natives scarcely knew what it was to see the gray head of an Englishman. Young men (boys almost) governed there, without society and without sympathy with the natives. They had no more social habits with the people than if they still resided in England, nor indeed any species of intercourse but that which was necessary to the making a sudden fortune with a view to a remote settlement. Animated with all the avarice of age, and all the impetuosity of youth, they rolled in one after another, wave after wave; and there was nothing before the eyes of the natives but an endless hopeless prospect of new flights of birds of prey and passage, with appetites continually renewing for a food that was continually wasting. Every rupee of profit made by an Englishman, was lost for ever to India. With us were no retributory superstitions, by which a foundation of charity compensated for ages, to the poor, for the rapine and injustice of a day. With us no pride erected stately monuments, which repaired the mischiefs pride had produced, and adorned a country out of its own spoils. England had erected no churches, no hospitals, no palaces, no schools; England had built no bridges, made no high roads, cut no navigations, dug no reservoirs. Every other conqueror of every other description had left some monument, either of state or of beneficence, behind him. Were we to be driven out of India this day, nothing would remain to tell, that it had been possessed, during the inglorious period of our dominion, by any thing better than the ouran-outang or the tyger. Britain.

729 Arguments against Mr Fox's bills.

In opposition to all this, Mr William Pitt contended, that although India undoubtedly wanted reform, the alteration to be adopted ought to be constitutional, and not such as in its principle endangered the safety of every chartered incorporation in the kingdom. The India company's charter was not the result of the mad prodigality of a Plantagenet, a Tudor, or a Stuart, but a fair purchase deliberately made from parliament, which could not be violated without a gross disregard to public faith. He asserted, that by vesting the whole patronage of India in commissioners nominally appointed by parliament, but actually selected by administration, the influence of the crown would be augmented to a degree that would enable it, like an irresistible torrent, utterly to overpower and sweep away the remaining liberties of our country. On the other hand, Mr Dundas said, he did not object to the measure under consideration, because it increased the influence of the crown, but because it did what was much worse, it placed a new and unexampled influence in the hands of the minister and his party for five years, which would be independent both of the crown and of parliament. A fourth estate was about to be created in the realm of the most alarming nature, which in its progress might overturn the crown and subvert the British constitution.

730 The bills opposed by many independent members.

On this occasion the bills were attacked not merely by those persons who might be supposed to aspire to supplant ministers in their offices, but also by several country gentlemen of independent characters and high reputation for integrity. They said they had once regarded Mr Fox with the fondest admiration. They reminded him of his conduct when a leader of opposition, the perseverance, the animation, and the ardour of his efforts, which rendered it impossible to hear him without conviction, or to doubt the singleness of his zeal, and the sincerity of his reprobation. They declared they had expected from him the establishment of our liberties upon the most permanent basis; but that they must ever regard the connexion he had formed with Lord North, against whom his efforts had been so well and so successfully directed, as an instance of political defection and apostasy that would admit of no defence; they had augured every thing unhappy and tremendous from that moment, and the measure of that day proved their apprehensions to have been well founded; it was big with corruption and misfortune: in consequence of it the crown would be no longer worth wearing, and it was impossible that the man who had brought it forward could ever hereafter be trusted as the minister of this country.

The ordinary members of opposition also attacked Mr Fox's motives on this occasion in very pointed terms. It appeared, they said, that nothing could satisfy his inordinate ambition short of a perpetual dictatorship. They professed to perceive in him many respectable qualities; but they could by no means consent to see him exalted upon the ruins of the constitu-

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Britain. tion. "He would be crowned. How that might change his nature, there's the question." This idea was placed in a great variety of lights, and illustrated by comparisons borrowed from Cæsar, from Cromwell, and from Catiline. It was said, that he was prepared to sacrifice the king, the parliament, and the people, at the shrine of a party; and that he desired to elevate his present connexions to a situation in which no political convulsions, and no shiftings of power, might be able to destroy their importance and put an end to their ascendancy.

731 Enumeration of the principal speakers.

The bills were supported by various speakers, among whom were the two secretaries of state, Mr Burke, Mr Sheridan, Mr Erskine, Mr Lee, Mr Adam, Sir Grey Cooper, Mr Anstruther, Mr Courteney, Mr Rigby, Lord Maitland, and Sir Henry Fletcher. They were opposed by Mr William Pitt, Mr Thomas Pitt, Mr Jenkinson, Mr Powis, Mr Dundas, Mr Macdonald, Sir James Lowther, Mr Duncombe, Mr Martin, the marquis of Graham, Mr Arden, Mr William Grenville, Mr Beaufoy, Mr Wilberforce, Lord Mulgrave, and Mr Wilkes. During the progress of the bills the court of directors of the East India Company were heard against them by counsel; and the mayor and common council of the city of London presented a petition, praying they might not pass into laws. The first bill, however, was carried, first by a majority of 229 to 120, and afterwards on the 8th of December by a division of 208 to 102. On the 9th of December it was presented at the bar of the house of lords by Mr Fox, attended by a great number of members. On the first reading of the bill in the house of lords on the 11th of December, Earl Temple, Lord Thurlow, and the duke of Richmond, expressed their abhorrence of the measure in the most unqualified terms, but without attempting to call a vote of the house. Lord Thurlow, at the same time, pronounced an ample panegyric upon the character and services of Mr Hastings, who, according to his lordship, had established in Bengal a government of such order and energy, that he did not believe it would be in the power of the folly and ignorance of the most favourite clerks Mr Fox's directors could send out, to throw Bengal into confusion in the term that was assigned for the duration of his bill.

732 The first bill carried in the house of commons.

733 The king takes an alarm against the bill.

One of the peculiar advantages attending the British constitution, is the facility with which both prince and people receive political instruction, and are put upon their guard against any invasion of their rights. The parliamentary debates on this occasion being diffused through the nation in the usual way, by periodical publications, excited great interest, and probably produced much alarm in the mind of the sovereign. He had reluctantly given way to the strength of the coalition, and conferred upon its leaders the first offices of the state. He now saw it alleged, with much plausibility, that this combination of ambitious men, not satisfied with the ordinary influence attending their situation, were about to fortify themselves in the possession of power in such a way as might gradually enable them to become independent both of him and his people. The moment seemed therefore to have arrived at which temporizing measures must prove ineffectual, and a stand be made for the support of the royal prerogative. Such at least appear to have been the feelings under which his majesty acted upon this occasion. On the 11th of December he had a conference with Earl Temple, in which he confessed himself completely convinced of the correctness of the views of opposition. It was now late, however, for his majesty to oppose a measure after it had been brought forward by the ministers of the crown, and carried through the house of commons apparently under the sanction of the royal authority. A resolution was, nevertheless, adopted, to endeavour to prevent its farther progress by means of the house of lords, many of the members of which were in habits of personal intimacy with the sovereign, bound, by offices which they held, to attend his person, and might be supposed ready to gratify his wishes, could a sufficient pledge be given, that he had taken a decided part against his own ministers. What personal interviews passed between him and these noblemen is not known; but a card was circulated, understood to be sent by Earl Temple, in consequence of written authority from his majesty, in which it was stated, that "his majesty allowed Earl Temple to say, that whoever voted for the India bill was not only not his friend, but would be considered by him as his enemy. And if these words were not strong enough, Earl Temple might use whatever words he might deem stronger or more to the purpose."

734 Earl Temple intimates his majesty's disapprobation of the bill.

The consequence of this interposition was, that, on the 15th of December, upon a question of adjournment in the house of lords, the ministers were left in a minority of 79 to 87. On the same day Mr Baker brought forward, in the house of commons, a motion to declare, that, to report any opinion of his majesty, upon proceedings depending in parliament, with a view to influence the votes of the members, is a high crime and misdemeanour, and a breach of the fundamental privileges of parliament. The motion was seconded by Lord Maitland, and supported by references to the journals, and by this principle, that advice ought only to be given to the king by his ministers, who are responsible for all the measures of government. Mr William Pitt opposed the motion, as proceeding upon unauthenticated rumours; and asserted that the precedents alluded to in the journals, which had been selected from the *glorious times* of King Charles I. were not applicable to the present case. Mr Pitt concluded with reproaching ministers for basely retaining their offices after it appeared, from their own statement, that they had lost the confidence of the prince. The motion, however, was carried by 153 against 80. As it was feared that a dissolution of parliament would instantly take place, the house resolved, upon the motion of the honourable Thomas Erskine, That they would consider any person as an enemy to his country, who should advise his majesty, in any manner, to interrupt their discharging the important duty of providing a remedy for the abuses which prevailed in the East Indies. They also resolved to form themselves into a committee on the state of the nation on Monday the 22d. In the mean while, on Wednesday the 17th of December, Mr Fox's India bill was rejected in the house of lords, on a division of 95 to 76, and, at 12 o'clock on the night of the 18th, a message was delivered to the secretaries of state, requiring them to transmit to his majesty the seals of their offices, by the under secretaries, as a personal

735 Mr Fox's bill rejected by the lords.

736 Change of ministry.

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sonal interview would be disagreeable. Early the next morning, letters of dismission, signed Temple, were sent to the other members of the cabinet, and a general resignation of offices took place.

A new administration was immediately formed, in which Mr William Pitt was appointed first lord of the treasury and chancellor of the exchequer. The marquis of Caermarthen, and Mr Townshend, who had been created Lord Sidney, were made secretaries of state; Lord Thurlow became lord high-chancellor; the privy-seal was transferred to the duke of Rutland; Earl Gower became president of the council; the duke of Richmond was made master of the ordnance, and Lord Howe first lord of the admiralty; Mr Grenville and Lord Mulgrave were appointed joint-paymasters of the forces, and Mr Henry Dundas, treasurer of the navy. The office of lord advocate of Scotland, which this gentleman had formerly held, was now transferred from the honourable Henry Erskine to Mr Ilay Campbell.

737 Contest between the crown and the house of commons.

A spectacle was now about to be exhibited, which had long been unknown in Britain, that of an administration appointed by the crown, in direct opposition to the house of commons. This, however, was no longer that house of commons which had subdued the royal prerogative, and contended with success against our ablest and most ambitious monarchs. The late coalition had produced throughout the nation a general distrust of the character of those who formed the majority of its members; and it was soon found, that a representative body possesses little power or influence, and may safely be disregarded, when it ceases to render itself the organ of the sentiments of the public. It was expected that an immediate dissolution of parliament would take place; but the change of the highest officers of the crown having been hastily made, it is probable that the new ministry dreaded entering instantly upon the business of an election against the powerful parties coalesced in opposition to them; perhaps also they might wish to observe the effect of the late measures upon the public mind, and act as circumstances should direct. The majority, however, of the house of commons, feared a dissolution; and, on Monday the 22d of December, voted an address to the king, stating the inconveniences to the public credit and the affairs of India, which would attend a prorogation or dissolution of parliament. His majesty returned an answer on the 24th, acquiescing, in general terms, in the sentiments contained in the address, and assuring the house, that after a short adjournment, their meeting would not be interrupted by any prorogation or dissolution. This answer was regarded as ambiguous; and a dissolution was expected to take place immediately after the usual adjournment at Christmas.

When the house met on the 12th of January, Mr Fox attempted to introduce, previous to any other business, the discussion of certain resolutions, which had been prepared by the opposition; while the new ministers endeavoured to be heard first, by means of a stratagem, which consisted of a declaration of Mr Pitt, that he had a message to deliver from the king. After some tumult, Mr Fox was allowed to proceed. He called upon Mr Pitt to give the house satisfactory assurances that no dissolution would take place: but this last gentleman having declined to comply with this requisition, Mr Fox moved, that the house should resolve itself into a committee on the state of the nation. The motion was carried, on a division of 232 to 193. Various resolutions were then carried: 1. That to issue public money after a prorogation or dissolution of parliament, unless an act shall have previously passed, appropriating the supplies to specific services, will be a high crime and misdemeanour; a breach of public trust, derogatory to the privileges of parliament and to the constitution of the country. Accounts of money already issued were ordered, and the farther issuing of any money was prohibited till three days after this account should be presented. It was farther resolved, on the motion of the earl of Surrey, that, in the present state of his majesty's dominions, an administration was necessary that should have the confidence of that house and the public, and that the recent appointments did not engage the confidence of the house. It was lastly resolved, on the motion of Mr Fox, that the second reading of the mutiny bill should be deferred to the 23d of February.

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738 Resolutions of the house of commons against administration.

739 Debates on the resolutions.

Warm debates took place upon these resolutions, in which the most pointed personalities were cast out and retorted from both sides of the house. The coalition was branded, as a corrupt confederacy of two desperate factions to seize upon the government of the country; and the India bill was represented as having been an experiment made by the late secretary of state, with a view, if not to place the crown on his own head, at least to raise himself to a degree of power superior to that of the sovereign. On the other hand, the party composing the new administration was described as a coalition, not indeed of parties, but of the shreds and remnants, of the dregs and outcasts of parties; as a body collected for the purpose of fighting the battles of secret and unconstitutional influence, of trampling on the power and dignity of the house of commons, of establishing a government of cabal, intrigue, and favoritism, and of destroying the very principles of laudable ambition and honourable service in the state.

740 Mr Pitt's bill for regulating India.

On the 14th of January, Mr Pitt obtained leave to bring in a bill for the better government and management of the affairs of the East India Company. By this bill, commissioners were appointed by his majesty, authorized to superintend and controul all operations of the courts of directors and proprietors of the East India Company, relative to the civil and military government or revenues of the territories and possessions of the company. This board of controul was to have access to all papers belonging to the company; and the court of directors was on no pretence to send out orders to India, without the previous approbation of the board, which was also authorized to alter and amend the orders of the directors. His majesty was authorized to name the commanders in chief in India, and to remove any governor, general, or member of the councils, of any British settlement in India; and all nominations by the court of directors to these offices, were declared to be subject to the approbation of his majesty; nor was the court of proprietors allowed, for the future, to revoke any proceeding of the court of directors which had been approved of by his majesty. It was chiefly objected to this bill, that it disfranchised the East India Company or violated their charter no less than Mr Fox's bill.

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bill had done. A meeting of the court of proprietors, however, had passed a vote in favour of the regulations contained in it; but at the second reading of the bill, on the 22d of January, the bill was negatived upon a division of 222 against 214.

741 Mr Pitt's bill rejected.

742 Another resolution of the commons against administration.

The discussion of this bill did not prevent the house of commons, in the mean time, from endeavouring to shake the determination of the court, and to intimidate the new administration. A resolution was moved by Lord Charles Spencer, and carried by a majority of 205 against 184, which declared, in pointed terms, the disapprobation of the house, of the appointment and continuance in office of the present ministers, which they considered as unconstitutional. On various occasions, Mr Pitt was called upon to explain upon what principle he ventured to remain in office after the house of commons had declared him unworthy of their confidence. He answered, that though novel and extraordinary, his conduct was by no means unconstitutional: That the immediate appointment or removal of a minister did not rest with that house. That he neither could nor ought to remain long in such a situation, he was ready to confess; but he was bound to use his own discretion to prevent the consequences that might attend an instant resignation, which might leave the country without an executive government.

743 The public adopt the cause of the new ministry.

In the mean time, the public at large began to be greatly interested in the dispute which had occurred between the king and the house of commons. The common council of London voted an address of thanks to his majesty for the dismission of his late ministers; expressed their approbation of the conduct of the house of lords; and declared their resolution always to support the constitutional exercise of prerogative. This address was almost immediately followed by similar addresses from the merchants and trades of the city of London, and from the city of Norwich. The contagion gradually extended itself from one part of the kingdom to another; addresses poured in from every side, and filled every day's gazette; coming from corporations, from cities, from manufacturing towns, and from counties. Every address served to inspire perseverance and energy into the successful party, and to hasten and render irresistible the event of this extraordinary contest. The coalition made some attempts in the county of Middlesex, in Westminster, and in the great county of York, to turn the tide of addresses in their own favour; but in these instances, if they avoided a defeat, they gained no victory.

744 A new coalition proposed:

In the meanwhile, as if the recent coalition of parties deserved to be considered rather as an example worthy of imitation than as an error to be avoided, a number of independent members of the house of commons attempted to heal the whole of the present breaches, by proposing a new coalition of parties, and the formation of an administration upon a still broader basis than formerly. On the 26th of January, nearly

745 Meeting at the St Alban's tavern.

70 members of the house of commons met at the St Alban's tavern, and signed an address, to be presented by a committee of their body, to the duke of Portland and Mr Pitt, requesting them to communicate with each other, on the arduous state of public affairs, and trusting, that by a liberal intercourse, every impediment might be removed to a cordial co-operation of men of respectable characters, acting on the same public principles. In answer to this address, both parties expressed themselves desirous to comply with the wishes of so respectable a meeting. But the duke of Portland declined any interview with Mr Pitt, for the purpose of union, while that gentleman should continue prime minister in defiance of the resolutions of the house of commons. On the other hand, Mr Pitt declined resigning as a preliminary to negociation.

To co-operate with the St Alban's meeting, one of its members moved, and carried unanimously in the house of commons, a resolution, that the present critical state of public affairs required an efficient, extended, and united administration, entitled to the confidence of the people. A second resolution was carried on a division of 223 against 204, that the continuance of the present ministers in office was an obstacle to forming an efficient, extended, and united administration. On the following day these resolutions were ordered, by a majority of 24, to be laid before his majesty. The meeting at the St Alban's tavern next came to a resolution, which was read to the house of commons, in which they declared, that an administration formed on the total exclusion of the members of the last or present administration would be inadequate to the exigencies of public affairs. Mr Fox declared his wishes for an union, but insisted on the resignation of the chancellor of the exchequer in compliance with the resolutions of the house of commons, as an indispensable preliminary step. Mr Pitt, on the contrary, adhered to his office, and declared, that the house might address the crown for his dismission; but till, in consequence of such a measure, the king should think proper to remove him from his situation, he held it neither illegal nor unconstitutional to retain it, and would not recede from his former determination. He at the same time suggested, that there might be persons on the opposite side of the house with whom he could not act. Lord North understanding himself to be alluded to, declared his readiness to relinquish his pretensions to an official situation, if they should be deemed an obstacle to an union. This self-denying declaration was received with great applause; and Mr Marsham, Mr Powis, and other members of the St Alban's association, in vain called upon Mr Pitt to yield to the pressing exigencies of his country. These gentlemen still continued their efforts; and to remove the difficulty arising from Mr Pitt's refusal to resign in compliance with the resolutions and addresses of the house of commons, or to save the honour of the house upon that subject, they procured the royal interference for the purpose of requesting, that a negociation should be set on foot between the duke of Portland and Mr Pitt. A message was accordingly sent by Mr Pitt, acquainting the duke, that he was commanded to signify to him his majesty's earnest desire that his grace should have a personal conference with Mr Pitt for the purpose of forming a new administration, on a wide basis and on fair and *equal* terms. The duke requested an explanation of the message with regard to the words *equal terms*, but Mr Pitt declined any preliminary discussion. The duke of Portland likewise proposed that he should be permitted to understand that the message implied a virtual resignation by Mr Pitt, or that he himself should receive his majesty's commands personally relative to the conference. Both of these

were

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were refused, and here terminated the efforts of the St Alban's association.

746 r Pitt rsists a- inst the use of mmons refusing resign.

On the 18th of February the chancellor of the exchequer was required in his place in the house of commons, to say, previous to the consideration of the question of supply to the ordnance department, whether any communication was to be expected relative to the resolutions of the house which had recently been laid before the king. He replied that his majesty, after considering all the circumstances of the country, had not thought fit to dismiss his ministers, and that his ministers had not resigned. This produced a warm debate, in which it was observed by Mr Fox, that it was the first instance since the revolution, of a direct denial on the part of the crown, to comply with the wishes of the house of commons, and he threw out a hint that it might be necessary for the house to protect its own authority by refusing to vote the supplies. To allow his majesty's ministers time, however, to consider well their situation, he proposed to defer the report of the ordnance estimate only for two days. The refusal of the supplies was treated by the friends of the new administration as a threat which the utmost madness of faction would not seriously attempt to execute, and which could never be justified by his majesty's refusal to dismiss ministers who had been condemned without a trial. On a division, there appeared for postponing the supplies 208; against it 196. On the 20th of February a new address to the throne for the removal of the ministers was carried by a majority of 21. On the 27th, his majesty's answer was reported by the speaker, in which it was stated that no charge or complaint was suggested against the ministers, nor was any one of them specifically objected to; and, on the other hand, that numbers of his subjects had expressed to his majesty the utmost satisfaction on the change of his councils. This answer was abundantly artful, as it tended to divide the people at large from the house of commons; and, at the same time, to perplex the coalition, who could not accuse the prime minister of any political crime, as he was a young man who had never enjoyed the chief direction of any important affair. A second address to the throne was moved in the house of commons on the 1st of March, and agreed to by a majority of 12, remonstrating against the answer to the former address. His majesty replied in civil terms, but persevered in his resolution to retain his ministers. The opposition now made their last effort. Mr Fox declared that he would not propose what is called an address to the throne, because he wished for no answer; but a humble representation, to which it is not customary to make an answer. This representation consisted of a long remonstrance against what was termed the unconstitutional appointment of an administration in opposition to the wishes of the house of commons. It concluded by stating that the house had done its duty by pointing out the evil, and that the blame and responsibility must henceforth lie wholly upon those who had presumed to advise his majesty to act in contradiction to the uniform maxims which had hitherto governed his own conduct, as well as that of every other prince of his illustrious house. The motion for this representation was carried by a majority of only one vote, that is, by a division of 191 to 190. Here the coalition appear to have felt themselves defeated, and to have finally yielded to their destiny, as they suffered the mutiny bill, which had been their last security against a premature dissolution, to pass in the usual terms.

747 he king peatedly fuses to miss his w mini- ers.

748 epresen- tion by e com- ons.

749 Conduct of the house of lords.

While these contests had been going on in the house of commons, the house of lords was little attended to, and its strength seems to have been as it were exhausted by the extraordinary effort made by it in rejecting Mr Fox's India bill. As its silence during so critical a time was neither calculated to support its own dignity, nor the interest of the minister, an effort was made on the 14th of February to bring it into action. The earl of Effingham moved a resolution expressive of the firm reliance of the house in his majesty's wisdom in the exercise of the prerogative of appointing his own ministers. This, which was meant as a counter resolution to the votes of the commons, passed by a considerable majority after a short debate; and here the house of lords, conscious of the secondary place in point of importance which they held, if not in the constitution, at least in the estimation of the public, appear to have relapsed into their former taciturnity.

750 Dissolution of parliament.

On the 25th of March, parliament was dissolved. In the elections which immediately took place, the new administration were extremely successful. The East India Company and their servants were uncommonly zealous; and the dissenters, a powerful body in England, of a conscientious character and great activity, having regarded with indignation the late coalition as the result of a total disregard of all principle, cast their whole weight into the same scale with the influence of the crown. Upwards of 160 members of the late house of commons lost their seats; and of these, almost the whole number were the friends of the late administration. Thus the defeat of what was looked upon as a most powerful and dangerous combination was completely accomplished, and its leaders were rendered of little importance in the legislature of the empire.

751 Elections.

752 Total defeat of the coalition.

753 Consequences of the coalition

Thus terminated the strength of the celebrated coalition, the fate and effects of which ought never to be forgotten. That fatal measure may be said to have absolutely ruined the fortunes of the honourable Charles Fox, undoubtedly one of the most accomplished statesmen that the British nation ever produced. From that period, he was generally regarded as unfit to be trusted with power; his eloquence ceased to persuade, and his counsels, even when full of wisdom, were regarded with distrust, because his odious coalition with Lord North constantly rose up in remembrance against him, and suggested the strongest suspicions of his integrity, a circumstance which has probably proved on some occasions not less unfortunate to his country than to himself. The same coalition undoubtedly had a tendency to diminish the attachment of the nation to the house of commons, and its confidence in that branch of the constitution. It appeared that a majority of that house might be nothing more than a combination of factious men, aspiring to personal aggrandizement or emolument, and that in certain circumstances it might be necessary for the people at large to arrange themselves behind the throne, to obtain protection against what is undoubtedly one of the worst and most oppressive of all governments, that of a corrupted aristocracy.

754 to Mr Fox.

755 To the nation.

756 New parliament.

On the 18th of May, parliament assembled, and in the

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the speech from the throne, his majesty assured both houses of his satisfaction in meeting them, after recurring in so important a moment to the sense of his people, and of his reliance that they were animated by the same sentiments of loyalty and attachment to the constitution, which had been so fully manifested throughout the kingdom: He directed their attention towards the affairs of the East India Company; but warned them against adopting any measures which might affect the constitution at home; and concluded with expressing his inclination to maintain in their just balance the privileges and rights of every branch in the legislature.

757 East India Company's affairs.

The affairs of the East India Company were speedily brought before parliament. On the 24th of June, a bill was introduced by the chancellor of the exchequer, to allow the company to divide four per cent. on their capital for the half year concluding at midsummer 1784. The necessity of the case was urged to justify this bill to support the credit of the company; and it was alleged, that notwithstanding their present distresses, which were admitted to be great, there existed a sufficient probability that their affairs upon the whole might warrant such a dividend. The bill passed through both houses, and received the royal assent.

758 Mr Pitt's new India bill.

On the 2d of July, Mr Pitt brought forward another bill, which had for its object to allow the company a respite of duties due to the exchequer, to enable them to accept of bills beyond the amount prescribed by former statutes, and to establish the regularity of their future dividends. This act gave rise to various debates, particularly, in consequence of a question put by Mr Philip Francis, how far the honour of parliament would be pledged by this act to enable the East India Company to make payment of the bills accepted by them, in case the funds of the company should prove deficient. Mr Eden also endeavoured to expose the bill, by contrasting the two distinct propositions contained in it; the one for respiting the duties due by the company, and the other for allowing the company to divide eight per cent. He alleged that these propositions could only be justified by being argued separately, and by contending in support of the first, that the company was so poor, that it required every possible assistance, and in support of the other that their affairs were so flourishing that they could well afford to make an enormous dividend. On the contrary, Mr Pitt contended that the company had suffered like the rest of the British empire by the late war, and therefore wanted a temporary relief; but that they were still in the proper sense of the word actually solvent; that the best hope existed of their future prosperity, which rendered the regular payment of their dividends a rational measure, especially as government had just received intelligence of peace being concluded in the East with Tippoo the son of Hyder Ally. This act also passed into a law; and Mr Pitt, still farther to support the East India Company, brought forward a bill to diminish the duty upon tea for the sake of preventing smuggling, and in lieu thereof, to

759 Commutation tax.

substitute what has been called the commutation tax, or a tax upon windows. The amount of the revenue raised from tea was between 700,000l. and 800,000l. and the object of this new act was to proportion it in such a way as to raise upon that article in future no more than 169,000l. which it was supposed would enable the company to sell 13 millions of pounds of tea, instead of five millions and a half. Upon this and the former bills, by which such extensive favours were conferred upon the East India Company, Mr Fox animadverted at different times with great severity; he asserted, that considering the tenor of these bills and the conduct of administration during the whole session, it was palpable that they were wholly under the direction of the East India Company, and that the company were making rapid strides, after having despoiled and enslaved many millions of men in a distant quarter of the globe, to reduce the inhabitants of this island under their sway. The acts passed, however, and received the royal assent. In themselves they were subordinate to the bill for regulating the general management of the affairs of the company. This act, though framed upon the same model with that proposed by Mr Pitt in the last parliament, yet differed from it in several points. The powers of the board of controul were enlarged. In cases of urgency and secrecy, the board were authorized to transmit their own orders to India, without their being subject to the revision of the court of directors. It also vested in the governor-general and council of Bengal, an absolute power over the other presidencies in transactions with the country powers, and in all applications of the revenues and forces in time of war. The receiving of presents was declared to be extortion and disobedience of orders, and all corrupt bargains to be misdemeanours, and punishable as such. The company's servants were required, on their return to England, to lodge in the exchequer a statement upon oath of their whole property. For the effectual punishment of crimes committed in the East Indies, a new court of justice was constituted, consisting of three judges appointed by the three courts, four peers taken by lot from a list of twenty-six, chosen at the commencement of every session of parliament, and six commoners out of a list of forty members chosen in like manner.

Mr Francis opposed in strong terms the general principle of this bill. He said, that by the confession of all parties, the court of directors were too weak to enforce their own orders. To remedy this weakness a clashing power was created, nominal on the part of the directors, real on the part of administration. This he reprobated as injudicious, declaring that mere forms were of no use, and ought not to subsist when a constitution was essentially altered. Mr Fox affirmed, as formerly, that this proposed board of controul violated the privileges of the India Company, no less than the enactment of his bills had done, while it increased in a greater degree the dangerous influence of the crown. He treated with great contempt the new court of judicature, which he said might fairly be called a *bed* of justice, as justice would sleep upon it, and thereby embitter the calamities of India, by removing all fear of punishment. Upon the question whether the bill should be referred to a committee of the whole house, the minister was supported by 276 voices, against 61.

When the bill came to be discussed in the committee, Mr Pitt acted in a manner, which afterwards on many occasions served to distinguish his mode of transacting the national business from that adopted by former ministers.

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Britain. isters. Instead of coming forward like the leader of a party, with a measure complete in all its parts, which was to receive the firm support of his adherents, Mr Pitt not only of himself, proposed some essential alterations, but adopted those suggested by others, whether his friends or his antagonists. In the committee, the power of issuing orders, in the first instance, was limited to the case of the court of directors neglecting to transmit dispatches to the board, after fourteen days notice, upon any subject the board might think it necessary to take up. The directors were also empowered to elect a secret committee of three members, to communicate with the board concerning such orders as the board might of its own authority transmit to India. The appointment of the commander in chief of the army was withdrawn from his majesty, and left with the company, together with the negative upon nominations in general. Mr Dempster and Mr Eden strongly reprobated the inquisitorial spirit of that provision of the bill, by which persons returning from India were required to give an account of their fortunes upon oath. Mr Samuel Smith suggested that merchants in particular should be exempted from this inquisition, and Mr Dundas and Mr Pitt expressed their willingness to admit the alteration; but Lord North having contended that this would make the matter worse, by pointing out to the public a certain class of individuals as subjects of suspicion, Mr Pitt relinquished the whole clause. Mr Pitt himself, also, brought forward some amendments of the constitution of the new tribunal. As the clauses originally stood, the right of accusation rested solely with the attorney-general or the company. Instead of this limitation, authority was given to any other person or persons to move the court of king's bench for an information. This court was also authorized to issue commissions to the courts in India, for the purpose of taking depositions. The directors of the company, and persons returning from India, were now excluded from the judicature that was to be erected. When the various amendments were reported to the house, Mr Sheridan treated the alterations that the bill had undergone with a degree of ridicule, which proved extremely offensive to the minister. He remarked that 21 new clauses were added, which were distinguished by the letters of the alphabet; and he requested some gentleman to suggest three more, to complete the horn-book of the ministry. He said the whole bill was a contention of two parties, the crown and the company, to outrun each other. The company remonstrated against the bill as it originally stood, because orders were to be transmitted to India without their consent. To please them, they were to have a secret committee of three directors; but the company were not a whit nearer their object, for their committee were sworn to secrecy. They might be present at a court of directors, and see measures carrying on diametrically opposite to what they knew had been adopted by the board of controul, without being able to apply any other remedy than a nod, or a wink, or a shake of the head, to intimate that they knew something they dared not to divulge. Mr Fox, again, affirmed with great acrimony that the tendency of the present measures was to sacrifice to the East India Company all that was dear to us, for the corrupt influence and under-hand support of the present administration, and to establish an Indian government of the island of Great Britain. The bill finally passed the house of commons on the 28th of July. In the house of lords it was opposed by Lord Viscount Stormont and the earl of Carlisle, upon principles similar to those upon which it had been resisted in the house of commons; but the minority there was extremely feeble in point of numbers, and the bill passed on the 9th of August, though it was protested against by a few noblemen, as ineffectual in its provisions, unjust in its inquisitorial spirit, and unconstitutional, as abolishing in certain instances the trial by jury.

761 Mr Pitt's bill little noticed by the public.

All this while Mr Pitt's bill was little noticed by the public at large. The popularity of his name was extremely high. The coalition had become so odious, that the ministry by whom it had been superseded, were regarded by the nation with the most implicit confidence, and it was taken for granted that every thing must be safe in their hands. Neither could the most distinguished talents rescue the leaders of opposition from general neglect. This was in a remarkable degree the case with Mr Burke, whose rich, various, and exuberant eloquence, in competition with which all that remains of antiquity falls short, could not now procure from the house of commons even the appearance of attention. Early in July, the chancellor of the exchequer informed the house of commons, that Sir Elijah Impey, chief judge of the supreme court of justice at Bengal, had arrived in England, in consequence of being recalled by his majesty, pursuant to an address of that house. The acute sensibility, or powerful imagination of Mr Burke, had induced him to interest himself greatly in the sufferings of the natives of India under the British government. He now in vain called on the ministry to enforce the resolutions of the house, respecting Sir Elijah Impey, by bringing him to trial. He repeatedly endeavoured to introduce as the subject of deliberation the reports of the committees of the former parliament respecting Indian affairs; but he was either defeated with little reply, by a motion for the order for the day, or overpowered and silenced by the loud and continual clamour of the house.

762 Finance.

During the present session it was found necessary to have recourse to a loan of six millions, to settle the remaining expences of the American war. The naval establishment was at the same time fixed on a higher scale than in former years of peace. The number of seamen and marines was 26,000; but the military force was not large, as it did not exceed 17,500 men for guards and garrisons. Some new taxes were imposed upon linen and cotton manufactures, hats, paper, candles, bricks, postage of letters, horses, hackney-coaches, persons dealing in excisable commodities, and persons engaging in the amusement of shooting game or hunting. These taxes in general met with little opposition.

763 Restoration of Scotish forfeited estates.

The session closed with a motion, brought forward by Mr Dundas, for the restoration of the estates forfeited in Scotland, in the rebellion of 1745, to the descendants or other heirs of the rebels. As this measure had for its object the relief of individuals, whose unequivocal attachment and loyalty to his present majesty, and his family, could not be supposed, even in a less liberal and less enlightened age than the present, to

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Britain. be tainted or affected by the crimes of their ancestors; it met with the perfect approbation of the commons. In the house of lords, however, it was opposed by the lord chancellor Thurlow, both on the ground of its impolicy and partiality. It was impolitic, he said, as far as it rendered nugatory the settled maxim of the British constitution, that treason was a crime of so deep a dye, that nothing was adequate to its punishment but the total eradication of the person, the name, and the family, out of the society which he had attempted to hurt. This was the wisdom, he said, of former times. But if a more enlightened age chose to relax from the established severity, he thought it ought to be done with gravity and deliberation. It was, he said, partial, because the estates forfeited in 1715, and which were forfeited upon the same grounds and principles as those in 1745, were passed over in silence, whilst even a person who had forfeited in 1690, was included in the provision. The bill, however, passed the lords, and received the royal assent.

764 The public amused by aerostatic exhibitions. At this time the British nation enjoyed peace in all quarters of the world. The public attention being no longer excited by national efforts, or the enterprises of any political faction, was easily directed to objects of less importance. Of this nature was a French invention, that of air-balloons or the art of aerostation, which has hitherto proved of more curiosity than utility, but which at this period served greatly to amuse the world. In France, two brothers of the name of Montgolfier, manufacturers of paper, conceived the idea of sending up a bag or balloon full of heated air, and in repeated trials it ascended to a considerable height. M. de Rosier appears to have been the first who, in November 1783, undertook to fly through the air, without having the balloon secured by ropes, in company with the marquis d'Arlandes. Inflammable air, procured from the decomposition of water by means of sulphuric acid and iron filings, or zinc, was next used to fill a balloon made of varnished silk, with which Messrs Charles and Robert ascended, to the astonishment of the people. Vincenzo Lunardi, an Italian, was the first who ventured to gratify the British populace with a similar spectacle. He ascended repeatedly into the atmosphere, from London, Edinburgh, and other places, and on each occasion was carried to considerable distances in the direction of the wind. Various other persons imitated this example, and on the 16th of October of this year, Mr Blanchard, accompanied by Dr Jefferies, ascended, by the aid of a balloon, from Dover, and having soared over the Channel, arrived safely in France. This art, together with the intrepidity of the individuals who practised it, excited much admiration at the time; but the impossibility of giving to the balloon that direction in its progress which the traveller might wish, together with the extraordinary danger attending it, speedily brought it into neglect.

765 Meeting of parliament. Parliament again assembled on the 25th of Jan. 1784. In the speech from the throne, the object particularly recommended to the attention of both houses, was the final adjustment of the commercial intercourse between Great Britain and Ireland. Farther measures to prevent smuggling were recommended, together with attention to the regulation of the public offices of the kingdom. The first business that was taken up, and which was discussed with great warmth, related to the choice of two members of parliament for Westminster, at the late general election. On that occasion Lord Hood, Mr Fox, and Sir Cecil Wray had offered themselves as candidates. Lord Hood easily carried his election, but between the other candidates the contest was carried on with unexampled obstinacy. The engaging manners of Mr Fox, who had for some time represented the city of Westminster in parliament, enabled him at the present period, notwithstanding the general unpopularity of the coalition, to engage with ultimate success in this contest. After the election had continued upwards of six weeks, it was concluded on the 17th May 1784, leaving a majority of 235 votes in favour of Mr Fox. The high bailiff at this time (being the very day previous to the return of the writ for the election) granted, at the request of Sir Cecil Wray, a scrutiny into the votes which he had taken. This mode of proceeding was protested against by Mr Fox and several of the electors. Immediately on the meeting of the new parliament, the conduct of the high bailiff, in granting a scrutiny under the above circumstances, was vehemently attacked by opposition, and no less vehemently defended by administration. The subject was repeatedly brought before the house, by petitions from the parties, and by motions of Mr Fox and his friends; for that gentleman, in the mean time, sat in the house as a member, having been elected under the influence of Sir Thomas Dundas, for a district of boroughs in the north of Scotland. But on a motion of Lord Mulgrave, it was resolved by a considerable majority, "that the high bailiff of Westminster do proceed in the scrutiny with all practicable dispatch." In the beginning of February in the present year, the business was resumed in the house of commons. The scrutiny had continued eight months, and two parishes out of seven had only been scrutinized, so that it was admitted that probably more than two years longer would be necessary to finish the scrutiny. In the mean time, of the votes for Mr Fox 71 had been objected to in the first parish, and the objections had been sustained only against 25; whereas, in the same parish, out of 32 votes for Sir Cecil Wray that had been objected to, 27 were declared inlegal. In the second parish, the scrutiny of which was not finished, Mr Fox had lost 80 voters, and Sir Cecil Wray 60. On the 8th of February, Mr Welbore Ellis moved that a return of the election be immediately made by the high bailiff of Westminster. This motion, together with others which followed it, gave rise to a variety of debates of little importance to general history. At last, on the 3d of March, the motion having been repeated by Mr Sawbridge, it was carried on a division of 162 against 124, and Lord Hood and Mr Fox were returned as members for Westminster.

Britain. 766 Westminster scrutiny.

767 Debts of the nabob of Arcot. On the 18th of February, the attention of the house of commons was called by a motion of Mr Fox to the payment of the debts of the nabob of Arcot. The statute which Mr Pitt had brought forward during the preceding summer, authorized in general terms the court of directors to establish in concert with the nabob, funds for the payment of such of his debts as should appear to be justly due. The court of directors accordingly ordered the council at Madras to investigate these debts; but the board of controul, with some

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some trifling limitation, ordered the whole debts to be paid out of the revenues of the Carnatic. Mr Dundas undertook in the house of commons the defence of the board of controul. He treated with ridicule a declaration made by Mr Francis during the debate, that rumours were abroad, of a collusion between the board of controul and the creditors of 1777. He said it was not the first time that his conduct had been misrepresented. It had been said, just with the same degree of truth, that he had received a very large sum of money from an honourable baronet (Sir Thomas Rumbold) on a particular occasion. He had slept perfectly quiet and serene under the former charge, and he trusted he should preserve his temper equally unruffled under the present accusation. He justified the whole of the nabob of Arcot's debts. One set of debts incurred in 1767 consisted, he said, of money borrowed by the nabob at the rate of from 30 to 36 per cent. interest, to pay off a sum due by the nabob to the company, which was at that time in the utmost distress, and the interest had afterwards been reduced to 10 per cent. The second branch of the nabob's debts had arisen from sums borrowed to pay off his own cavalry, which the company had ordered him to reduce, but which he was unable to dismiss from want of money to pay their arrears. He borrowed this money, and the company engaged its credit for the loan. A third class of debts, incurred or consolidated in 1777, were acknowledged by the nabob to be valid, and were only approved of by the board of controul, subject to his objections, or to objections by the company or the rest of the creditors.

768 Nature of the nabob of Arcot's debts.

769 Mr Burke's objections to the nabob's debts.

Mr Burke, in a speech containing a full investigation of the subject, stated, that, at the establishment of the British power in India, Madras and its dependencies formed one of the most flourishing territories in Asia; but since that time it had so declined, by the annual drain to England of nearly a million sterling, made by private gentlemen, that, in the year 1779, not one merchant of eminence was to be found in the country. Besides this annual accumulation of wealth, transmitted to Europe, it appeared that the nabob had contracted a debt with the company's servants, to the amount of 888,000l. sterling, which, in the year 1767, was settled at an interest of 10 per cent. About the same time the court of directors were further informed, that one million sterling had been lent by British subjects to the merchants of Canton in China; and that this sum bore an interest of 24 per cent. In the year 1777, a second debt of the nabob of Arcot, amounting to 2,400,000l. was settled at 12 per cent. interest; to this was added another debt, called the *Cavalry debt*, of 160,000l. at the same interest. The whole of these four capitals, amounting to 4,440,000l. produced at their several rates, annuities amounting to 623,000l. a-year, more than half of which stood chargeable on the public revenues of the Carnatic. These annuities, equal to the revenues of a kingdom, were possessed by a small number of individuals of no consequence, situation, or profession. Mr Burke admitted that the loan of 1767 was the fairest, as he could convict it of nothing worse than the most enormous usury. The interest at 36 per cent. was first paid, then 25, then 20, and lastly the interest was reduced to 10 per cent.; but that all along the interest had been added to the principal, so that of 888,000l. Mr Burke doubted whether the nabob ever saw 100,000l. in real money. With regard to the cavalry debt, Mr Burke stated the facts to be the following. Instead of ready money, the English money-jobbers engaged to pay the nabob's cavalry in bills payable in four months, for which they were to receive immediately at least one per cent. per month, but probably two, that being the rate generally paid by the nabob; and the receipt of a territorial revenue for that purpose was assigned to them. Instead of four months, it was upwards of two years before the arrears of the cavalry were discharged; and, being during all this time in the constant receipt of the assigned revenue, it is not improbable but that they paid off the nabob's troops with his own money. With respect to the debt of 1777, Mr Burke observed that in different accounts the principal sum rose from 1,300,000l. to 2,400,000l. and that the creditors had never appeared the same in any two lists. In the year 1781, they were satisfied to have 25 per cent. at once struck off from the capital, yet, they were now to obtain payment of the whole. With regard to all these claims, Mr Burke asserted that the nabob and his creditors were not adversaries but collusive parties; that in fact when the nabob of Arcot gave an acknowledgment of debt to an European, he received no money, and did nothing more than endeavour to support his own influence over the servants of the company by receiving them into his pay. Mr Fox's motion for an inquiry into the conduct of the board of controul on this occasion, in supporting these debts, was negatived on a division by 164 against 69. The same motion was made on the same day, with similar success, by the earl of Carlisle, in the house of lords.

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770 Mr Pitt patronizes a parliamentary reform.

Mr Pitt had come into office with the singular good fortune of being highly approved of by the nation at large, while, at the same time, he was selected to support the royal prerogative and authority, against the majority of the house of commons, then possessed by the coalition. It is always difficult for the human mind to set popular approbation at defiance, and the love of it seldom fails to gain strength in the character of those persons by whom it has once been enjoyed. Accordingly it became one of the features of Mr Pitt's conduct, to attempt at all times, if possible, to reconcile the services expected from him by the crown with the pursuit, or at least with the apparent pursuit, of whatever measure happened for the time to be the object of popular applause. The attempt to procure a reform of the representation of the people in the house of commons, was one of these objects. He had formerly engaged in it while acting in opposition; and now, after he had become the first minister of the crown, he still undertook to stand forward as its advocate. Every candid writer of history must be sensible of the defective nature of the details which he is able to give of the causes which produce or regulate the most important occurrences. These are sometimes brought to light in a future age, but on many occasions they remain perpetually unknown. In what way, or in consequence of what explanations, Mr Pitt contrived to retain the confidence of his master, while at the same time he stood forward as the champion of a reform, which nobody imagined acceptable at court, we do not know. It is certain, however, that after Mr Pitt

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Britain. attained to the chief place in the present administration, he still continued to correspond with the leading advocates for parliamentary reform, whose meetings he had been accustomed to attend. In a circular letter to Mr Wyvil, president of a committee of Yorkshire gentlemen, who had embarked in this cause, it was stated that Mr Pitt had given authority to declare "that he would bring forward the subject of a parliamentary reform, as early as possible in the session; that he would support his intended propositions to the utmost of his strength; and that he would exert his whole power and credit, as a man and as a minister, honestly and boldly to carry such a system as should place the constitution on a footing of permanent security." Accordingly, at the commencement of the session, in the debates on the speech from the throne, when the subject was alluded to, Mr Pitt took the opportunity to declare that on this business he laboured incessantly. It was that which of all others was nearest his heart, but at that early period of the session to state his plan specifically was impossible. Much remained to be done, and his ideas were not matured. A reform in parliament comprehended, he said, a great variety of considerations. It related to the essentials and the vitals of the constitution. In this path he was determined to tread, but he knew with what tenderness and circumspection it became him to proceed; and he would request the house to come to the subject, uninfluenced by any of the schemes and hypotheses that had hitherto been suggested.

It was not till the 18th of April, that Mr Pitt called the attention of the house to this important subject. He declared himself aware of the pertinacity he must expect to encounter, in proposing a plan of reform; but he entertained more sanguine hopes of success than formerly, because there never was a moment when the minds of men were more enlightened on this interesting topic, or more prepared for its discussion. He was assiduous to remove the objection of innovation. Anciently, he said, great fluctuations existed in the franchise of election. The number of members had varied, and even the representation of the counties was not uniform. As one borough decayed, and another flourished, the first was abolished, and the second invested with the right. This arose from a maxim, the application of which was entrusted to the crown, that the principal places, and not the decayed boroughs, should be called upon to exercise the right of election. King James I. in his first proclamation for calling a parliament, directed the sheriffs, not to call upon such boroughs to send members, as were so utterly ruined as to be unentitled to contribute their share to the representation of the county. He added, that it was by the treaty of union the number of the members of the house of commons was fixed, and that only from the date of that act was the discretion of the crown upon this point at an end. He said, he was no advocate for a revival of this discretionary power, but that the maxim upon which it was founded ought now to be carried into effect. The outline of his plan was this: To transfer the right of choosing representatives from 36 of such boroughs, as had already fallen, or were falling into decay, to the counties, and to such chief towns and cities as were at present unrepresented: That a fund should be provided, for the purpose of giving to the owners and holders of such boroughs, disfranchised, an appreciated compensation for their property. That the taking this compensation should be a voluntary act of the proprietor, and if not taken at present, should be placed out at compound interest, until it became an *irresistible* bait to such proprietors. He also meant to extend the right of voting for knights of the shire, to copyholders as well as freeholders. He considered one million as a sufficient fund to be established for purchasing the decayed boroughs. Besides the original 36, he intended to purchase the franchise of other boroughs, and to transfer the right of returning members to unrepresented large towns, that should petition parliament for this privilege. Thus, he said, 100 members would be given to the popular interest of the kingdom, and the right of election extended to 100,000 additional persons. It might be said, he observed, that it did not become that house, for chimerical speculations, to involve their constituents in additional burdens; but he trusted, that in a matter so dear and important to Englishmen, they would not be intimidated by the circumstance of the cost. He conceived the purchase to be above all price. It was a thing for which the people of England could not pay too dear. Alluding to the American war, he asked if the nation would have suffered the calamities to which it had lately been exposed, if there had always been a house of commons, the faithful stewards of the interest of their country, the diligent checks on the administration of the finances, the constitutional advisers of the executive branch of the legislature, and the steady and uninfluenced friends of the people of England? Mr Pitt was aware that there was a sort of squeamishness and coyness in that house, in talking of what might be the proper consideration for the purchase of a franchise. Out of doors it was pretty well understood, that men had no great objection to negotiate the sale and the purchase of seats. But he would ask, was it, after all, such an insult to an Englishman, to ask him to sell his invaluable franchise? was there any immorality in receiving a pecuniary consideration for the cession of a valuable benefit to our country?

Mr Fox disapproved of purchasing from a majority of the electors of a borough, the property of the whole, and of holding out pecuniary temptations to an Englishman to relinquish his franchise, though he declared himself a friend to the general principle of a more equitable representation. Mr Wilberforce supported Mr Pitt's proposal, for this reason in particular, that by putting an end to the representation of the decayed boroughs, future dangerous aristocratical coalitions would be prevented. Mr Pitt's proposal was warmly opposed by Mr Powis, who alleged that the people of England had not called for a reform, as there were only eight petitions upon the table; that the business, therefore, in which Mr Pitt had unfortunately engaged himself, was a volunteer crusade, or a piece of political knight-errantry. He denied that the American war was to be imputed to the representatives of boroughs; and made the important remark, that it was only in consequence of the existence of the elective franchise in a few decayed boroughs, that men of talents, like Mr Pitt himself, had an opportunity of being introduced into the service of their country. Lord North likewise opposed all change, as the people were actually contented, happy, and in full possession of their liberties,

1771 Mr Pitt's plan of reform.

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Britain. berties, which rendered it, in his opinion, unnecessary to inquire minutely how they came to enjoy these advantages. Leave to bring in the bill was refused, by a majority of 248 against 174.

772 ances. As the sole object, on account of which the English monarchs anciently assembled their parliaments, was to obtain money from their subjects, so the adjustment of the public expences, and levying adequate supplies, always continue to occupy a large portion of the time of every session of parliament. The prodigal expenditure that had taken place during the late war, still required additional taxes. For this purpose new demands were made upon hawkers and pedlars, and for gloves and other articles. Attornies were taxed, and the duties on male servants and post horses were enlarged. A tax was likewise imposed upon retail shops. This last tax encountered very persevering opposition in parliament, as well as much unpopularity in the nation. It was represented as extremely unfair, because it fell upon a small number of persons of an industrious character. Being levied in proportion to the shop rent, it fell almost exclusively upon the inhabitants of the metropolis; and it was observed, that, unlike other taxes, the members of parliament who imposed it, were in no hazard themselves of paying any part of it. Of all the taxes, however, which were proposed by the minister, none encountered such sarcastic animadversion as that upon maid servants. Mr Pitt was generally understood to be not very remarkable for his attachment to the other sex, and accordingly Mr Sheridan accused him, upon this occasion, of holding out a bounty to bachelors, and a penalty upon propagation. Sir James Johnston and the earl of Surrey expressed themselves with much humanity on the subject, on account of the unprotected situation of that portion of our fellow creatures against whom this tax was directed; and Mr Fox suggested the propriety of avoiding to tax persons employed in works of domestic economy and industry, and of substituting a tax upon bachelors, which was accordingly adopted.

773 e of mond's fica- But the business that excited more attention than any other department of supply, was that of the ordnance. As early as the year 1782, the duke of Richmond had planned a very expensive system of fortifications, for the purpose of protecting the different dock-yards of the kingdom. The idea had originated from the alarms occasioned by the combined fleet during the late war. The works had been for some time carried on, and the sum of 50,000l. annually voted, without much attention being given to the subject. At last, during the present session, Mr Holdsworth, member for Dartmouth, moved, that an account should be laid before the house, of the expences already incurred on fortifications, at Plymouth, Portsmouth, Gosport, Chatham, Dover, and Sheerness, together with a report of the probable expence of completing the fortifications of Portsmouth and Plymouth; and afterwards on the 14th of March, the annual supply of 50,000l. for fortifications was opposed. On this occasion, Captain James Luttrel of the navy defended the duke of Richmond's project, asserting, that such fortifications were necessary to protect not the kingdom at large, for that was not in view, but the principal dock-yards and naval stores, against any sudden invasion. He observed, that veteran troops only could be opposed to veteran troops in the open field; but within forts militia, seamen, and almost any stout, spirited fellow, might be as useful as the most experienced soldier. The possession, for 24 hours, of a situation from which the dock, stores, and shipping, might be assailed with red-hot shot and shells, would be a fatal blow to the navy, and ought to be guarded against, by fortifying the situations in which it might occur. Thus also the navy would not be under the necessity of remaining always at home for the defence of our own ports, but would be enabled to leave them for the purpose of carrying on offensive war. Mr Courteney opposed the projected system of fortification, together with Captain M'Bride, General Burgoyne, and Colonel Barré. This last gentleman contended, that the superiority of our *navy*, which ought always to be supported, rendered it unnecessary for us to have recourse to fortification. He made a general attack upon the duke of Richmond, as inexperienced in war, and as lavishing away money upon an absurd system of fortifications, while he oppressed, by an ill-judged economy, the corps of engineers and artillery, which were the only parts of the army founded in science and professionally learned. He concluded, by proposing, that a council of officers should be consulted on the subject. Mr Pitt defended the duke of Richmond's character, but agreed to this last proposal, of taking the opinion of a council of officers; which put an end to the debate. Britain.

774 Acts for regulating certain public offices. A bill passed for better regulating the office of the treasurer of the navy, without any sort of opposition. Another bill, to which little objection was made, passed, for the better examining the public accounts; but another bill brought forward by Mr Pitt, for the general reform of public offices, met with strenuous opposition. Mr Sheridan asserted, that it was unnecessary, as the treasury possessed full power to make the reforms. He said, that the bill had no important object in view, that it was a mere rat-catching bill, instituted for the purpose of prying into vermin abuses, and Mr Burke following out this argument, contrasted, in strong terms, the trifling economy which was here proposed, with the prodigality of the ministers in their proceedings respecting the revenues of the Carnatic, in the sanction they had given to the pretended debts due by the nabob of Arcot. The bill, however, was supported by Mr Powis and other independent members; and having passed through both houses, received the royal assent. During the first nine years of Mr Pitt's administration, his mode of management in the treasury department, at the head of which he was placed, appears to have been this: He investigated, with as much accuracy as possible, the emoluments of all the servants of government, in the various departments of office throughout the country; and wherever it was possible to do so, he retrenched the allowances of the inferior servants of the state, with considerable severity, leaving, in general, the higher and more conspicuous officers, in the possession of their usual emoluments. He introduced a variety of regulations to prevent smuggling, which he successfully repressed; and he also collected the revenue with remarkable attention and accuracy. In former times, the custom with British ministers usually had been, to impose a considerable number of taxes, and to levy these taxes mildly.

775 Manner in which the revenue was now collected.

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Britain. mildly. If the revenue fell short, it was augmented by more taxes levied in the same negligent way. Thus individuals were never severely treated; and the collection of the revenue bore a character of extreme lenity, for which the minister of the day often suffered, in consequence of the popular odium which he was under the necessity of encountering, by proposing new taxes. But under Mr Pitt's administration, the revenue was collected in every department with greater strictness; and thus he was enabled to obtain large sums of money, without the necessity of imposing many new taxes.

776 Irish propositions. One of the most important efforts of legislation that were made during the present session of parliament, consisted of an attempt by Mr Pitt to establish a plan of commercial union between the two kingdoms of Great Britain and Ireland. This plan was proposed to the Irish house of commons on the 7th of February by Mr Ord. It consisted of ten articles, usually styled the *Irish propositions*. They passed with little debate, and an address of approbation was voted to his majesty. On the 22d of the same month, Mr Pitt introduced the subject to the British house of commons. He stated the false and oppressive policy which had long been exercised by government, in regard to Ireland, the object of which was to render her completely subservient to the interest and opulence of this country. She had been shut out from every species of commerce, and restrained from sending the produce of her own soil to foreign markets. This policy had been gradually relaxed during the present century: but the system had not been completely reversed till within a few years preceding. Yet, although the foreign commerce of Ireland had been placed on a better footing, the intercourse between the two countries had never been established upon equal and reciprocal principles. Mr Pitt proposed to allow the produce of the colonies to be imported into Britain through Ireland, and to equalize the duties on the produce and manufactures of both countries. In return for this concession, he wished to stipulate, that the parliament of Ireland should permanently and irrevocably secure an aid towards defraying the expence of protecting the general commerce of the empire in time of peace. After some debates upon the subject, petitions from Liverpool, Paisley, Glasgow, Manchester, and other places, were presented against the measure, to the amount of 60 in number, the consequence of which was, that from the 16th of March to the 12th of May, the house of commons were almost incessantly employed in hearing counsel and examining witnesses. Certain exceptions were now introduced to the general rule of admitting an equal commerce between the countries. Corn, meal, flour, and beer, were made exceptions in favour of British agriculture. Various regulations were also introduced, to secure an effectual equality of duties upon every particular object of trade, in both countries. The plan, after all its amendments, produced a great variety of debates, in the course of

777 Lord North recommends an union with Ireland. which Lord North expressed his wish for a complete incorporating union of the two kingdoms, in preference to a partial settlement, which might prove the source of perpetual discord. In the house of lords, the resolutions were warmly opposed by the earl of Carlisle, Lord Stormont, Lord Loughborough, Lord Sackville, and the earl of Derby. They were successful, however, in both houses; but by this time a great part of the Irish parliament had become dissatisfied with the plan. A majority of 127 voted in its favour in the house of commons against 108. But against such an opposition administration did not think fit to press its adoption. Britain.

The American war, in some measure, withdrew the inclinations of the British nation, for a time, from ideas of conquest and military splendour. Commercial pursuits were now chiefly valued, and formed a great object of pursuit both with the government and the people. To follow these with complete success, it was necessary that a good understanding should be preserved with the neighbouring powers. This was accordingly done, though with some difficulty, in consequence of certain foreign occurrences, not unworthy of attention.

778 Projected exchange of Bavaria, &c. Joseph II. was at this time at the head of the house of Austria and of the Germanic body. Among the various projects which marked his restless career, he formed one of no small importance, which, had it been attended with success, would scarcely have failed to affect the future condition of the Germanic body. He entered secretly into a negotiation with the elector of Bavaria, then an infirm old man, for an exchange of that electorate for the provinces of the Austrian Netherlands. The Netherlands were to be converted into a kingdom, and the future title was to be that of Austrasia, according to some, and of Burgundy, according to others. It appears, that Count Romanzow, the Russian minister to the diet of Frankfort, informed the duke of Deuxponts, the nephew and heir of the elector of Bavaria, of the substance of this treaty; and, at the same time assured him, that the treaty would be carried into execution, whether he consented to the exchange or not. The duke gave notice of this alarming measure in the month of January of this year, to the celebrated Frederick II. king of Prussia, who regarded it as a most dangerous project to his own independence, as well as to that of the other German states. He endeavoured instantly to spread an alarm through Europe. He alleged, that the proposed exchange was in the highest degree iniquitous and unfair. The population on both sides was indeed nearly equal; but the extent of territory on the side of Bavaria, more than doubled that of the low countries, and their respective revenues were equally disproportioned. In Bavaria, agriculture, commerce, and finance, were notoriously neglected; while in the Austrian Netherlands these resources were extended to their utmost pitch; so that, while the territory which the emperor hoped to acquire was capable of the most considerable improvements, that which he gave away might rather be expected to decline in political resources. These circumstances, however, were of little importance, compared with the political consequences which must result from such a measure. The Netherlands being situated at a distance from the great body of the Austrian dominions, had always proved rather a source of weakness than of strength to that power. A considerable revenue was indeed derived from these provinces; but it was often dearly bought, in consequence of the wars occasioned by the vicinity of France. Great political efforts

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forts had of late years been made by the court of Vienna, to avoid all future grounds of quarrel with the French monarchy. This had been accomplished, by the marriage of an Austrian princess, to the dauphin, now king of France; and the relinquishment of the Netherlands would have gone far towards completing the project. The possession of Bavaria, at the same time, from its vicinity to the rest of the Austrian dominions, would have secured to the emperor a chain of territory from the banks of the Rhine along a great part of the course of the Danube; and would have bestowed upon him such a preponderancy, as would have overturned all shadow of power in Germany that could have resisted the head of the empire. This mighty country, might thus, at no remote period, have been consolidated into one mass, and Austria would probably have instantly ranked in every sense as the first power in Europe.

Thus Frederick II. reasoned. Succeeding events may, perhaps, lead us to suspect, that this acquisition of strength by the house of Austria, might have proved of considerable utility to Europe; but at the time when the plan was proposed, it excited very general apprehensions. The treaty for the exchange had been concluded under the auspices of Russia and France, and to them the king of Prussia addressed his remonstrances. The emperor of Germany and the elector of Bavaria, however, soon found their plan so strongly disapproved of by other powers, that they absolutely disavowed it. The elector, in the Munich gazette, and the emperor by his ambassodors, asserted, that they had never entertained any design of making such an exchange. But the court of France, instead of denying the negotiation, contented itself with replying to the remonstrance of the king of Prussia, that the exchange had been proposed, as depending upon the voluntary arrangement of the parties; and, as the duke of Deuxponts had refused his consent, the proposition of course became fruitless. The empress of Russia, was so far from concealing her accession to the measure, that she defended it as highly equitable.

779 ague to otect the ermanic nstitu- n.

Frederick, in the mean time, exerted himself with great assiduity in negotiating a league with the electors of Hanover and Saxony, for the preservation of the Germanic constitution, and to prevent such cessions and exchanges of territory as might prove injurious to the balance of power in the empire. A treaty to this purpose was concluded on the 23d of July, and various German princes acceded to it, among whom have been enumerated the elector of Mentz, the landgrave of Hesse Cassel, the dukes of Brunswick, Namur, Saxegotha, and the prince of Anhalt. The elector of Hanover appears to have entered with much readiness into the transaction, and from that period a very intimate connexion commenced between the courts of London and Berlin. By some British politicians, however, it was supposed, that the opposition made to the imperial project was unwise, as it tended to excite a spirit of hostility against us on the part of the house of Austria, which, of all the powers of the continent, was considered as one of our most natural allies, in consequence of the ancient hostility which had existed between that power and France, and which was thought likely to break out anew at some future period, notwithstanding the efforts at present made for its extinction. It was probably in consequence of a jealousy of Britain produced by this transaction, that the emperor published an edict totally prohibiting the importation of British manufactures into any part of the Austrian dominions. In the course of the summer a French edict had also restricted the sale of various articles of British manufacture, particularly sadlery, hosiery, woollen cloths, and hard-ware, unless upon payment of duties, the amount of which was equivalent to a prohibition. To counteract these proceedings, by which the commerce of this country must eventually have been narrowed, commercial treaties were negociated with the courts of Petersburgh and Versailles. The latter of these was undertaken in pursuance of a provision in the definitive treaty of peace, and the negotiator appointed on the part of Great Britain on the 9th of December was Mr William Eden. The acceptance of this appointment was represented by the persons who opposed the present administration as a signal example of political apostasy, as it was said that Mr Eden had not only been the original projector of the celebrated coalition in 1783, but a principal supporter of the resolutions made by the house of commons against the administration of Mr Pitt at the commencement of the year 1784.

Britain.

780 Commercial treaties negotiated.

781 Meeting of parliament.

Parliament met on the 24th of January 1786. In the speech from the throne some notice was taken of the continental dispute already mentioned, which it was said, had terminated in such a way as to threaten no interruption to the tranquillity of Europe. This excited some debate, in which Mr Pitt declined entering into any defence of the Germanic league, as he and his colleagues in office had not interfered in the formation of it. He said, that accident alone had placed the sovereignty of Hanover and of this country in the same hands, and he desired to have it understood that Great Britain was by no means bound by any leagues entered into by the elector of Hanover. He thought the only way for Great Britain to avoid embroiling herself in the quarrels of Hanover, was for our administration to remain as much as possible unconnected with Hanoverian politics. Hence, unless in some singular cases, he did not account it incumbent upon the minister of this country to lay before parliament arrangements made by the advice of the ministers of that electorate.

782 Relation of Britain and Hanover debated.

Mr Fox, on the contrary, denied that the affairs of Hanover could be separated from those of Britain. He stated the supposition, that it should hereafter appear an essential act of policy for Great Britain to join the court of Vienna against the league of the Germanic princes, and that the elector of Hanover should appear as one of those princes at the head of his own troops. Mr Fox put the question, Whether a British army could be directed to act hostilely against troops led by their sovereign in the character of elector of Hanover? He remarked, that when George I. purchased Bremen and Verden from Denmark, the minister at that time, General Stanhope, used precisely the same language, and told the house of commons, that they had nothing to do with his majesty's conduct respecting his electoral dominions. The consequence, however, was, that the resentment of the Swedish monarch Charles XII. on account of this transaction, threatened Great Britain with a most dangerous invasion: and the very next year

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Britain.

year General Stanhope was under the necessity of demanding additional supplies, to enable his majesty to defray the expences to which he was exposed in consequence of his purchase.

1783 Duke of Richmond's fortifications.

The first object that came before parliament, to which any great degree of public attention was directed, related to the duke of Richmond's plan of fortifications. In consequence of the debate which had formerly taken place upon the subject in the house of commons, the plan was remitted to the consideration of a board of officers on the 13th of April 1785. The duke of Richmond was appointed president of the board; in consequence of which General Conway, Lord Amherst, and Lord Viscount Townshend, declined to act, because he was their junior as an officer. Those who actually assisted were Lieutenant-generals Earl Percy, Earl Cornwallis, Sir Guy Carleton, Sir William Howe, Sir David Lindsay, Sir Charles Grey, Lord George Lennox, and John Burgoyne, together with six major-generals. The naval officers were Vice-admirals Barrington and Milbank, Rear-admirals Graves and Lord Hood, together with Captains Hotham, Macbride, Bowyer, Luttrel, Sir John Jervis, and Sir Andrew Snape Hammond. On the 10th of February, Mr Pitt stated to the house of commons, that the board had reported to his majesty their approbation of the plans as perfectly adequate to the defence intended, and as being at the same time the least expensive in the construction, and requiring a smaller force to man them, than any other that could be proposed. He stated, however, that it would be imprudent for him to lay before the public a matter of so serious and delicate a nature as the report of the naval and military officers respecting so important a subject as the defence of our dock-yards; but he presented an estimate of the expence necessary to construct the fortifications which had been prepared by the board of engineers. The adversaries of the measure were not satisfied with the withholding entirely the report of the board of officers. Mr Sheridan contended that Mr Pitt might very possibly have misunderstood the report, which might be liable to different constructions; and in this remark he was supported by General Burgoyne, who proposed, that the minister should lay before the house as much of the report as could be published without danger to the state. He alleged, that, for the sake of obtaining a report in favour of his plan, the duke of Richmond had proposed hypothetical questions, which could not fail to be answered in the affirmative. General Burgoyne said, he would not be guilty of a breach of confidence, by mentioning the hypothetical cases that had been stated to the board, but that some of them were as extravagant as if it were asked, "Suppose by some strange convulsion of nature that the straits between Dover and Calais should be no more, and that the coasts should meet and unite, would it not be a politic expedient, and absolutely necessary, to fortify the isthmus or neck of land between France and England?" It appeared during the debate, that at the meetings of the board of officers the plan had been opposed by Earl Percy and Captain Macbride. This last gentleman pointedly condemned the whole system, asserting the utter inutility of all kinds of fortification for the national defence; and he assured the house, that his opinion was supported by the sanction of Admiral Barrington.

Britain.

1784 Debate on the plan of fortifications.

The decision of the house of commons respecting the whole affair was delayed till the end of February, and in the mean time administration consented to produce the greater part of the papers demanded. The subject was again brought forward by Mr Pitt, who proposed the following resolution, "That it appeared to the house, that to provide effectually for securing the dock yards of Portsmouth and Plymouth by a permanent system of fortification founded upon the most economical principles, and requiring the smallest numbers of troops possible to answer the purpose of such security, was an essential object for the safety of the state, intimately connected with the general defence of the kingdom, and necessary to enable the fleet to act with full vigour and effect for the protection of commerce, the support of our distant possessions, and the prosecution of offensive operations, in any war in which the nation might hereafter be engaged." Mr Pitt supported the measure chiefly on this footing, that the protection of our dock-yards was apt to occupy a part of the navy in time of war, and thereby to reduce us to the necessity of merely defensive operations; whereas, by fortifying the dock-yards, the navy might with more safety be sent to a distance, which was with difficulty accomplished in the late war, when it was necessary to make a powerful effort for the relief of Gibraltar. He asserted, that the fortifications proposed would afford a cheaper defence to the dock-yards than could be obtained by building an additional number of ships of war. He remarked, that such ships could not be indefinitely increased, as in the nature of things there must exist a limit beyond which Great Britain can neither build nor man any additional vessels.

The opposition to the fortifications was opened by the country gentlemen. Mr Bastard contended, that the strongholds now proposed to be built would become seminaries for pretorian bands. He reprobated the idea of tearing the ensign of British glory from the mast-head, and fixing it on the ramparts of a military garrison. The measure was further opposed by Sir William Lenox, General Burgoyne, Mr Marsham, Mr Windham, Mr Courteney, Lord North, and Mr Fox. But it was defended by Viscount Mahon, Lord Hood, Sir Charles Middleton, Captains Barclay, Bowyer, and Luttrel, Mr Hawkins Brown, and Mr Dundas. Captain Macbride asserted, that the report was improperly obtained; that the duke of Richmond rather guided and dictated the decision than merely presided in the assembly; that it was the first board of officers in which both question and answer came from the president and senior members: in every other case the junior officer gave his opinion first, but that this established mode of proceeding had been completely reversed. Mr Sheridan discussed the subject at great length. He contended, that the whole project was utterly unconstitutional: that there was a great and important distinction between troops separated from their fellow-citizens in garrisons and forts, and men living scattered and entangled in all the common duties and connexions of their countrymen. He asserted, that the strong military holds now proposed, if maintained, as they must be in peace, by full and disciplined garri-

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Britain. sons, would produce tenfold the means of curbing and subduing the country that could arise from doubling the present establishment; with this aggravation, that the naval stores and magazines, the sources of future navies, the preservation of which was the pretence for these unassailable fortresses, would become a pledge and hostage in the hands of the crown to ensure the unconditional submission of the nation. He asserted that the system would not stop with Portsmouth and Plymouth: that the same board of officers, going a circuit round the coasts of the kingdom, would easily find abundance of places necessary to be defended in like manner: that at various places between Chatham and Sheerness extensive lines had actually been begun under the auspices of the duke of Richmond, which must necessarily be provided for according to the new system.

The result of the debate was, that upon a vote the house divided equally, 169 being upon each side. The speaker gave his casting vote in opposition to the measure. The same question, however, was revived on the 17th of May by Mr Pitt, who proposed, that the plan of fortification should still be carried on at Portsmouth and Plymouth, though upon a more limited scale, amounting in all to 400,000l. Mr Pitt's motion was opposed with much severity of language, and at length withdrawn. On the 7th of June, the sum of 59,780l. was, in consequence of a new estimate, voted for the entire completion of the works already begun.

785 Militia laws. The attention of parliament was for some time engaged during this session with a proposal, first brought forward by Mr Charles Marsham, for reducing the laws relative to the militia into one act of parliament, and providing for their being annually called out and disciplined. Mr Pitt opposed the calling out of the militia annually; but afterwards, finding a different opinion to prevail, he consented, on condition that though the whole number of men should be balloted for and enrolled, only two-thirds should be actually employed, which would produce a saving of 40,000l. The measure in general of regularly calling out the militia did not pass without opposition. Mr Rolle observed, that it had been found prejudicial to the morals of the people, gave them habits of debauchery and idleness, and always rendered them worse members of society than they were before. The militia bill, after it had passed the commons, did not pass without debate in the house of lords. Lord Viscount Townshend had been the original mover of the establishment in the house of commons, in consequence of the disgust expressed by the nation, when, in the year 1757, a body of Hanoverians and Hessians were brought into the kingdom for its internal security. That nobleman now enlarged considerably upon the subject. He mentioned the militia of France, of Spain, of Prussia, and of the emperor; and showed how much inferior Great Britain was to any of those powers in this important establishment. He treated with contempt the penuriousness of administration with regard to this invaluable establishment, while the buildings at Somerset-house, the admiralty, and for the ordnance, engrossed so much of the public expenditure. Earl Stanhope (lately Viscount Mahon) proposed the following amendment upon the act, without making any addition to the national expence: Ballot, said he, 21,000 militia, and instead of five, let the term of their service be six years. At the end of three years ballot 21,000 more; of this number call out, train, and exercise, only 7000 every year. Let this be done in rotation till the whole amount of 42,000 men has been disciplined, being double the number contained in the act. The proposal was only objected to because it was too late in the session to debate the principle of the bill, and that if it were altered in that house it might be totally lost. Britain.

786 Mr Pitt's sinking fund. The subject which the minister probably wished should make a principal figure during this session of parliament, was the proposal of a sinking fund to be applied towards discharging the public debt. He had occasionally mentioned it, during the preceding session, as a great and important national measure which he intended to bring forward. Accordingly, early in the present session, Mr Pitt moved that certain papers should be laid upon the table of the house of commons, to enable them to form an estimate of the annual amount of the national revenue, as well as the amount of the public expenditure, from which they might judge of the existing disposable surplus, and of the sum it would be farther necessary to provide to raise the total to the amount requisite to form the basis of the intended sinking fund. On the 7th of March, Mr Pitt proposed the appointment by ballot of a select committee of nine persons to examine these papers, and to report the result to the house. He stated his intention to be, to take every possible step to give complete satisfaction to the nation in a matter of such general concern; and he conceived that the solemnity of a committee, and the formality of a report, would answer this purpose better than a set of unconnected papers or the affirmation of a minister. The members elected into the committee were, the marquis of Graham, Mr William Grenville, Mr Edward Elliot, Mr Rose, Mr Wilberforce, Mr Beaufoy, Mr John Call, Mr Smith, and Mr Addington, the two last of whom had been the mover and seconder of the address upon the speech from the throne. After this committee had made its report, Mr Pitt, on the 29th March, proposed his plan to the commons in a committee of the whole house. He congratulated parliament upon the prospects of the nation, in a style of animated eloquence. He remarked that the country had been engaged in a most unfortunate war, which added such accumulation to our immense debts, that surrounding nations, and many among ourselves, believed that our powers must necessarily fail, and we must sink under the burden; but that the day was at length arrived when despondency might be disregarded, and our prospects brightened on every side, when the nation could look its situation in the face, and establish a spirited and permanent plan for relieving itself of its incumbrances. Mr Pitt stated the revenue for the current year, as reported by the committee, to amount to 15,397,000l. The interest of the national debt was 9,275,769l. and the civil list 900,000l. which, together with the whole other expenditure for the army and navy, and other establishments, amounted to 14,478,000l.; of consequence, there remained a surplus of the annual income, above the expenditure, of 900,000l. One million he stated to be the sum annually to be contributed to the sinking fund, and to make up the sum of 100,000l.

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Britain. wanted to complete this amount, he proposed small additional taxes upon spirits, timber, and hair powder and perfumery. He proposed that the sum of 1,000,000l. thus made up, should be placed in the hands of commissioners appointed for that purpose, in quarterly payments of 250,000l. each, to begin on the 5th of the following July. He wished that the commissioners should consist of persons of rank and distinction; the speaker of the house of commons, the chancellor of the exchequer, the master of the rolls, the governor and deputy-governor of the bank of England, and the accomptant-general of the high court of chancery. Mr Pitt said, that, by taking care to lay out the sinking fund regularly at compound interest, the million to be applied would rise to a very great amount, in a period that is not very long in the life of an individual, and is but an hour in the existence of a nation. It would diminish the debt of this country so much, as to prevent the exigencies of war from ever raising it to the enormous height they had hitherto done. In the period of 28 years, the sum of a million annually improved, would produce an income of 4,000,000l. per annum. By placing the sum in the hands of commissioners, to be applied by them quarterly to the purchase of stock, no sum would ever lie within the grasp of a minister great enough to tempt him to infringe upon this national revenue. It could not be done by stealth, and a minister would not have the confidence to come to that house expressly to demand the repeal of so necessary a law.

787 Debates on the sinking fund.

Mr Fox approved in general of the institution of a sinking fund, but thought 28 years too long a period to which to look forward for the effect of this plan. Before that term was arrived, it was not improbable we might have another war; and a variety of circumstances might occur, which would operate as a temptation to a future chancellor of the exchequer, and a future house of commons, to repeal the act, annul the institution, and divert the appropriation of its stock to the immediate services of the year. He stated two specific objections to the plan. The first was that the sum appropriated ought not to have been made unalienable in time of war. The second objection was, that by the institution, parliament being bound to nobody but itself, the whole plan was liable to be annihilated by a future parliament. Hence he recommended a plan formerly proposed, of paying off portions of the national debt by the subscription of individuals, to whom the faith of parliament should be engaged to redeem or repay the sums advanced at certain stated periods. At a future stage of the business, Mr Fox repeated his objections, and at last, in consequence of the acquiescence of Mr Pitt, he introduced an amendment into the plan, of the following nature: That whenever a new loan should hereafter be made, the minister should not only propose taxes sufficient to pay the interest of the loan, but also sufficient to make good whatever it should be found expedient to take from the sinking fund to supply the necessities of the nation. He meant, that if, when a new loan of six millions was proposed, there should be one million in the hands of the commissioners; in such case, the commissioners should take a million of the loan, and the *bonus* or *douceur* of that million should be received by them for the public; so that, in fact, the public would only have five millions to borrow. Britain.

In the house of lords, the other objection stated by Mr Fox to the constitution of the sinking fund, was urged with some variation by Earl Stanhope. He pointed out in strong terms the danger which would occur, in future wars, of diverting the fund from its proper destination. He remarked that four millions of free revenue, to which the sinking fund was finally to accumulate, would enable a minister to obtain eighty millions by way of loan. He proposed therefore, that books should be opened at the bank to receive the names of such holders of stock bearing three per cent. interest as should consent to accept of 90l. for every 100l. of their present capital, whenever the public should be desirous of redeeming the said capital at that price, and that all holders of this new stock should be entitled to be paid off before any part of the other public debts should be redeemed; reserving, always, however, for a time, to the commissioners of the sinking fund, the power of purchasing stock at the market price. In recommendation of his scheme, Lord Stanhope produced the letters of several eminent brokers, bankers, and merchants, and also of Dr Richard Price. Lord Camelford (formerly Mr Thomas Pitt), objected to this proposal, that the plan of paying off the national debt by purchasing it at the market price, was more advantageous for the public, because it made a period of war the time in which it would be most easy to discharge the debt. The bill was therefore without any alteration passed into a law.

788 Remarks on the sinking fund.

This establishment of a sinking fund appears to have been the most favourite of Mr Pitt's plans of finance, and that which produced to him the greatest degree of popularity. In consequence of his having remained in power during the long and expensive war which succeeded its establishment, it continued regularly and fully to be carried into effect. When a new loan was made, the minister not only proposed taxes sufficient to pay the annual interest of the new debt, but also sufficient to afford a surplus or sinking fund of one per cent. per annum, to be applied by the commissioners towards the extinction of the debt.

With regard to the value of this, or of any other plan for paying off the public debts of a nation, it is perhaps still somewhat difficult to form a correct estimate. It has been found by experience that the existence of a great public debt has the most powerful influence in giving stability to a government, by attaching to its existence a numerous body of public creditors, who must always dread the consequences of any important revolution in the constitution of the state. This will always be a fortunate or an unfortunate circumstance to a nation, according to the nature of its political constitution. It is good, however, in so far, as it alienates the minds of men from rash and hasty projects of change, which must always be dangerous. With regard to the direct effects of such a fund in diminishing the public debt, it may be remarked, that, from what has hitherto occurred, it does not appear that in the present state of the European nations, eager as they are to engage in frequent wars, any sinking fund can actually extinguish the debts of a nation. The only effect of such a fund, when well contrived

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tain. trived and steadily adhered to, seems to be that it enables a nation to maintain its credit in very difficult circumstances, and thereby to carry on the accumulation of public debt to the highest possible amount, and thereby to make trial in the completest manner, of all the moral and political consequences of the funding system. But whatever may be the ultimate effect of the particular sinking fund established in 1786, Mr Pitt had only the merit of adopting it and putting it in force; as it is now generally understood, that the project was not of his own contrivance, but only formed one, and that too not the most efficient, of three plans presented to him by Dr Price.

89 eduties cted to xcise. During the present session, Mr Pitt considerably improved the revenue by subjecting to the excise laws the duties levied upon wines. His chief object was to prevent the fraudulent manufacture of wine at home, which was afterwards sold as foreign wine. This he said would be accomplished by excise officers visiting the cellars of dealers in wines. The proposal met with considerable opposition, from the general aversion to the extension of the excise laws, but it was nevertheless carried into effect. When the estimates for the navy were voted, some observations were suggested by Captain Macbride, which are worthy of being recorded on account of their relation to the progressive improvement of the chief defence of the British isles.

90 size of of He censured extremely the voting very large sums of money for the repair of 60 and 64 gun ships, and observed that our having so many vessels of this sort was a principal reason of the many defeats we had suffered in the last war. The French had not now more than three or four 64 gun ships, and they took care not to build any new ones upon that construction. Another thing against our navy, was that the French 74 gun ships were of 2000 tons burden, while our 74's had been reduced to 1600 tons. Captain Macbride said, he verily believed, that if the number of our ships were reduced by one-third, the navy of England would prove one-third the stronger. He was still more severe in his condemnation of the system of suffering the ships to remain in their copper bottoms during a time of peace. He contended, that if we persisted in this idea, there would be no occasion to argue whether ships of one size or another should be built, for we should soon have no navy in our possession. The French had discovered the folly of the practice, and for some time had left off the mode of sheathing their ships. We ought therefore to do the same, or at least to take off the copper when the ships were to lie long in still water. The copper corroded and ate more into their bolts than either worms or time. The consequence would be, that the instant the ships which had been long laid by were sent to sea, their bottoms would drop out, and thousands of brave seamen would perish in the ocean. The ideas of Captain Macbride were confirmed by Sir John Jervis; and, so far as related to the sheathing with copper, by Captain Luttrel.

791 eral e of empire. At this time the British nation, recovered from the effects of the late war, was proceeding in a train of considerable prosperity. The administration of justice was proceeding at home in the ordinary train sanctioned by the constitution, and produced its usual and natural effects of tranquillity and general satisfaction. The sovereign, in consequence of his domestic virtues and regular life, was personally popular. The members of administration had obtained their offices under circumstances which originally secured the good will of the nation; and no public events had occurred to expose their characters to any severe trial, or to produce an alteration in the public opinion with regard to them. Still, however, the most distinguished members of the late coalition continued to hold seats in parliament, and naturally wished to attract the public notice, and to rescue themselves from the neglect into which of late they had fallen. For this purpose, they appear to have looked towards our Indian empire, for materials upon which to exert their talents, and to demonstrate their public spirit. Their principal effort consisted of an attempt, which was commenced during the present session, by Mr Burke, to bring to trial and punishment Warren Hastings, Esq. late governor-general of Bengal, for crimes alleged to have been committed in that country. Britain.

792 The acquisition of foreign territories inconvenient to free states. There is something in the nature of the British constitution, or rather, perhaps, of the constitution of every free state, which renders the conquest, or even the acquisition in any form, of foreign territories, not a little inconvenient. In the case of the British American territories, a constitution, less or more resembling that of Great Britain, had been established in every separate colony or province. These separate constitutions produced abundance of internal prosperity to the colonies; but the whole formed a disjointed empire, slightly bound together by a limited executive power, and destitute of a common legislature. An attempt, made by the legislature of the parent state to make laws for the whole of the subordinate communities, gave rise to a war which ended in the dismemberment of the empire. The remaining foreign possessions, such as Ireland and the West India islands, might be supposed to remain in union with the metropolis of the empire, chiefly in consequence of their weakness, which rendered its protection necessary to their safety, or made them incapable of erecting themselves into separate governments in opposition to its will. The territories which had been acquired by the British nation in India, were, in this respect, in a very peculiar situation. It might, perhaps, have been possible, by an incorporating union, and by extending the privilege of representation, to combine into one firm and consolidated government the whole British islands, together with the American colonies: but this must for ever be impossible with regard to the territory of Hindostan. That great and fertile country being inhabited by men of a feebler race, and of a different language and character, is incapable of being united to the British nation upon principles of equal political freedom. It had been originally acquired, not by a conquest made under the direct authority of the executive government of Britain; but by a company of merchants, who, in a manner new in the history of the world, by uniting the military superiority of Europeans with the arts of commercial men, contrived gradually to subjugate one of the fairest portions of the habitable globe, containing a population many times greater than that of their native country. The progress of such a power towards empire, was necessarily attended with the most cruel hardships to the natives of the

793 Mode in which the British conquered India.

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Britain.

subjugated country. When the mercantile invaders possessed abundance of European troops, they employed them in making direct conquests of additional territory. When these troops were exhausted by war or by the climate, or, having enriched themselves, had returned to Europe loaded with the spoils of the east, and left their former employers in that quarter in a state of considerable weakness, the servants of the company, who remained there, exerted their ingenuity to excite divisions among the native princes. When they could no longer act as principals, they appeared as seconds in every quarrel, and obtained new territories as the reward of their aid. With such views they formed and broke alliances with little delicacy; and, on receiving supplies of troops from Europe, like other conquerors, they were never at a loss for pretences, upon which to extend their dominion.

All this was the natural result of the situation of the British East India Company, with regard to the natives of Hindostan. At the same time, as the jealousy of the neighbouring states of Europe, together with their equal progress in the art of war, had long put an end to the extension of conquests, and produced much political moderation in the transactions of nations, many of the people of the island of Great Britain learned with astonishment, that their countrymen were conducting themselves in Hindostan, in a manner which in Europe would be regarded with the utmost abhorrence. Such feelings, however, were in general lost in the sentiment of national aggrandizement. Efforts, however, had been made to ameliorate as much as possible the future government of India, by subjecting it, by means of the acts of parliament already noticed, in a considerable degree, to the direct authority of the executive government of this country, instead of suffering it to remain totally vested in a company of merchants. Here the present administration appears to have wished that the affair should be suffered to rest, and that whatever was past should be overlooked and forgotten. This, however, did not suit the present views of opposition. Mr Burke, in particular, had been led by an ardent imagination to interest himself deeply in the calamities which had been suffered by the natives of India, in consequence of the conduct of our countrymen. His feelings and the policy of his party at this time coincided; and, accordingly, he endeavoured with much eagerness to bring to trial and punishment the most distinguished person who had of late years acted upon the great theatre of Indian affairs.

794 Mr Burke wishes to bring Mr Hastings to trial.

795 Difficulties in his way.

Great obstacles stood in the way of Mr Burke's proposed attempt to procure a parliamentary conviction of Mr Hastings. He had to overcome a long series of unpopularity, the personal indifference that had been shown to him by the house of commons, and their indisposition so much as to give him a hearing, together with a great degree of coldness which the nation at large had gradually acquired with regard to all complaints of East India delinquency. All these, however, he surmounted by efforts of the most obstinate perseverance, and of great eloquence, upon the fertile subject of cruelty, oppression, and treachery, committed under the authority of the British government in the east. The public attention was gradually attracted to the subject; and at last it formed the great subject of conversation, and of political remark, in all parts of the island. To produce this change in the sentiments of the nation, the whole efforts of Mr Fox and the other members of opposition were necessary, in addition to the invectives of Mr Burke.

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796 Mr Burke proceeding against Mr Hastings.

Mr Hastings had arrived in England on the 16th of June 1785, and on the 20th of that month, Mr Burke had given notice of his intention to move for an inquiry into the conduct of the late governor. On the day of the meeting of parliament, in January of this year, Major Scott, the particular friend of Mr Hastings, publicly reminded Mr Burke of the menace he had thrown out, and requested Mr Burke speedily to decide upon the part he was to take. Accordingly, about the middle of February, this gentleman having resolved to proceed against Mr Hastings, by moving the house of commons to impeach him at the bar of the house of lords, endeavoured to prepare to substantiate the charges which were to be made, by proposing, that the house should order production of various papers; and motions to this effect were renewed by him at different periods. These motions gave rise to a variety of debates, in which Mr Dundas, who now acted as minister for India affairs (being president of the board of controul), together with Sir Lloyd Kenyon, master of the rolls, chiefly opposed Mr Burke, and placed considerable difficulties in his way. Mr Pitt appeared also favourable to Mr Hastings; but, upon the whole, he thought fit to assume the character of acting as a candid and impartial judge upon the occasion, without affording protection to the accused party, or favour to the accuser. These debates excited much attention at the time, but are not of sufficient importance to require to be stated in detail in a concise history of the period. At last, in the month of April, Mr Burke presented to the house his charges against Mr Hastings, which amounted to 21 in number, to which an additional article was afterwards added. The charges were of various degrees of importance; and some of them were of such weight as to excite a considerable degree of public interest. Mr Hastings was accused of driving a whole people, the Rohillas, from their territory, without any pretence of justice; of arbitrarily confiscating the property of the native princes, and of imprisoning them and their servants for the purposes of extortion; of entering into war with the Mahrattas without necessity; and of treacherously delivering the Mogul into their hands on making peace; together with a variety of other charges of less importance. On the 26th of April, Mr Hastings presented a petition, requesting a copy of the articles, and to be heard in his defence against them before any witnesses should be examined. This request was granted; and that gentleman having appeared at the bar, and stated in ample terms the great efforts which he had successfully made for the aggrandizement of the British power in the east, he entered into a particular defence of his conduct, in the particular points upon which he had been accused. He asserted, that the Rohillas were a tribe of adventurers, in driving of whom from an usurped territory, he had only assisted; and the princes or princesses, whose property he was accused of having seized for the use of the conquerors, had deserved their misfortunes

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Britain. by their treacherous intrigues or rebellion; that the war with the Mahrattas had not been commenced by him, and that the terms of the pacification were almost universally considered as advantageous; that the Mogul had thrown himself into their hands, and was entitled to no protection from the British government. Upon every other point, he asserted, in a similar manner, not merely the innocence, but the meritorious nature of his conduct, resting his defence chiefly upon such arguments as conquering princes use to justify their encroachments upon their weaker neighbours.

On the 1st of June, Mr Burke brought forward, in the house of commons, his first charge, which related to the expulsion of the Rohillas from their country, to the number of 60,000 men, women, and children. On this occasion Mr Burke exerted all his eloquence. He asserted the purity of his motives in his prosecution; and represented it as not merely a question respecting the character of an individual, or brought forward for the mere purpose of inflicting a hardship upon him, but as a measure necessary for the establishment of the principle of responsibility, with regard to the future governors of our distant possessions, and therefore as a national and imperial question, decisive of the good or ill government of millions now existing or yet unborn. He lamented the difficulty of giving full effect to the charges, in consequence of the immense power and influence which the accused governor had enjoyed, which still afforded him protection, and suppressed information. The remoteness of the country, and the little interest which the British nation might take in the destiny of an unknown people, augmented every other difficulty. However, from the honour and humanity of the house he trusted to surmount all obstacles. He described, in interesting terms, the character of the Rohillas, the simplicity of their manners, the prosperity of their country, and their zeal for agriculture and commerce; and denied that there existed any plausible ground to justify the assistance which Mr Hastings had given to one of their rapacious neighbours to expel them from their territory. After a debate, however, the house decided by a voice of 119 against 67, that the charge did not contain sufficient matter of impeachment against Mr Hastings.

The next article of crimination against Mr Hastings, was founded upon his oppressive conduct towards Cheit Sing, the rajah of Benares, from whom he first arbitrarily demanded payment of a sum of money, in addition to his ordinary tribute, and, on delay of payment, imposed upon him an enormous fine, of half a million sterling; insulted him by an ignominious arrest, and thereafter drove him from his dominions. This charge was opened by Mr Fox. He was opposed by Major Scott and Mr Grenville, who inveighed against the rajah, as having been unwilling to support the British power in a dangerous contest in which it was at that time engaged, and as having favoured the views of its enemy. By this time, however, the repeated discussions of the subject, which had occurred during the present session of parliament, had gradually begun to interest the public at large. Pamphlets were published, in which Mr Hastings's character was very violently attacked, and as eagerly defended. His conduct as a governor in India, appeared, to the majority of the people, so totally inconsistent with those ideas of equity, which regulate the opinions of men in this country, that a violent degree of popular indignation was excited against him. Hitherto he had been supported in the house of commons by those who usually adhered to administration, though Mr Pitt himself had on all occasions declared his wish to act candidly as a judge, and to avoid treating the matter as a question to be supported by a particular party. Upon this article of charge, concerning the rajah of Benares, he entered into the views of Mr Fox, and declared himself satisfied, that Mr Hastings had in this case acted unjustifiably. On a division, it was determined by a majority of 119 against 79, that this accusation contained matter of impeachment against the late governor-general of Bengal. Britain.

797 Mr Pitt joins the accusers of Mr Hastings.

During this session of parliament some farther legislative provisions were made for regulating the government of India. On the 7th of March a motion was made by Mr Francis, and seconded by Mr Windham, for leave to bring in a bill to explain and amend the regulating act, which had been brought forward and carried through by Mr Pitt, upon the subject of India affairs. Mr Francis censured strongly three parts of Mr Pitt's act: 1st, That which establishes a double government of India at home, by two boards, the court of directors, and the board of controul. 2dly, He strongly condemned the excessive power, by means of a constant casting voice in his council, which was bestowed upon the governor-general of Bengal. He said that a governor-general understood nothing of his situation, if he thought that any power, directly vested in his hands, would carry half the authority with it that would accompany the united acts of a governor and council. If he trusted to his own exclusive judgment, he would find himself surrounded by some of the most artful men that existed; by natives, who, without our general knowledge, were infinitely sagacious, who observed us attentively, and understood us perfectly; and by some Europeans, who, in every thing but their habit and complexion, were perfect Asiatics. No single unassisted English judgment was a match for such men, and for such peculiar faculties as would collect about him from the moment of his arrival. If he relied on his exclusive power, for want of clear and accurate knowledge he would rarely venture to exert it. Every man who approached him would tell him a different story, or give him a different opinion. He would often doubt, and no vigorous determination could exist in a good mind, that was not preceded by conviction. Even when he exerted his power, it would be feeble and ineffectual against the universal combination and clamour of all ranks and interests, that would be formed to counteract him in every measure that tended to correct abuse or reduce exorbitant emoluments. Lastly, Mr Francis severely reprobated the institution, in Mr Pitt's bill, of a special court of justice for the trial of Indian delinquents, which deprived such persons of the privilege of a jury. He alluded, upon this subject, to the petitions which were understood to be on their way from India against this part of the act.

798 Proposal to amend Mr Pitt's India bill.

Mr Dundas justified, upon the opinion of Lord Macartney,

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Britain. Macartney, the powers conferred upon the governor-general of Bengal. He asserted the necessity of a new court of judicature, from the voluminous nature of the evidence in the cases of Sir Thomas Rumbold and Mr Hastings, which could not be gone through by the ordinary form of a trial by jury. At the same time he stated his own intention to bring speedily forward a bill for amending, in certain respects, the regulating act of 1784. Mr Francis's motion was rejected, and Mr Dundas, on the 16th of March, brought forward his new bill for the regulation of India. It conferred still farther powers upon the governor-general, authorizing him to act in opposition to the sense of his council when he thought fit to take the responsibility upon himself. The offices of commander in chief and governor-general were also united, and the board of controul was alone authorized to inquire into the fortunes of persons serving in India. The service there was also divided into branches; and it was declared, that the servants of the company should rise by gradation only in those branches of service for which they had been prepared by their former habits. After a variety of debates in both houses, the bill was passed.

799 Mr Dundas's amending act.

800 Increase of the India Company's capital. In consequence of the commutation-act, by which the duties upon tea were so greatly diminished, the East India Company had now increased their annual sales of that commodity from six to fourteen millions of pounds. To enable them to carry on this great additional trade, they petitioned the house of commons to permit an augmentation of their capital. A bill for that purpose accordingly passed through both houses in June, authorizing them to receive new subscriptions to the amount of 1,000,211l.; and to raise an additional sum of 800,000l. by the sale of an annuity due to them by government.

801 Margaret Nicholson's attempt against the king's life. The session of parliament terminated on the 11th of July, and during the remainder of the year the British empire enjoyed complete tranquillity. An incident, however, occurred, of a singular nature, which called forth very universal demonstrations of attachment to the person of the king from all orders of men. On alighting from his carriage on the 2d of August, a woman approached his majesty, under the appearance of offering a petition, but at the same time aimed a thrust at him with a knife, which, however, did no harm. Her name was Margaret Nicholson. Being instantly seized and examined by some members of the privy council, with the assistance of several medical gentlemen, she was found to be insane, and ordered to be confined for life in Bethlehem hospital. A public thanksgiving was ordered for his majesty's safety, and addresses of congratulation were sent to court from all parts of the country. These were the more sincere, because the prince of Wales was understood to have attached himself by habits of friendship and intimacy to some of the leading members of the late coalition. The life of the reigning monarch was therefore at this time considered as extremely valuable, on account of the support which it gave to a popular administration, and because it prevented the government from falling into the hands of a young man who was not yet supposed to have risen above the inexperience and follies of youth.

Britain. One of the most important measures of Mr Pitt's administration was carried into effect during the autumn of this year. It consisted of a commercial treaty, which, we have already remarked, Mr Eden was sent to negotiate, and which was concluded on the 26th of September of this year. This treaty stipulated, in general terms, that there should be a perfect liberty of navigation and commerce between the subjects of the two kings in all their European dominions, with a view of giving fair encouragement to the produce and manufactures of both countries, by a discontinuance of prohibitory duties, and by putting an end to illicit trade. A particular tariff was adjusted with regard to a great number of commodities, and all articles which it did not include were to be reciprocally imported on the terms allowed to the most favoured nations. It was agreed, that French wine should be subject to no higher duties on importation than those which were paid on the wine of Portugal: that the duty on brandy should not exceed 7s. per gallon: that 30 per cent. *ad valorem* should be levied upon beer: that the highest duties on works of iron and copper, on cabinet ware and turnery, should not go beyond 10 per cent. *ad valorem*: that for saddlery, 15 per cent. should be paid; for glass and earthen ware, also for cotton and woollen articles, (with a prohibition of goods mixed with silk) 12 per cent.; for gauze 10; for millinery 12 per cent. On cambric and lawn the duty was to be 5s. for about eight yards. Linen manufactured in either country was not to be burthened with a higher duty than was at this time paid for Dutch or Flemish linen imported into Britain; and for linen made in Ireland or in France, no greater sum was to be demanded, in the way of duty, than was now paid on the receipt of Dutch linen in the Irish ports. Each of the monarchs reserved the right of countervailing, by additional taxes on certain commodities, the internal duties imposed on the manufactures, or the import charges paid on the raw material. It was also declared, that if either of the princes should be at war, every thing should be deemed free which might be found in the ships of the respective nations (with the exception of goods usually deemed contraband), even though the whole or a part of the lading should belong to the enemies of the other state.

Britain. 802 French commercial treaty.

This treaty appears, upon the whole, to have been acceptable to a considerable majority of the nation. When parliament assembled on the 23d of January 1787, it was announced in the speech from the throne, and formed the first subject of deliberation. Mr Fox remarked, when the usual address to the throne was moved, that the treaty in question ought to be examined with much jealousy, on account of its introducing an innovation into the established system of our policy. He said, that all the wars of Great Britain had been wars of necessity, and that the jealousy of the power of France, which we must now be called upon to lay aside, has been founded upon the fullest experience of her ambitious character. He deprecated the imputation of being governed by vulgar prejudices; but, at the same time, he declared it to be his opinion, that the external circumstances of the two nations create a rivalship, and, in some degree, an enmity,

803 Debates on the commercial treaty, 1787.

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Britain.

mity, between them, which it is impossible to prevent by any measure which human speculation can devise. Nay, he would not hesitate to pronounce, that were such an event possible, it was not to be wished for by any lover of this country. If, as he sincerely wished, this was a mere commercial treaty, the framers of it had only to prove, that the new channel of trade which it opened would not obstruct, or would be more beneficial than all the other ancient channels which this kingdom had long been in possession of, and which had been found to be the sources of her commercial wealth and prosperity. But if, on the other hand, ministers avowed, that the treaty was intended as a political measure, and that they had in view some more close and intimate connexion with France, such as should render it in future more difficult for the two countries to go to war than heretofore; they then would have to show strong and satisfactory reasons for having pursued and concluded a measure so new in the history of these kingdoms, and of such infinite magnitude and importance. He said he might venture, however, to prophesy, that such an attempt, admitting it to be safe and prudent, would prove vain and abortive. However volatile and inconstant the French nation may be accounted, the French cabinet, he remarked, had for centuries been the most steady in Europe. To raise that monarchy to unlimited power had been its unvarying aim; and he asserted, that there existed no reason to suppose she had abandoned her purpose. He observed, indeed, as worthy of serious consideration, that the army of France was formerly the first in Europe. It was now but the fourth, being inferior to those of Russia, Prussia, and the emperor. On the other hand, her navy was daily increasing, and to that object her whole attention was directed. Was this a favourable symptom of her friendly disposition towards this country? Did it indicate any extraordinary partiality towards Great Britain? Did it not clearly prove, that her confidence was placed upon her continental allies, and that she was looking forward to, and preparing for, some favourable opportunity of indulging her inveterate animosity against her ancient enemies?

804 Mr Pitt's defence of the commercial treaty.

Mr Pitt, in reply, opposed the principles stated by Mr Fox, which went, he said, to prove the necessity and policy of a constant animosity with France. He contended, that such a doctrine militates in the most direct manner both against humanity and common sense. He asserted, that if war is the greatest of all evils, and commerce the greatest blessing that a country can enjoy, it must be the duty of those to whom public affairs are intrusted, to endeavour as much as possible to render the one permanent, and to remove the prospect and dangers of the other. This, he said, was the object of the present treaty. The advantages likely to arise from it would not only strongly operate upon every succeeding administration in both countries, so as to induce them to avoid a war as long as it could be avoided with honour and prudence, but would also strengthen the resources of the country towards carrying on a war whenever it should become indispensably necessary to engage in one. This was, he said, the true method of making peace a blessing, that while it was the parent of immediate wealth and happiness, it should also be the nurse of future strength and security. The quarrels between France and Britain had too long continued to harass not only those two great and respectable nations themselves, but had frequently embroiled the peace of Europe; nay, had disturbed the tranquillity of the most remote parts of the world. They had, by their past conduct, acted as if they were intended by nature for the destruction of each other; but he hoped the time was now come when they should justify the order of the universe, and show that they were better calculated for the more amiable purposes of friendly intercourse and benevolence.

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On some future occasions, Mr Fox unsuccessfully endeavoured to prevail with the house of commons, previous to coming to any decision upon the French treaty, to enter into an inquiry into the nature of our connexion, and the state of our negotiations, with Portugal, our old ally, in consequence of what is called the *Methven treaty*, which had long proved a sure source of commercial advantage. Some disputes were at that time depending with Portugal, respecting complaints made by British merchants; and Mr Fox asserted, that the proper period of treating with Portugal would have been before the conclusion of the treaty with France. This would have demonstrated to the world, that, whilst we were seeking new connexions, we had no intention of sacrificing the old. Mr Pitt, on the contrary, contended, that we had acted wisely, in shewing Portugal beforehand, that we could do without her, when about to open negotiations for the remedy of complaints.

On the 12th of February, the house resolved itself into a committee for the purpose of considering the new commercial treaty with France. In a speech of three hours in length, Mr Pitt entered into a full explanation and defence of the treaty. As the subject is of great commercial importance, and may, at some future period of the British history, again become a subject of consideration, we shall here state the nature of his argument. He first gave a general explanation of the treaty, and afterwards endeavoured to refute the arguments against it, contained in a petition which had been presented in opposition to it, by Mr Alderman Newnham, from certain manufacturers assembled in the chamber of commerce.

805 Defence of the treaty as affecting our manufactures.

He considered the treaty in three points of view; as affecting our manufactures, our revenues, and our political situation. With respect to the first, he undertook to prove, that though the treaty had been formed upon principles of strict reciprocity, yet that this country must, from the nature of the case, unavoidably have the advantage. To understand this, he said, it would be necessary for the committee to consider the relative state of the two kingdoms. It is a fact generally admitted, that France has the advantage in soil and climate, and consequently in her natural produce; while it is equally true, that Great Britain is decidedly superior in her manufactures and artificial productions. The wines, brandies, oils, and vinegars of France, are articles which we have nothing to put in competition with, except our beer. But it is equally clear, that we in our turn possess some manufactures, exclusively our own, and that in others we have so eminently the advantage of our neighbours, as to put competition at defiance.

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Britain. fiance. Such, said he, is the relative condition, and such is the precise ground, on which it is reasonable to suppose that a valuable correspondence and connection between the two nations might be established. Having each its own distinct staple, having each that which the other wants, and not clashing in the great and leading lines of their respective riches, they resemble two opulent traders in different branches, who might enter into a traffic mutually beneficial. But nothing, he said, could be more evident, than that trade was more or less advantageous to any nation, in proportion to the degree of labour, industry, and capital, employed in bringing its commodities to market, and to the excess in value of the perfect manufactures above the raw materials: and this principle gave a decided advantage to us over the French. For, granting that large quantities of their natural produce would be brought into this country, would any man say that we should not send more cottons by the direct course now settled, than by the circuitous passage formerly used? more of our woollens, than while restricted to particular ports, and burdened with heavy duties? Would not more of our earthen ware, and other articles, which under all the disadvantages they formerly suffered, still, from their intrinsic superiority, forced their way regularly into France, now be sent thither? And would not the aggregate of our manufactures be essentially benefited in going to this market, loaded only with duties from 12 to 10, and in one instance only five per cent.? The article charged highest in the traffic, viz. sadlery, gave no sort of alarm. The traders in this article, though charged with a duty of 15 per cent. were so conscious of their superiority, that they cheerfully embraced the condition, and conceived that a free competition would be highly advantageous to them.

On the other hand, we had agreed by this treaty, to take from France, on small duties, the luxuries of her soil, which our refinements had already converted into necessaries. Was it in the power of high duties to prevent the introduction of them at our tables? Was it then a serious evil, to admit their wines on easier terms? With respect to brandy, the reduction of the duties would chiefly affect the contraband trade. Mr Pitt asserted it to be an undoubted fact, that the legal importation bore no proportion to the clandestine; for while the former amounted to no more than 600,000 gallons, the latter, by the best founded calculations, did not amount to less than between three and four millions of gallons. As this article, then, so completely possessed the taste of the nation, it could not surely be deemed wrong, to give to the state a greater advantage from it than heretofore, and, by crushing the illicit, to promote the legal traffic in it. The oils and vinegars of France were comparatively small objects; but, like the former, they were luxuries which had taken the shape of necessaries, and, by receiving them on easy terms, we could lose nothing.

In the next place, it was necessary to inquire whether in addition to the above, which were the natural produce of France, that kingdom had any manufactures peculiar to itself, or in which it so greatly excelled, as to give us just cause of alarm, on account of the treaty, when viewed in that aspect? Cambric was the first that presented itself; but in this article, it was notorious, that our competition with France had ceased, and there could be no injury in granting an easy importation to that which we were determined at any rate to have. In every other article, there was nothing formidable in the rivalry of France. Glass would not be imported to any amount. In particular kinds of lace, indeed, they had probably the advantage, but none which they did not enjoy independently of the treaty. The clamours about millinery he thought vague and unmeaning. Viewing the relative circumstances of the two countries in this way, our superiority in the tariff was manifest. The excellence of our manufactures was unrivalled, and, in the operation, must give the balance to England. Another circumstance comparatively favourable to this country above France in the treaty, was the state of population in both kingdoms. We had a market opened to us in a country containing above 20 millions of inhabitants, whilst we admitted France to trade with a nation, that was supposed to contain not above eight millions. Brita

806 Revenue

With regard to the effect of the treaty upon the revenue, he remarked, that although a considerable reduction must undoubtedly take place on the duties upon French wines, and even upon Portugal wines, should the provisions of the Methven treaty be still kept in force, yet this would be balanced by the increased consumption, and by putting an end to the fraudulent manufacture of home-made wine, which was brought to market as foreign wine, a practice which no regulations of excise had hitherto been able to suppress. If any loss, however, should occur, the article of cambric would alone go a great way towards indemnifying the revenue. He farther remarked, that our most ingenious and laborious manufactures, in steel and other metals, together with various productions of art, being henceforth entitled to admission to France, on payment of a moderate duty, millions of persons would be employed in the preparation of these objects; the taxes paid by whom would greatly augment the revenue. The high price of labour in England, said he, arises chiefly from the amount of the excise, and three fifths of the price of labour are supposed to come into the exchequer.

807 Political situation

Upon the political tendency of the treaty, he recurred to his former remarks. It was objected to, he said, in as much as it went to compose those jealousies and destroy that rivalship, which had so long subsisted between the two countries, and which, it was stated, was of the most salutary consequence to Great Britain; and it was further insinuated, that there was no dependence to be placed on the faith of the other contracting party. The first of these objections had, he said, unfortunately gained some degree of consideration from the uniform practice of the two countries for centuries past; and he was scarcely surprised to hear, even from such enlightened men as he had heard speak upon the subject, that France and England were naturally and necessarily enemies. The fact, he was persuaded, was directly the reverse; for however ambition might have embroiled them with each other, still there had always been, in the individuals of both countries, a disposition towards a friendly intercourse, and the people of France and Britain had each of them virtues and good qualities, which the other had liberality enough to acknowledge and admire. To suppose that any two states were necessarily enemies, was as

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an opinion founded neither in the experience of nations, nor in the history of man. It was a libel on the constitution of political societies, and supposed the existence of diabolical malice in the original frame of man. But, after all, what reason was there to imagine that the treaty was not only to extinguish all jealousy from our bosoms, but also completely to annihilate our means of defence? Was it to be supposed that the interval of peace between the two countries, would be so totally unemployed by us, as to disable us from meeting France in war with our accustomed strength? Did it not rather, by opening new sources of wealth, speak this forcible language, that the interval of peace, by enriching the nation, would be the means of enabling her to combat her enemy with more effect when the day of hostility should come? It quieted no well-founded jealousy, it slackened no necessary exertions, it retarded no provident preparation; but simply tended, while it increased our ability for war, to postpone the period of its approach. That we should not be taken unprepared for war, depended in no degree on this treaty, but simply and totally on the ability and vigilance of the administration for the time being.

The objections of the manufacturers to this treaty, were chiefly these: that the proposed intimate connection with France would afford opportunities of enticing away our workmen, and conveying the tools and raw materials of our manufactures out of the kingdom. To this it was answered: that the law upon these subjects would remain as formerly, and afford the same protection as at present to our manufacturers, by restraining the interference of foreigners upon the points alluded to. It was also objected in general to the treaty, that the commodities in which France traded, being the produce of her soil, which could not suffer in their quantities or quality by any lapse of time, whereas, our commodities being principally manufactures, which owe all their value to skilful and ingenious labour, it was to be feared, that the French might by degrees become as industrious and skilful as ourselves, and thereby enter into a successful competition with us, in every branch of our present trade; while our soil and climate rendered it impossible for us to equal them in the articles of their produce. To this objection it was replied, in general, that the different nature of the objects of British and French commerce was favourable to Britain, on account of the superior population employed in bringing our manufactures to market, and, at all events, that the threatened change could not occur in twelve years, which was the whole duration of the treaty. The ministry might also, with justice, have added, that the surest mode of preventing a neighbouring nation from becoming the rivals of any branch of our manufactures, is to supply them with these manufactures cheaply and in abundance, which must have the effect of indueing them to divert their capital and their industry into some more profitable channel. The most likely channel, with regard to France, would be the production of wine, a branch of trade in which Britain never can have reason to regard them with jealousy. Mr Pitt concluded his speech, by moving a resolution, the object of which was, to carry the treaty into effect.

The members of opposition objected to the treaty chiefly upon political considerations. Mr Fox contended that the only situation in which Great Britain could stand, in the general system of Europe, with honour, dignity, or safety, was as a counterpoise to the power of France: This had been our invariable quality, in all the most flourishing periods of our history; and it was this circumstance, operating upon the restless ambition of France, not any inward antipathy of mind, nor the memory of Cressy and Agincourt, that made the two nations natural enemies. To prove that no assurances of the friendship of France were to be trusted, when a hope existed of diminishing the power of Britain, he mentioned the correspondence between the French ministers and Lord Stormont, during the first years of the American war, in which they most pointedly disavowed any intention of interference. He observed that, when it was further considered who the monarch was that then sat on the throne of France, a monarch of the most mild and benevolent character, and celebrated for his love of justice; and that the minister who directed his councils was far advanced in the last stage of life, of a feeble and timid disposition, and therefore unlikely to be led away by any new and visionary projects of ambition; not a doubt could be left in any one's mind, but that the French nation was actuated by a regular, fixed, and systematic enmity to this country. France had, indeed, found that Great Britain could not be subdued by direct efforts. Mr Fox, therefore, thought it reasonable to suppose, that she had altered her policy; that instead of force, she intended to employ stratagem, to prevent our cultivating other alliances, to lessen the dependence of foreign states upon us, to turn all our views to commercial profits, to entangle our capital in that country, and to make it the private interest of individuals in Britain, rather to acquiesce in any future project of ambition, in which France might engage, than come to a rupture with her.

Mr Francis farther enlarged upon these ideas of Mr Fox, and reproached Mr Pitt with a desertion of the principles of his father Lord Chatham, the most prominent feature of whose political character was *Antigallican*. Mr Flood, Mr Sheridan, and others, supported the same sentiments. Mr Powis and Mr Alderman Watson opposed the treaty, as bringing the British commerce unnecessarily into hazard at a time when it was extremely prosperous. The treaty was defended by Mr Grenville, Mr Wilberforce, and Mr Dundas. This last gentleman said that he had heard much excellent political speculation, which, in his apprehension, had little relation to the subject in question: that the treaty had nothing political in its nature, but was merely a measure calculated to put it in the power of Britain to enable her artists to circulate her manufactures in a much greater degree than could ever formerly be done, by opening to them one of the most extensive markets in the world. He contended it was wise to take advantage of a period of peace to extend our commerce, reduce our debts, and enrich the nation. The resolution proposed by Mr Pitt was carried by a division of 248 against 118.

In the house of lords, the commercial treaty was opposed with much warmth by Dr Watson, bishop of Llandaff. He contended that we ought not to abandon a commercial system, by which we had risen to our

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809 Political objections stated against the treaty.

810 Commercial treaty approved of by the commons.

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Britain. our present prosperity, and far less to adopt a system which our ancestors had reprobated as detrimental to the welfare and greatness of the nation. The marquis of Lansdowne (formerly Lord Shelburne), defended the treaty with much ability. He said that commerce, like other sciences, had simplified itself, and that the old system, with all its monopolies, prohibitions, protecting duties, and balances of trade, was justly exploded; that it was a proud day for the manufacturers of this country, to see them come down in a body from these strongholds. He denied that the French nation entertained a systematic enmity against Britain, and said, that if commerce was to be free, there existed no reason for making an exception with regard to France. Their wines, brandy, vinegar and oil, are luxuries which we can get elsewhere; whereas they cannot procure, with equal advantage, coals, lead, and tin. He concluded with declaring his opinion, that if this country should decline, it would not be on account of this treaty, but for other obvious causes. If we went on sacrificing the army, the church, and the state, to the paltry purpose of procuring majorities in the two houses of parliament, we could never expect to be prosperous or powerful.

On the part of administration the defence of the treaty in all its stages appears to have been chiefly entrusted to Lord Hawkesbury, (formerly Mr Jenkinson).

811 and by the lords. He was opposed by lords Loughborough, Stormont, and Porchester; but it was carried by a majority of 81 against 35.

812 Act to consolidate certain taxes. During the present session, a plan for consolidating into one act of parliament the whole duties imposed by the statutes of customs and excise, was brought forward by Mr Pitt, that it might be no longer necessary either for merchants, or for revenue officers, to turn over the whole statute book in search of the amount of the duties upon particular commodities. The plan received the universal approbation of the house of commons. The duties imposed upon French merchandise, in pursuance of the late commercial treaty, were also included in the same act, although that part of the measure was resisted by opposition.

813 Motion to repeal the corporation and test acts. On the 28th of March, Mr Beaufoy, member for Great Yarmouth, at the request of the deputies of the dissenting congregations about London, made a motion for the repeal of the corporation and test acts. He observed that the test act was originally levelled against the Roman Catholics, and the corporation act against those sectaries who had agitated the kingdom in the times of Charles I. and during the usurpation, with whose character the dissenters of the present age have nothing in common. Mr Beaufoy contended that, as every man has an undoubted right to judge for himself in matters of religion, he ought not on account of the exercise of that right to incur any punishment, or to be branded with what is undoubtedly a mark of infamy, an exclusion from military service and civil trust. He referred to the examples of Scotland, Holland, Russia, Prussia, and the dominions of the emperor, in none of which he said religious opinions were now made the ground of civil disqualification.

Lord North, who had now lost his sight, opposed the proposed repeal, chiefly on the footing of the hazard attending innovation. He denied that a man is subjected to any punishment, because he does not choose to receive the sacrament of the Lord's Supper, according to the usage of the church of England. He only deprives himself of a privilege which he might otherwise enjoy, and which the law, for the safety of the church, had limited to persons of particular opinions. Mr Pitt supported the same side of the question, from the danger to the established church, which would result from intrusting official situations to dissenters. Mr Fox supported the motion in favour of the dissenters; remarking, however, upon this occasion, that from their conduct in a late political revolution, he could not be suspected of being biassed by an improper partiality towards them. The motion was lost on a division of 177 against 100.

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814 Prince of Wales's debts. On the 20th of April, Mr Alderman Newnham brought under the view of the house of commons, the pecuniary situation of the prince of Wales, whose affairs had, by this time, fallen into a state of embarrassment. It appears that, previous to this period, a considerable degree of coldness had been known to subsist between the king and the prince. A judicious historian will scarcely account it worth his while to inquire after any other cause for such a circumstance, than merely that which is to be found in the overpowering influence that the passion of ambition possesses over the human mind, which so seldom permits any monarch to regard with complacency the person who has the prospect of his succession. In 1783, when the prince came of age, Mr Fox and his colleagues, who were then in office, wished to grant him an annual income of 100,000l. but his majesty insisted that he should only be allowed one half of that sum. In the year 1786 the prince was found to have contracted a debt of 100,000l. exclusive of 50,000l. expended on Carleton-house. He applied to his majesty to obtain relief from this incumbrance. On receiving a refusal, he instantly dismissed the officers of his court, ordered his horses to be sold, the works at Carleton-house to be stopped, and reduced his household to that of a private gentleman. From these savings an annual sum of 40,000l. was vested in trustees for the payment of his debts. This decisive and spirited conduct was represented at court as disrespectful to the king; and from this period his majesty's dissatisfaction with the prince appears to have been no longer concealed. On occasion of the assault made upon the king's person by Margaret Nicholson, it was remarked that no notice of the accident was sent by the court to the prince of Wales; and when, upon receiving the intelligence, he instantly went to Windsor, he was received there by the queen, but the king did not see him. At this time a French prince, the duke of Orleans, then the richest individual in Europe, was in England, and was said to have made a proposal to relieve the prince from all his pecuniary embarrassments; but this dangerous offer was declined. In these circumstances the prince permitted his situation to be brought before the house of commons, with a view of submitting his conduct to the judgment of the public. Accordingly, on the day already mentioned, Mr Newnham demanded of the chancellor of the exchequer, whether ministers intended to bring forward any proposition for the relief of the prince of Wales; asserting, that it would be disgraceful to the nation to suffer him to remain

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longer in his present reduced circumstances. Mr Pitt replied, that he had received no command from his majesty upon the subject; without which it was not his duty to bring forward an affair of such a nature. Upon this Mr Newnham intimated his intention of bringing forward a motion upon the subject on the 4th of May. On the 24th of April, Mr Pitt requested to know the nature of the intended motion, declaring his wish to avoid a discussion of the subject. He added, that if it was persisted in, he would be under the necessity of bringing before the public some circumstances of extreme delicacy. At the same time, Mr Rolle, an adherent of the ministry, declared, that the question involved matter, which he threatened to bring into view, by which the constitution both in church and state might be essentially affected. This menace was known to allude to an intimate connection which was supposed to subsist between the prince and Mrs Fitzherbert, a lady of a respectable Roman Catholic family, with whom the the scandal of the times alleged he had undergone the ceremony of marriage both by Catholic and Protestant clergymen, which, however, if true, could have no legal effects, in consequence of the provisions of the royal marriage act. Mr Newnham said, that his intended motion would be for an address to his majesty to relieve the prince of Wales from his present difficulties. When some members expressed their wish that the affair might be privately accommodated in some other manner: Mr Sheridan declared, that after the insinuations and threats which had been made, the prince could not recede with honour. Mr Pitt said, that his remarks had no reference to the character of the prince, but merely to a correspondence which had taken place relative to his pecuniary affairs.

815 Intended motion on the prince of Wales's debts.

On the 30th of April, when the subject was again mentioned, Mr Fox, who had been absent during the former debate, stated that he had authority from the prince to say, that there was no part of his conduct which he was unwilling to submit to public investigation. The allusions made to something full of danger to the church and state, he treated as a tale fit to be imposed only on the lowest of the vulgar; and said, that his highness was ready, in the other house, as a peer of parliament, to give his majesty, or his ministers, any assurances or satisfaction on the subject they might require. Mr Fox, at the same, time directly assured the house, that the whole story alluded to was untrue. The result was, that an accommodation took place. The prince was allowed an annual addition to his income of 10,000l. and 181,000l. was granted by parliament for payment of his debts.

816 Privileges of the Scotish peerage.

During this session some discussions occurred relative to the privileges of the Scotish peerage. In the house of lords, after considerable debate upon a motion of Lord Hopetoun, a resolution was adopted to enforce an ancient resolution of the house, of January 1708-9, which declared, that Scotish peers, created British peers by patent since the union, have no right to vote at the elections of the sixteen who represent the body of the peers of Scotland in the British parliament. In the house of commons also, on the 23d of May, a question concerning the same body was agitated. It arose in consequence of the succession of the earl of Wemyss to that earldom, whose eldest son, Francis Charteris, who thus became Lord Elcho, represented the boroughs of Lauder, &c. in Scotland. By the ancient law of Scotland, the eldest sons of peers could not sit in parliament, which consisted of one house only. By the treaty of union it is declared, that the two kingdoms should participate in the rights and immunities of each other. Sir John Sinclair moved, that a new writ should be issued for electing a member in the room of Francis Charteris, Esq. now become the eldest son of a peer in Scotland, and therefore incapable of representing the boroughs of Lauder, &c. In support of the motion some very early precedents were alluded to; and, after some debate, the motion was carried.

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817 Accusation of Mr Hastings.

But the subject which, above all others, still continued during the present session to occupy the attention of parliament, was the accusation of Mr Hastings. After examining Mr Middleton and Sir Elijah Impey as witnesses, in the beginning of February, Mr Sheridan, on the 7th of that month, opened the third charge against Mr Hastings, which asserted, that without justice, or any excuse of political necessity, he had seized the lands, and confiscated the treasures, of the begums or princesses of Oude, the mother and grandmother of the reigning nabob, whom he had even compelled to become the instrument of this robbery. On this occasion the hall of the house of commons was uncommonly crowded. Mr Sheridan's speech lasted five hours and a half. The subject of the charge was well fitted for displaying all the powers of pathetic eloquence, in consequence of the rank and the sex of the parties whom, on this occasion, Mr Hastings was accused of having treated with the most barbarous rapacity, treachery, and cruelty. Every advantage was taken of these circumstances, and Mr Sheridan's discourse was considered as a model of splendid and impressive pleading. When he sat down, the whole house, which was filled with members, peers, and strangers, instantly joined in a loud and long-continued tumult of applause, expressing their approbation in the irregular mode of repeatedly clapping with their hands. Mr Burke declared it to be the most astonishing effort of eloquence, argument, and wit united, of which there is any record or tradition. Mr Fox said, that all that he had ever heard, or read, when compared with it, vanished like vapour before the sun; and Mr Pitt asserted, that it surpassed all the eloquence of ancient or modern times, and possessed every resource which genius or art could furnish to controul and agitate the human mind. After a suspension of debate, some of Mr Hastings's friends attempted to speak in reply, but found it impossible to procure themselves to be listened to with any appearance of favour. At last some members proposed, that for the sake of decorum, the debate should be adjourned. This proposal was carried; and on the following day Mr Francis resumed the charge, which was opposed by Mr Burgess, Major Scott, Mr Nichols, Mr Vansittart, and Mr Alderman le Mesurier. After having heard the arguments on both sides, Mr Pitt rose, and after having stated the sense he entertained of the high importance of the whole procedure against Mr Hastings, asserted, that he himself had endeavoured to give every fact stated in each particular charge, the fullest investigation, and to perform his duty honestly, impartially, and conscientiously. On the present occasion, he declared

818 Mr Sheridan's celebrated speech.

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cleared himself fully satisfied, that criminality was brought home to Mr Hastings, though not perhaps to the full extent alleged by the accusers. The motion for accusation was carried, upon a division of 175 against 68.

At future periods of the session other charges were brought forward, and opened by Mr Thomas Pelham, Sir James Erskine, Mr Windham, and Mr Francis. Mr Pitt adopted the cause of the accusers, and on some occasions, though in a mild manner, Mr Dundas did the same. At one period of the accusation, Lord Hood stood forward in a very solemn manner, and requested the attention of the house to the consequences of proceeding, with too scrupulous a nicety, to canvass the conduct of those who had filled stations abroad of high difficulty and important trust. Certain actions, which appeared to those at a distance in a very criminal light, were yet, he alleged, on a nearer investigation, perfectly justifiable on the grounds of absolute and indispensable necessity: should the fear of an impeachment by parliament be hung out to every commander in whose hands was placed the defence of our national possessions, it must necessarily operate as a dangerous restraint to their exertions, when it was considered that no general or admiral had scarcely ever been fortunate enough to conduct himself in the performance of his duty, without occasionally falling into circumstances, in which the public service compelled him to do things in themselves not pleasing to his feelings, nor strictly legal, but, from the indispensable necessities of their situation, perfectly justifiable. The example set by the house of commons in the present instance, would, he said, for ever stand before our future commanders, and create a great and dangerous clog to the public service. This, he was confident, would be the effect of punishing any harsh and severe, but perhaps necessary and indispensable, acts of power, which the saviour of India had, for the public good, been found to commit. Mr Pitt opposed the application of these sentiments to the case of Mr Hastings, asserting, that no adequate political necessity had been pointed out which could justify his conduct.

819 Lord Hood's defence of Mr Hastings.

In the course of the proceedings, it appeared that several members were disposed to consider the merits of Mr Hastings as compensating his crimes, and thus, though they voted his conduct criminal on particular occasions, they had an intention of voting in his favour, when the general question should come to be proposed, about the propriety of proceeding to impeachment. Upon this subject, Major Scott took an opportunity to declare, that Mr Hastings and his friends wished to decline such a mode of defence; and he read to the house as a part of his own speech, a paper signed by Mr Hastings, in which he requested, that if a general vote of criminality should pass against him, by that house, they should farther proceed instantly to an impeachment, that he might have an opportunity of defending himself judicially.

820 Committee appointed to prepare articles of impeachment.

A committee was at last appointed, to prepare articles of impeachment against Mr Hastings. It consisted of the following persons, whose names we shall recite, as exhibiting a list of the most active leaders of opposition at this period. Mr Burke, Mr Fox, Mr Sheridan, Sir James Erskine, the right honourable Thomas Pelham, the right honourable William Wyndham, the honourable St Andrew St John, John Anstruther, Esq. William Adam, Esq. M. A. Taylor, Esq. Welbore Ellis, Esq. the right honourable Frederick Montague, Sir Grey Cooper, Sir Gilbert Elliot, Dudley Long, Esq. Lord Maitland, the honourable George Augustus North, General Burgoyne, and Mr Grey. An attempt was made, by Mr Burke, to procure the appointment of Philip Francis, Esq. as a member of this committee, but without success. He was rejected by a majority of 96 to 44, on account of his being considered as the personal enemy of Mr Hastings, whose measures he had opposed, and with whom he had fought a duel, in India. On the 25th of April, Mr Burke presented the articles of impeachment. They were read, and ordered to be printed and considered, on the 9th of May. Upon that day Lord Hood repeated his former arguments against them, and was supported by Mr Smith, and the celebrated Mr John Wilkes. This last gentleman insisted strongly on the silence of the natives of India, upon the subject of the dreadful oppression said to have been practised against them, and attributed the greatest part of what appeared criminal in the conduct of Mr Hastings, to the craving and avaricious policy of this country, whose demands had, in some instances, driven Mr Hastings to the use of means not strictly justifiable. The amount of the charges, he said, supposing the facts true, was this, that Mr Hastings, by oppression, by injustice, and corruption, had obtained for the East India Company, nine millions and a half sterling. Mr Wilkes thought the acts complained of politic and just; he could not honestly vote for the impeachment of Mr Hastings, while he benefited by his misdeeds. He added, that it appeared incomprehensible to him, how gentlemen who condemned his actions, suffered a day to pass without proposing retribution to the sufferers.

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821 Mr Hastings defended by Mr Wilkes.

822 By Ilay Campbell, Esq.

The lord advocate for Scotland (Ilay Campbell, Esq.) supported this last idea. He considered the necessities of the company, and the dangerous crisis of their affairs, as grounds of justification for the strong measures pursued by Mr Hastings, in order to extricate them. The company having actually reaped the benefit of them, and so far approved of them as never to have signified any intention of restitution; he could not, he said, conceive with what propriety Mr Hastings could be impeached for them. He further observed, that Mr Hastings had been most unjustly blamed for various acts of administration, in which he had only concurred with others; that the order of dates, as well as the state of the council at different periods, ought to have been more distinctly attended to in the charges. Mr Hastings had enjoyed the casting voice in the council, only for a very short time, and even then, Mr Barwell was equally responsible with him. Afterwards Mr Wheeler, Sir John M'Pherson, Sir Eyre Coote, and Mr Stables, came gradually into the council. At one period, a coalition took place between Mr Hastings and Mr Francis. How do the prosecutors account for this? And is Mr Hastings alone to be made accountable, during that period? He concluded with observing, that in suggesting what had occurred to him, in favour of Mr Hastings, he had avoided saying any thing upon the topic of his extraordinary services in general, being doubtful

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ful whether upon the supposition of guilt, in any specific article, a *set-off*, as it is called, or balancing of accompts between merits and demerits, would relevantly be admitted; at the same time, it was a mode of defence not altogether new. The proceedings in Lord Clive's case left no room to doubt, that he owed his safety to it; and there was still a more illustrious example of it in history, the case of Epaminondas the Theban general, who, when tried for his life before the tribunal of his country, for having kept the command four months after he should have laid it down, acknowledged the crime, but enumerated the glorious actions which he had performed; and said he would die with pleasure, if the sole merit of these were ascribed to him. This speech procured his acquittal. The lord advocate thought Mr Hastings well entitled to make use of similar language to the British nation, when accused of having acted illegally in India.—Mr Alderman Townshend justified Mr Hastings on the ground of state necessity; and said that he deserved the highest applause, for not having stood upon so paltry a punctilio, as considering whether a measure was rigidly correct and legal, when the immediate necessity of the company's affairs, and the salvation of India, were concerned.

823 Mr Pitt's reply.

Mr Pitt reprobated the idea of a set-off in very strong terms. He acknowledged that many measures during the administration of Mr Hastings were uncommonly brilliant, and that, in these, his merits were unquestionable. But he trusted that no man, who seriously regarded the honour of the house of commons, would expect that the justice of the country could admit of any compromise whatever. He was sorry his honourable friend, the lord advocate of Scotland, should conceive the honour of the representatives of the British nation not interested in rescuing the British character from that degree of infamy and degradation to which it had been reduced. The accusations which had been preferred against Mr Hastings were now not only the cause of the house, but, in his opinion, involved the honour of every member individually. Nor had he less hesitation, from the importance of the subject, to say it affected the government of the whole empire. It was a question which shook the basis of the constitution, for it was literally a question of responsibility. The policy and interest of the country required, that an example should be made of the delinquent. The necessity of this, he urged particularly from the disposition he perceived in the abettors of Mr Hastings to justify him on the principles of expediency and necessity.

824 The impeachment voted.

The question of impeachment was carried by a majority of 175 against 89. And on the 10th of May, at the bar of the house of lords, Mr Burke, in the name of the house of commons, and of all the commons of Great Britain, impeached Warren Hastings, Esq. late governor-general of Bengal, of high crimes and misdemeanors; and informed the lords that the commons would with all convenient speed exhibit and make good articles against him. On the 21st of the same month, upon the motion of Mr Burke, Mr Hastings was taken into the custody of the serjeant at arms of the house. He was immediately admitted to bail by the house of lords. He was bound in the sum of 20,000l. and two sureties in 10,000l. each. As the session of parliament was prorogued on the 30th of May, the trial was necessarily postponed to another session, and by various delays it was ultimately protracted to an extraordinary length.

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825 Reflections on the accusation of Mr Hastings.

The accusation of Mr Hastings, from the attention which it excited, and the talents which were exerted in it, is undoubtedly an event of considerable importance in British history. It ended in the acquittal of the party accused, but at the same time the immense expence which he incurred, and the uneasiness which he must have suffered from the high degree of odium which in the minds of many persons was excited against him, must undoubtedly have amounted to a very severe punishment. A British house of commons held him guilty of inhumanity, rapacity, perfidy, and tyranny, towards a numerous and a civilized people that had been subject to his power. These sentiments were so widely diffused throughout Great Britain, that the minister of the day, always studious of popularity, thought it necessary to join the general current of opinion; and this will probably be regarded as one of the instances in which Mr Pitt must have exerted some kind of singular dexterity in preserving the confidence of the court, while he seemed to favour a prosecution that was not generally considered as acceptable there.

The period is perhaps scarcely yet arrived when a British historian can so far elevate his mind above temporary and national prejudices as to enable him to appreciate correctly the merits of Mr Hastings, or the reasonableness of the accusations that were brought against him. In making the attempt, it is necessary to consider correctly the situation in which that gentleman stood. He was invested by the British East India Company with absolute power over the people and the soil of a large portion of Hindostan, for the purpose of governing that country for the profit of the company, and to acquire more extensive territories for them if possible, To fulfil the service in which he was employed, it was necessary that he should procure a large revenue for the company, and at the same time that he should enable the young men of rank, whom they sent out in their service, speedily to return to Britain with great wealth; these being the only objects on account of which the East India Company, or the British nation, had made great efforts for the conquest of the east. But these objects evidently imply not that Hindostan was intended to be mildly and generously governed, but that it was to be plundered to the utmost extent that it could bear without ruin. Accordingly, in 1782, Mr Hastings, in one of his letters, complained strongly of the cruelty of his situation, and of the expensive establishments and offices which he was under the necessity of constituting in India, to gratify the avarice of his employers, declaring that he had at that time about him 250 persons, the younger sons of the first families in Britain, all looking up to him for patronage, and expecting to be put in possession of sudden riches. These riches, it is evident, could not be drawn from the natives of Hindostan without much oppression; and when this oppression produced rebellion, or combinations of the native princes against the British power, it became necessary to be guilty of farther oppression, or more grievous extortion, to collect means whereby to subdue the resistance of the vanquished people.

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Britain. It is admitted on all hands, that Mr Hastings was almost unboundedly successful in the service of his employers. He annually sent home great numbers of men loaded with the plunder of the east, while at the same time, by great activity and intrepidity, he collected resources wherewith to maintain and extend the British power, and was enabled to support it in all quarters against the most extensive combinations of the princes of that country.

There are two systems of morality, according to which the character of such a man as Mr Hastings may be tried. The one is founded upon the principle of national attachment or patriotism, and the other upon the great law of humanity. According to the first of these, that conduct is most worthy of applause, which tends in the highest degree to promote the aggrandizement of our native county. Considered in this point of view, the merits of Warren Hastings have seldom been surpassed; and he may justly be ranked among those men whose actions the historians of Greece and Rome, and indeed of almost all nations, have recorded with boundless admiration, and he may well stand a comparison with the first heroes of antiquity. Such difficulties as perplexed Alexander of Macedon, at the head of a great and well-disciplined army, repeatedly yielded to the energy of his talents, which often enabled him, with the most trifling force, and by the mere ascendency of his personal character, to exercise a despotic authority over an immense country, and to extend the territories of his employers. It is true, that he plundered the provinces of the East, but it was to aggrandize and enrich his country that he did so. He accounted their persons and fortunes as of little consideration, because he was the devoted servant of Britain. Accordingly, the most patriotic people in Europe, the French, whose public enemy he had been, regarded him with admiration, and uniformly extolled his actions as more than human.

In opposition to all this, if we are to weigh the conduct of Mr Hastings by those maxims of morality, which consider the great interests and law of humanity as the rule by which human actions ought to be regulated, there can be no doubt that he must be condemned. He can only be regarded as one of those robbers of nations, to whose crimes historians and poets have given a fatal celebrity. He was guilty of plundering and oppressing a pacific race of men at the extremities of the earth, in whose affairs neither he nor his country had any right to interfere. But the great criminals in this case were the British East India Company, the British legislature, and the British nation, that sent him upon such a service. Mr Hastings was only the guilty servant of a guilty people; and it surely ill became the British house of commons, that had authorized the acquisition of conquests, that is, the exercise of murder and oppression in the East, and whose constituents had become rich by the plunder or the profits of such enterprises, to accuse as a criminal the most successful servant of the state. We therefore apprehend, upon the whole, that Mr Wilkes and the lord advocate for Scotland rested Mr Hastings's defence upon an unanswerable footing, when they considered his crimes as services, which he was employed by his country to perform for its aggrandizement, for the moral rectitude of which he could not be responsible to that power, from which he derived his commission, and which thought fit to reap the fruit of his labours.

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826 Affairs Holland

During the year 1787, the state of amity into which Britain and France might be regarded as brought, in consequence of the commercial treaty, seemed likely to be disturbed, in consequence of the affairs of Holland. The grounds of difference were speedily adjusted; but the events from which they rose are worthy of notice, on account of their tendency to explain some future occurrences in the history of Europe. The state of the Dutch republic, or, as it was usually called, the United Provinces, was always regarded as of much importance by Great Britain. That country, being situated upon the mouths of the navigable rivers which communicate with some of the most important parts of the European continent, is the great passage by which our manufactures reach their place of ultimate sale and consumption. In our most important efforts for reducing the power of France, the Dutch had acted along with the British nation. Their stadtholder, who had at all times dreaded the power of the French, was disposed to look for protection towards Britain, and was not understood to have concurred zealously, during the late war, in supporting the cause of France and America. The present stadtholder had united himself by affinity to the court of Prussia, with which that of Great Britain had of late begun to be upon terms of great cordiality.

827 Parties in the Dutch republic.

In the history of the United Provinces, during two centuries, two parties are always found struggling for superiority. The first, was that of the house of Orange, which had been first raised to power in consequence of the talents of its chiefs, united with their rank and property, which had induced the states to intrust to them the direction of their armies; first, against the Spanish monarchy, from which the provinces had originally revolted, and afterwards against the power of France. By their great public services, the princes of the house of Orange had established, in their own favour, a kind of hereditary claim to the offices which they held in the republic, of stadtholder, captain-general of the forces, and admiral. Thus there existed, in their persons, in succession, a kind of limited monarchy, by which the Dutch republic was influenced and led, rather than formally governed.

The second party in the Dutch republic consisted of a kind of aristocracy, composed of the senates or town-councils of different cities, which possessed the power of nominating to the vacancies in their own order, that is, of electing their own successors in office. This party was usually denominated the *party of the states*, or *the republican party*. Its members were, in point of form, the sovereigns of the country, and were the wealthiest individuals in it. The chief constitutional controul which the stadtholder possessed over them, consisted of a regulation violently established by William III. prince of Orange, in 1674, whereby he enjoyed a negative over the elections to town governments, and a power, in certain cases, of introducing members into them. It is to be observed, however, that the mass of the people at large, who always find greater safety under the dominion of one great superior, than of a multitude of petty local chiefs, were always decidedly attached to the house of Orange, or to the power of the stadtholder, in opposition to that of

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of the town senates or republican party. The ancient nobles also, together with the clergy of the established church, and the officers of the army and navy, adhered to the same family, and thereby enabled it on ordinary occasions to support its power.

328 Dutch volunteers.

During the participation of the United Provinces in the late war against Great Britain, a proposal had been made to enrol bodies of volunteers in the different towns, for the purpose of internal defence. The senates of the towns, that is, the aristocratical, or, as they called themselves, the *republican party*, encouraged the formation of these armed bodies of burghers (over whom at their first enrolment they had complete influence), as affording them a kind of counterpoise against the military power, which, though paid by them, was commanded by the stadtholder. These bodies of citizens, as soon as they were trained to the use of arms, began to be sensible of their own importance. The opinions propagated in North America, during the war, were known all over Europe. They were received with considerable avidity by the Dutch volunteers, and produced in that country a kind of third or democratic party, whose object was to procure for the citizens at large of the towns, a share in the nomination of the magistrates. As the volunteer associations were originally the creatures of the senates or aristocracy, for the purpose of counteracting the power of the stadtholder, they appear, in their first movements, to have been directed by that faction. One of their first movements was at Utrecht. The armed burghers, amounting to 2243, presented a petition to the states of the province of Utrecht, requesting them to abolish the regulation of 1674, whereby the stadtholder was enabled to influence the nomination of the magistracy. They presented an address of a similar nature to the town senate of Utrecht, and to the prince of Orange. As might have been expected, the answer of the prince was unfavourable; but the magistrates of Utrecht, in compliance with the wish of the armed burghers, proceeded to fill up a vacancy in their own number, without consulting the prince. This event occurred in January 1784; but it appears, that in the course of the same year, either from the intrigues of the stadtholder's court, or from a dread of betaking themselves to the assistance of the new and dangerous democratic party, the states of the province and town senate of Utrecht, deserted the cause of the armed burghers, whom they themselves had instigated to action, and recalled or annulled the steps towards innovation which they had taken. The senate and the armed burghers continued alternately to intimidate each other. By degrees, a spirit of political reform, or innovation, diffused itself from Utrecht to the different towns in the provinces where bodies of volunteers or armed burghers had been established. The armed burghers of Utrecht elected a representative body to watch over the management of public affairs; and various other towns did the same. These representative bodies soon quarrelled with the old senates; and the prince of Orange appears to have had it in his power to select which of the parties he might think fit as his adherents. His ancient enemies were the aristocracy or town senates. At the same time, as he could not, without the dangerous measure of a total alteration of the constitution of the United Provinces, derive a regular and legal support from the bodies of armed burghers, he resolved to support the ancient magistracies, and to rest his power upon its ancient footing of influence over these magistracies, though he knew them to be his rivals in political importance. Hence he supported the magistrates of Utrecht and other places against the armed burghers. It would seem, that the aristocracy of the province of Holland, who had always been the most decided enemies of the family of Orange, were not satisfied with the disposition of the prince to support the ancient constitution, and resolved to attempt to undermine or overthrow his power, even at the hazard of a popular or democratic revolution, which must be equally fatal to their own. This aristocratical body, however, was not of an enterprizing character, and rather waited than attempted to direct the course of political events. In consequence of the support given by the stadtholder to the senates of Utrecht and other places against the armed burghers, these last, through the whole United Provinces, became disposed to act in opposition to him. In the meanwhile, the populace of the Hague retained their usual attachment to his person and family. On the 4th of September 1785, twelve volunteers of the corps of the town of Leyden, appeared at the Hague in uniform. The populace, offended by this appearance of defiance to the prince at the place of his residence, attacked and drove them into a neighbouring house, the windows of which they broke. A part of the garrison, without interfering with the populace, took the volunteers into custody, and sent them home privately by night. This riot served as a pretext to the states of Holland to supersede the prince of Orange in the command of the garrison at the Hague, which they intrusted to the deputies of Haerlem, a town that had been zealous in opposition to the stadtholder. As this prince had been engaged in endless controversies with the states of Holland, in which the strength of the aristocratical party was concentrated, this affront drove him to the resolution of leaving the Hague, which he did on the 14th September 1785. He applied for protection to Great Britain, whose cause he had supported in opposing the resolution to give any assistance to the Americans in the late war, and to the king of Prussia, the uncle of his wife. The aristocratical party, on the contrary, made application to the court of Versailles, which it had supported by entering into the confederacy against Great Britain, and from which it had always received encouragement. At the same time, it endeavoured to derive assistance, from uniting its cause extensively with that of the armed burghers.

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329 Interference of the neighbouring states in the affairs of Holland.

In the mean time, the celebrated Frederick, king of Prussia, died, and was succeeded by his nephew, Frederick William, the brother-in-law of the stadtholder. The French court appeared to espouse with vigour the united aristocratical and democratical parties in the United Provinces. The new king of Prussia seems to have hesitated to engage in a dispute with France; and there is little doubt, that had the French court, on this occasion, appeared ready to act with vigour in support of their party in Holland, the stadtholder must have fallen before his enemies; neither is it probable, that Britain would, at this time, have engaged in a new war on his account. But the French monarchy,

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monarchy, under a benevolent and well-meaning but weak prince, was, at this period, rapidly sinking into a state of great feebleness, in consequence of the extreme embarrassment of its finances. A negotiation was at first proposed between the courts of France and Berlin, for the purpose of adjusting, in some friendly manner, the differences between the stadtholder and his enemies. The weakness of France, however, becoming gradually more obvious, Prussia and Great Britain were soon induced to act a more decisive part in the affairs of Holland, chiefly, it is believed, in consequence of the suggestions of the British ambassador at the Hague, Sir James Harris. The stadtholder had established himself towards the eastern part of the Dutch territory at Nimeguen. Though himself a man of little activity or enterprise, his princess was of a different character. She ventured to undertake a journey to the Hague, unaccompanied by her husband, probably with a view to what actually happened. On the 28th of June 1787, she was arrested by some troops of the opposite party; and this circumstance afforded an excuse to the king of Prussia for interfering in the internal affairs of the United Provinces, to demand a reparation for the insult offered to his sister. A Prussian army, commanded by the duke of Brunswick, the brother-in-law of the king of Great Britain, immediately prepared to invade Holland. To secure additional aid to the prince of Orange, a treaty was concluded between Great Britain and the landgrave of Hesse Cassel, for the assistance of 12,000 troops. In the mean time, the United Provinces remained in a state of great internal distraction. The defects of their political constitution had originally occasioned the appointment of a stadtholder; and no simple system was yet substituted in its stead, which, by doing away the distinctions of states and provinces, might unite the force of the country, for the purpose of enabling it to resist such powerful aggression as that with which it was now threatened. The promised aid from France did not arrive; troops had been levied by the states of Holland, and the chief command of them was intrusted to the rhingrave of Salm, to whose character little confidence appears to have been due. The duke of Brunswick, at the head of a powerful army, entered the country. The reputation of the Prussian armies in Europe was at this time extremely great; and the frontier towns of Holland, which were capable of resisting severe sieges, were now taken with facility, and without a struggle. It is unnecessary to detail the progress of the Prussian troops, which was extremely rapid, and in little more than a fortnight, the republican party found itself confined to the city of Amsterdam. This city was besieged on the 1st of October. After much negotiation, and a variety of attacks, this city, which had so often given laws to other states, admitted a foreign garrison to the possession of its gates. The influence of France was thus totally annihilated in Holland. The power of the stadtholder was restored; but it was restored by the power of Prussia and of Britain. The consequence was, that a decided enmity to these two countries, from that period, took possession of the minds of a great portion of the inhabitants of the Dutch territories. At the same time, the people of that country appear, from this period, to have fallen into a kind of despair, with regard to their national independence. Their ancestors had derived importance from the relative weakness of the neighbouring states; but from the experience of the event which now occurred, the people of Holland were made sensible of their own weakness, amidst the powerful nations by which they were now surrounded.

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830 The Prussians invade Holland.

831 Meeting of parliament.

When the British parliament met on the 27th of November 1787, the most remarkable circumstance alluded to in the king's speech was the affairs of Holland. He said, that the disputes which subsisted in the republic of the United Provinces had become so critical, as to endanger their constitution and independence, and were thereby likely in their consequences to affect the interests of his dominions: That upon this account, he had endeavoured, by his good offices, to maintain the lawful government in those countries, and had thought it necessary to explain his intention of counteracting all forcible interference on the part of France: That in conformity to this principle, when his most Christian majesty, in consequence of an application for assistance against the king of Prussia, made by the party which had usurped the government of Holland, had notified to him his intention of granting their request, he had declared, that he should not remain a quiet spectator, and had given immediate orders for augmenting his forces both by sea and land: That in the course of these transactions, he had thought proper to conclude a subsidiary treaty with the landgrave of Hesse Cassel: That the rapid success of the Prussian troops, having soon after enabled the provinces to re-establish their lawful government, and all subjects of contest being thus removed, an amicable explanation took place between him and the most Christian king; and both parties had engaged to disarm, and to place their naval establishments on the same footing as at the beginning of the year.

832 Mr Fox's opinion of the late measures respecting Holland.

When the address to the throne was moved as usual, Mr Fox took an opportunity of expressing the fullest approbation of the measures that had been lately pursued, and took credit to himself, as one of those who had invariably been of opinion, that this country is at all times deeply interested in the situation of affairs upon the continent, and ought, whenever occasion required, to take an active and vigorous part in preserving the balance of power in Europe. He reminded the house, how frequently he had warned them of the ambition of France when the commercial treaty was under discussion in the last session. He had been thought too severe and uncandid, from the distrust he had then expressed of its friendly professions, but within one year from the conclusion of that treaty, our new friend, this faithful commercial ally, had engaged to support, in Holland, a party in opposition to us, usurpers of the lawful government of their country. He approved of the principle of the subsidiary treaty with Hesse Cassel, as enabling us to reduce our military establishments at home, and to apply the public treasure to the increase of our naval strength, the natural force of Great Britain.

833 Bishop of Llandaff's opinion.

In the house of lords, the bishop of Llandaff, after expressing his satisfaction in seeing the republic of the United Provinces again united in its views with Great Britain, stated a difficulty which occurred to him, with regard to the principle in the law of nature and nations, which could authorize Great Britain and Prussia to

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Britain. to interfere by force, in settling the internal disputes of an independent state. Was it a right which every individual possesses, of assisting those whom he sees oppressed by unjust force? No: that would be to take the question for granted; since the opponents of the stadtholder will not allow that he was oppressed by unjust force. Was it the right of assisting the majority of a country, to recover their ancient civil constitution from the encroachments and usurpation of a faction? He hoped the fact would bear out such a justification; but he was not well enough acquainted with the wishes of the majority of the Dutch nation upon that head. Upon what other ground did he approve of our late interference? It was on the ground of self-preservation; for if France had gained Holland, we had been undone. When it is said that Holland, and the other states of Europe, are independent states, the proposition is true only to a certain degree; for they all depend one upon another, like the links of a chain; and it is the business of each to watch every other, lest any one become so weighty and powerful, as to endanger the security or political importance of every other.

834 Naval promotions. During the late interference of Great Britain and Prussia in the affairs of Holland, while a dread was entertained, that the discontented party in the provinces might receive assistance from France, and preparations were made on that account for fitting out a fleet, the lords of the admiralty had promoted 16 captains of the navy to the rank of admirals. In making this promotion, a selection had been made, in consequence of which upwards of 40 senior captains had been passed over, a circumstance which gave rise to various debates in parliament. To understand the subject, it is necessary to remark, that in 1718 an order of council directed the lords of the admiralty, in promoting officers to the rank of admirals in the navy, to prefer the senior captains, providing only they were duly qualified for the rank to which they were to be promoted. By a subsequent order of 1747, the lords of the admiralty were authorized to place such captains, as should be found incapable by age or infirmity of serving as admirals, upon the list of superannuated admirals, which had usually received the appellation of the list of the yellow admirals. In the promotion lately made, the board of admiralty had offered to place upon this list of yellow or superannuated admirals, most of the captains who were passed over; but conceiving themselves, from their capacity of future service, entitled to the rank of acting admirals, they had refused the retreat that was offered them, and a general disgust prevailed among the officers in the navy, on finding that their hopes of reward for the most active services, must at all times depend on their interest with the first lord of the admiralty. On the 20th of February 1788, Lord Rawdon, in the house of lords, stated their case, and proposed an address to his majesty upon the subject. The first lord of the admiralty, Lord Howe, justified the exertion of a discretionary power, by the board, in promoting navy captains to the rank of acting admirals, as a man might be fit to command a single ship, who ought not to be intrusted with the care of a fleet. Lord Sandwich asserted the impropriety of interfering with the executive government in an affair of this nature, and Lord Rawdon's proposal of an address was rejected.

835 Debates on the naval promotion.

The same subject was brought before the house of commons, in various forms, during the month of April, by Mr Bastard. He stated the merits of some of the individual captains who had been passed over as very great, and their services conspicuous, and asserted, that the most notorious partiality had been exerted in the promotion. He was supported by almost all the navy officers who had seats in the house, particularly Sir George Collier and Captain Macbride, who declared, that nothing short of ruin to the service must follow, if such a system of promotion was to continue. Mr Pitt defended the admiralty, by asserting, that no sufficient degree of misconduct had been stated, as could authorize the interference of parliament with the exercise of its powers. The board was protected, by a small majority of 150 against 134. Britain.

836 Duke of Richmond's plan of fortifying the West India islands. During the present session some debates were occasioned, by certain plans of the duke of Richmond. His project of fortifying certain places in Great Britain had been negatived by the house of commons; but a part of the same plan, consisting of erecting fortifications for the defence of the West India islands, was still persevered in, and required an additional land force in that quarter, of 3064 men. He also wished to purchase certain powder mills at Waltham abbey, upon a project that government should manufacture gunpowder there, for its own use. He farther proposed, to raise a corps of artificers for the ordnance department, to be divided into companies, and subjected to martial law. This last plan met with considerable opposition, but was carried by administration, along with the other projects.

837 Act against exporting wool. A bill was at this time brought into parliament, for subjecting to higher penalties than formerly, all persons who should export wool from the country, intending thereby to confirm the monopoly enjoyed by our own manufacturers in that article. The manufacturers asserted, that 13,000 packs of British wool were annually smuggled into France, which tended to raise the price of the commodity against our own manufacturers. Several country gentlemen opposed the bill, as an unjust hardship upon the profits of land in this country, which ought to have the world open, as a market for its productions. But the minister, who was aware of the importance of enjoying popularity with the commercial, that is, with the most active part of the British nation, gave full countenance to the bill, in consequence of which it passed into a law.

838 Flourishing state of the revenue. In stating the situation of the revenue, Mr Pitt made some remarks, descriptive of the improving state of the country, which are not unworthy of being here noticed. He said, that the receipt of the permanent taxes, in the year 1787, exclusive of the land and malt tax, had been 13,000,000l. The receipt of the taxes in the year 1783, had been 10,184,000l. Thus, there was an increase of revenue of three millions, of which not more than one million and a half accrued from new taxes. In the trade, the navigation, and the fisheries, the progressive improvement bore an exact proportion to the increased revenue.

In the year 1772 our imports were	L. 14,500,000
Our exports	16,000,000
In 1787 the imports were about	15,800,000
But the exports were	16,600,000

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In like manner our navigation had increased.

	Quintals.
The Newfoundland fishery in 1773 produced	516,000
In 1786 it produced	732,000
In 1773 the tonnage in the Greenland fishery was	Tons. 27,000
In 1786 it was	53,000

The southern whale fishery, a new and very valuable branch of trade, which we only took up at the beginning of the last war, had also equally prospered.

In this fishery, in 1785, there were employed 18 ships, producing 29,000l. In 1787, there were employed 38 ships, producing 107,000l.

839 Compensation to the American loyalists.

On the 8th of June the chancellor of the exchequer, Mr Pitt, called the attention of the house to the compensation which was intended to be made to the American loyalists, on account of the losses sustained by them in consequence of their adherence to this country during the American war. He divided the loyalists who had made claims of compensation into four classes. In the first class he ranked those who had resided in America at the commencement of the war, and who had been obliged to abandon their estates and property, which were seized and confiscated by the Americans. He proposed that such loyalists of this class as had not lost more than 10,000l. should receive full compensation; for losses above that sum, and below 35,000l. he proposed to grant 90 per cent. on the excess of losses above 10,000l.; where the losses were above 35,000l. and not above 50,000l. 85 per cent. was proposed to be allowed on the excess of losses above 10,000l. and where the loss was above 50,000l. 80 per cent. was to be allowed on all above 10,000l. The next class of claimants consisted of those who had lost property in America, but who had resided in England during the war. To the amount of 10,000l. Mr Pitt proposed to indemnify these also in full; but that from all whose claims amounted from 10,000l. to 30,000l. a deduction should be made of 20 per cent. and a farther additional deduction of 20 per cent. in progression upon every additional 50,000l. claimed. The third class of claimants consisted of loyalists, who enjoyed places, and exercised professions in America, and by adhering to this country, had lost their incomes. He proposed to put upon half pay those whose incomes amounted to no more than 400l. per annum, and to grant 40 per cent. upon any excess of income above 400l. per annum, unless the income should exceed 1500l. per annum, in which case, 30 per cent. only should be allowed upon the excess of income above 400l. per annum. Lastly, It was proposed to pay the full amount of their claims to persons connected with West Florida; because, by the treaty of peace, that country had been ceded by Britain to a foreign power. Mr Pitt concluded by moving, that, to satisfy these claims, 1,228,239l. should be voted to the several American claimants for losses, &c. and 113,952l. 14s. ½d. to the Florida claimants. The motion was unanimously agreed to. The liberality with which the British nation acted upon this occasion, merits approbation, as an instance of the wisest policy, from its tendency in future discontents, or insurrections in the subordinate parts of the empire, to secure the attachment of persons of property to the cause of the metropolis. As the claims of the American loyalists were stated by themselves, and not scrutinized with extreme severity, it was generally understood that these persons were in very few instances ultimate losers by the part which they had taken, a circumstance of which the public did not disapprove.

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840 Slave-tra

The trade carried on by Great Britain and other European nations upon the coast of Africa, for the purpose of purchasing negro slaves to be employed in the cultivation of the West India islands, and certain parts of the continent of America, does not appear, till of late years, to have been considered with that general attention, which a practice, so abhorrent in its nature to the mild principles of modern policy and manners, might have been expected to excite. This may probably have been owing, partly to the distance of the object, which tended both to conceal the sufferings, and to lessen the sympathy of the public for the unfortunate sufferers; partly to the connivance of politicians, unwilling to examine too severely into the necessity of the means by which distant colonies were enabled to pour luxury and wealth into the mother countries. The first public attempt, we believe, that was made to put a stop to this traffic, was by the Quakers of the southern provinces of America, who, soon after the establishment of their independence, not only presented, for this purpose, a strong and pathetic address to their several legislative assemblies; but actually proceeded, as it was said, in many instances, to emancipate the slaves that were in their possession. In Great Britain the same sect appears also to have taken the lead; and, after the example of their American brethren, presented, in 1787, a similar petition to the parliament of this kingdom. The cause soon after became extremely popular, and was taken up with great zeal and earnestness by various descriptions of people. A society was formed, and a considerable sum of money subscribed, for the purpose of collecting information and supporting the expence of an application to parliament. A great number of pamphlets were published upon the subject; several eminent divines recommended it from the pulpit, and in printed discourses; and in the present session, petitions against the African slave-trade were presented from the two English universities, and from several of the most considerable towns and corporations in the kingdom.

By a sort of general consent, Mr Wilberforce had been intrusted with the care of bringing the business into the house of commons; but he being prevented by bad health, Mr Pitt, on the 9th of May, having mentioned this circumstance, proposed that the house should enter into a resolution, to take into consideration the circumstances of the slave trade early in the next session. He added, that the privy-council had appointed a committee to inquire into the matter; and, that next session, the result would probably be laid before the house to facilitate their investigations. Mr Fox and Mr Burke expressed their regret on account of the proposed delay. They lamented, that the privy-council, who had received no petitions from the people, should have instituted an inquiry; and, that the house of commons, whose table was loaded with petitions from every part of the kingdom, should not have instituted an inquiry at all. If they suffered the business of the house to be done by the privy-council, they

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they were abdicating their trust, and making way for an entire abolition of their functions. Sir William Dolben called the attention of the house to the condition of the slaves in one point, which he alleged called for an immediate remedy. He said he neither alluded to their sufferings at home from the hands of their cruel countrymen, nor to their sufferings from their unfeeling masters, the planters in the West India islands; but to that intermediate state of tenfold misery which they suffered in their transportation from the coast of Africa to the West Indies. He entered into a short detail of the horrors of that dreadful passage, which he said was scarcely less fatal in its effects upon the British sailors, than upon the wretched slaves themselves; and he declared himself ready to call evidence to the bar to prove the fact. This, he said, called aloud for a remedy, and that remedy ought to be applied immediately. If parliament did not apply some remedy, without delay, between the present session and the beginning of the next, 10,000 lives would be lost. He wished, therefore, that this grievance should be taken into consideration, independent of the general question; and that some regulation, such as restraining the captains from taking above a certain number of slaves on board, according to the size of their vessels, obliging them to let in fresh air, and provide better accommodation for the slaves during their passage, and such other regulations as should suggest themselves to the house, should be adopted. This proposal met with general approbation; and, accordingly, a bill was brought forward, and passed into a law, for regulating the transportation of the natives of Africa to the British colonies in the West Indies. It met with some unsuccessful opposition from the merchants of Liverpool, who petitioned, and were heard by counsel, against it.

841 Bill to regulate the transportation of negroes.

842 Indian affairs.

In the present session, the affairs of India still continued to occupy the attention of the legislature and of the public. During the apprehensions of a rupture with France, on account of the affairs of Holland, government had resolved to send out four additional regiments to India, on board the company's ships, for the protection of our possessions in that quarter; and the proposal had been received with approbation by the court of directors. After the danger was past, government still adhered to their resolution of sending out four regiments, with a view to form a permanent establishment of the king's troops in that quarter. In consequence of this circumstance, a question arose with the court of directors of the East India Company, about the expence of sending out, and hereafter paying, these troops. By an act passed in 1781, the company were declared liable for the expence attending such troops only as should be sent out upon their own requisition. But administration now contended, that the act brought forward by Mr Pitt in 1784, which gave to the board of controul a power of counteracting the orders of the court of directors, and of directing the application of the company's revenues, ought to be understood to authorize that board to carry into effect the proposed measure. The court of directors, however, obtained the opinion of some eminent lawyers in their favour; and, accordingly, refused to take the troops on board the ships that were about this time to sail for India. For this reason, on the 25th of February, Mr Pitt proposed, in the house of commons, that all difficulties should be removed by a declaratory act, asserting the intention of the legislature, in the act of 1784, to have been agreeable to the construction put upon it by the board of controul. This mode of proceeding was strongly opposed. It was said, that the claims of government upon the company ought to be tried in a court of law, instead of being brought before the house of commons, where administration possessed an undue influence. It was contended, that the measure was in itself ill-judged, as it would have been more economical to have suffered the company to have raised four regiments, which would have enabled them to provide for many of their own officers, 600 of whom were living in India in very distressed situations, in consequence of having been reduced at the peace; or the mode might have been adopted, with better advantage to the company, of sending out recruits to complete the king's regiments at that time in India, which would have enabled them to avoid the additional burden of all the officers of four new regiments. The measure was farther condemned, as tending to produce confusion in India, by putting the power of the sword into two hands, and giving disgust to the officers in the company's service. It was added, that the power now claimed by the board of controul, of keeping an army of the king's forces in India, to any amount they thought fit, and of paying it out of the revenues of the company, was unconstitutional, as it enabled the king, contrary to the bill of rights, to keep a standing army in time of peace.

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843 Declaratory bill.

But the point of view in which this declaratory act was chiefly resisted, referred to its tendency to deprive the East India Company of the whole management of its own affairs, and the patronage arising from its revenues, which at the time that Mr Pitt's bill was passed, had never been understood to be the intention of the legislature or of government. Mr Pulteney and some other members, who usually voted with Mr Pitt, now declared that they supported his bill in 1784, only because it appeared to preserve uninjured the rights of the East India Company; that the construction attempted to be put upon it in the declaratory bill, made it equally obnoxious with the celebrated bill rejected by the lords in 1783, with only this difference, that what the one had for its professed object openly and without disguise, the other was attempting to effect by fraud and dissimulation. Mr Powis argued, from the various amendments which the act had received in its passage through the house, that no such ideas of its extent, as were now endeavoured to be established, were then entertained of it, much less expressed; and that if they had, it must have been rejected. Mr Baring, one of the directors of the East India Company, declared, that Mr Pitt's bill was generally understood at the time, by that board, to be utterly incapable of the unlimited construction now put upon it; and Colonel Barré declared that having asked one of the directors, why they had suffered the bill to pass unresisted and with the sanction of their concurrence, the director had admitted with him, that the bill darkly and tacitly conveyed powers to the board of controul, as hostile to the rights of the company as Mr Fox's bill; but that they had a confidence in the administration which introduced it, and had no doubt of their exercising those powers with gentleness and moderation.

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These sentiments excited great triumph on the side of Mr Fox and his friends, who loudly congratulated themselves upon the complete justification which his India bill had now, they said, obtained, by the tacit confession of his adversaries themselves.

In support of the declaratory act, Mr Pitt contended, that the express object of the institution of the board of controul, was to take the entire management of the territorial possessions and the political government of India out of the hands of the company, leaving them only the direction of their commercial concerns. The board of controul was in future to be responsible to the public for the prosperity and safety of our Indian possessions, and was therefore to be invested with all the powers necessary for the due discharge of its important duties. He denied that administration, in 1784, had held any other language with regard to its nature or the authority it was to possess. With regard to the economy and policy of the present measure, he admitted, that there ought not to be two armies in India; but said, that the army which existed there, ought undoubtedly to be the king's; and solemnly protested that his conduct was in no degree influenced by the prospect of additional patronage to be acquired by the crown. He added, that it was the intention of government to divide equally the new commissions with the East India Company. Upon the constitutional question of a standing army being kept in India by means of the company's revenues, he stated, that all the existing laws relative to standing armies, were, in his apprehension, extremely inaccurate. If any danger was apprehended from the present act, he had no objection to receive any clauses that might be offered, from whatever part of the house they might come. On the 5th of March, the bill was carried by a majority of 182 to 125. In the house of lords, the marquis of Lansdowne expressed the utmost astonishment, that any one who recollected what had passed in that house in the years 1783 and 1784, could contend for a moment, that the principles of the present bill were contained in that of 1784. Their lordships had refused to suffer the bill of 1783 to be sent to a committee, because it was bad in its principle; and yet the act which they afterwards passed in 1784, as now intended to be explained, manifestly holds one and the same principle. The preference of the latter to the former, could not have been given on account of its particular provisions. He, at least, should have preferred that which gave the government of India to parliamentary commissioners for four years. It would now have expired. But if the power proposed should once be given to the crown, what time and exertion would not be required to recover it, or to keep within due bounds the influence of the crown, when all the patronage of India was added to the influence it already possessed? If it was capable of erecting a fourth state, and overturning the constitution in fourth hands, how much more capable of mischief would it be when united in one of the three estates, and that the crown, there being eleven millions sterling per annum to administer?

844. General remarks.

Upon the whole of this subject, it is, perhaps, no unfair remark, that, if the augmentation of the power of the crown was at this period indeed a misfortune, it was a misfortune which the conquest of India appears to have rendered inevitable. The East India Company, by whom the conquest had been made, was admitted, by all parties, to have shewn itself unfit to govern that great country. The management of it, therefore, naturally devolved upon the executive branch of the British constitution, unless the constitution itself was to be endangered, by intrusting the exercise of new and unusual powers to some of the other branches of the legislature, for whose due exercise of such powers the laws had made no provision; or, unless a new kind of authority or power was to be created, as attempted by Mr Fox's India bill, the result of which, as a political experiment upon the constitution, or mode of administering a part of the affairs of the empire, was necessarily hazardous, because heretofore entirely without example.

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845 Mr Hastings's trial at Westminster-hall.

The attention of the nation still continued to be occupied in no small degree by the prosecution of Mr Hastings. The members of the committee, which during the preceding session had prepared the articles of impeachment, were now appointed to act as managers for the house of commons in conducting the trial. On the 13th of February, the trial commenced with extraordinary solemnity in Westminster-hall, which had been fitted up for the purpose. About 11 o'clock the house of commons, preceded by the managers, came from their own house into the hall, Mr Burke leading the procession. Thereafter, the house of peers came in procession, preceded by the clerks of parliament, the masters of chancery, the serjeants at law, and the judges. The inferior peers came first, and the lord chancellor last. The procession closed with the royal family, including the queen; the prince of Wales advancing last. In passing to their seats, they bowed to the throne. That and the following day were consumed in reading the articles of impeachment, and the answers of Mr Hastings. On the 15th of February, Mr Burke began an oration, which he continued during that and four following days, and in which his talents were exerted with great splendour, and his eloquence listened to with admiration. After an appeal to the justice of the court, on the part of the people of India, who came, he said, in the name of the commons of Great Britain, but in their own right, to the seat of the imperial justice of the kingdom, from whence were originally derived all the powers under which they had suffered, he entered into a detail of the history of Hindostan from the earliest times. He gave a luminous view of the revolutions that had occurred in it; of the civil and religious institutions, together with the arts, customs, and manners, of the various classes of its inhabitants. He traced the progress of British intrusion, and minutely described the establishments made by our countrymen. He gave an animated account of the blessings which India might have derived from a communication with the most enlightened nation in Europe; but lamented, that, instead of acting as friends or instructors of the natives, our countrymen had marked their way by treachery and rapine, and taught vice rather than virtue. He expatiated on their usurpations of power, and their frequent enormities. He specified the acts of Mr Hastings, representing them as beyond all bounds arbitrary and rapacious, and endeavoured to hold him up to execration as a monster of tyranny. The governor-general had attempted to justify his oppressions,

846 Mr Burke's oration of five days.

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Britain. pressions, by asserting that the Asiatic governments were all despotic; that he did not make the people slaves, but found them such; that the sovereignty he was called to exercise was an arbitrary sovereignty, and that he had exercised it in no other way than was done by the other sovereigns of Asia, or the native princes of the country, who at all times made every order of their subjects, and all the property of the countries they governed, subservient to their policy or their extravagance. Mr Burke now reprobated this geographical morality, or these claims to absolute power. He denied that the East India Company, or that the British government, had it to bestow. He asserted, that no such arbitrary government was attempted to be justified in the east: That every Mahometan government must be a government regulated by law, that is, by the laws of the Koran; and that the Gentoo laws proscribe every idea of arbitrary will in magistrates. He contended that the conduct of tyrants and usurpers, or the corrupt practices of mankind, were no principles upon which to regulate the duty of a British governor, who is bound to act, and ought to be judged by his country, upon British principles. These principles Mr Hastings was now accused of having violated, not merely in his own personal conduct, but by employing under him, persons whom he knew to be the most worthless of human beings, and for whose enormous cruelties he was responsible. These cruelties the accuser described with such warmth of colouring, that many of his hearers were convulsed with horror. Mr Burke concluded his speech, or rather his course of orations, with declaring, that with confidence he impeached Mr Hastings in the name of the commons of Great Britain, whose parliamentary trust he had betrayed, and whose national character he had dishonoured. That he impeached him in the name of the people of India, whose laws, rights, and liberties he had subverted; whose properties he had destroyed, and whose country he had made desolate. Lastly, he impeached him in the name of human nature, which he had cruelly outraged in both sexes, in every age, rank, and condition of life.

847 ide of cedure puted. The managers of the impeachment next proposed, for regulating the future conduct of the impeachment, that they should proceed to a conclusion on both sides, upon each article separately, before they opened another; but the counsel for Mr Hastings insisted, that the house of commons should first proceed to a conclusion upon the whole charges, before any part of the defence should be demanded. The house of lords deliberated upon this point. The lord chancellor Thurlow and others, who usually voted with administration, supported the demand made by the counsel for Mr Hastings; while Lord Loughborough, and others in opposition, contended that it was impossible to do substantial justice in this way. The managers for the commons acquiesced in the decision, and thereafter entered upon the particular articles of charge. Two charges employed the house of lords during the remainder of the session; as it was necessary to occupy much time in hearing evidence upon each.

848 Elijah ey accused. During the investigations occasioned by the trial of Mr Hastings, and the discussion of India affairs, the opposition party were led to bring forward an accusation against Sir Elijah Impey, the friend of Mr Hastings, and lately chief justice of the supreme court of Bengal. Soon after the commencement of the present session, Sir Gilbert Elliot presented to the house of commons six articles, containing charges against the late judge, of various high crimes and misdemeanours. The substance of these charges amounted to an assertion, that the chief justice had in a variety of instances rendered himself the agent and tool of Mr Hastings, particularly in the decision of a considerable number of important causes. On this occasion, Sir Gilbert Elliot addressed the house with much ability, in a speech of considerable length. He began by exculpating himself from the imputations which usually attach to the office of an accuser, that he is actuated by a natural malignity of temper, by personal resentments or interests, or by the spirit and passions of party. Britain.

With regard to the last, he stated that Sir Elijah Impey had been declared criminal, by the voice of parliament, before the parties into which it was at present divided, had any existence, and that the proceedings, out of which this accusation originated, had been carried on by persons of all descriptions and connexions, and were countenanced by every one of the administrations, which had succeeded each other during the last six years. He next congratulated the house, upon the proofs they had given, that the grievances of India were not only fit objects of their inquiries, but that their redress was the best object of their power. He adverted to certain principles, which for obvious ends had been industriously disseminated abroad, and had even been maintained in that house, that India was indeed oppressed, but that it was accustomed to oppression; and that it must be oppressed or abandoned. These scandalous positions Sir Gilbert warmly controverted, and laid down in opposition to them, what he thought nature and experience warranted him to affirm, that India must be redressed or lost.

Sir Gilbert Elliot then laid down a second principle; viz. that the only means left of reforming Indian abuse, was the punishment, in some great and signal instances, of Indian delinquency. This proposition he endeavoured to establish with great ingenuity, by comparing the different force and efficacy of laws, as arising from their penal sanctions, when applied in our own internal administration, and in the government of distant possessions. At home, where government had in sight, and was in contact with, the governed, their execution was easy and certain; but in our remote dominions, we had to labour with all the difficulties that absence, distance, and ignorance could oppose. Against this evil, no perfect remedy could be found, as experience had fully proved. Every resource of legislative regulation had been exhausted in vain: no device had been left untried, except the simple expedient of distributing reward to merit, and pains to guilt; the exemplary punishment of detected crimes was the only means left of convincing our distant subjects, that though distance might delay, it could not finally avert, the cognizance and penalties of justice.

Of the particular charges which Sir Gilbert Elliot brought forward against Sir Elijah Impey, that respecting the fate of the rajah Nundcomar, a Hindoo prince of the sacred cast of the Bramins, was the most remarkable. He had the weakness, or imprudence, to become an informer or accuser, to the East India Company, against

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Britain. against their principal servant, Mr Hastings; the consequence of which was, that the governor-general was alleged to have procured an accusation to be brought against him, in the court where Sir Elijah Impey presided; and there, on a charge of forgery, he was tried, condemned, and hanged, upon the authority of an English statute; whereby all complaints against the company's servants were said to be for ever stifled, and the grievances of the east to have received a complete remedy. In the course of the session, witnesses were examined against Sir Elijah Impey. His defence was undertaken by the chancellor of the exchequer, with the solicitor and attorney-general. The first charge was rejected on the 9th of May, by a division of 73 against 55. On the 27th of May, the house voted a delay of procedure, during three months, and no impeachment resulted from the inquiry.

During the period which succeeded the prorogation of parliament, in the present year, the only occurrence worthy of notice arose out of the contests of the northern nations. At this period, the relative

849 State of European politics. state of the European powers had rapidly undergone a most important alteration. During a century and a half, the power of the monarchy of France had been formidable to all Europe, and, at different periods, the most extensive combinations were found necessary to resist its ambition. That monarchy, however, since the close of the American war, had evidently lost its importance among the surrounding nations. Its influence over Holland had ever been one of its favourite objects of pursuit, but during the last year, it suffered that influence to be overturned, without a struggle; and with regard to every external effort, France, at this time, appeared to have fallen into a state of complete imbecility. The powers whose ambition was now dangerous to the repose of Europe, were Austria and Russia; the latter, in particular, was extremely restless and enterprising. The empress Catharine II. had contrived to engage in her views the emperor of Germany, Joseph II. and to prevail with him to engage in a sanguinary war on the eastern frontiers of Europe, with a view to the partition of the provinces of the declining empire of the Turks; while France, the ancient ally of that power, was unable to give it any countenance or aid.

850 State of Sweden. In the mean time, the same empress held in a state of extreme dependence upon herself, the two kingdoms, on her western boundary, Sweden and Denmark. After the fatal reign of Charles XII. by whose extravagant military enterprises, the strength of the kingdom had been exhausted, Sweden had sunk into a state of political weakness. The nobles in all parts of the country had resumed, in a great degree, the independence of the feudal times, together with the anarchy to which that form of government was so remarkably subject. The crown and the people were equally insignificant, and the mutual animosities of the nobles subjected the state to the intrigues of neighbouring nations. The king of Prussia had remarked, that there was, in their diet, a French party, and a Russian party, but there was not an individual among them that supported the party of Sweden. The present monarch, Gustavus III. however, was now in the vigour of his age, and a man of a most enthusiastic and enterprising character. By attaching to himself the peasantry of the country, and their deputies in their diet, he had, in 1772, obtained his power to be declared absolute; but the nobles had gradually recovered a portion of their authority, and, by the intrigues of Russia, they were now become very dangerous to the throne. These intrigues rendered the situation of the Swedish monarch extremely unhappy, and excited an impatient desire of shaking off his dependence upon Russia. He resolved, therefore, to take advantage of the present war, in which she had engaged with the Turks, to make an attack upon this mighty power, on its north-western frontier. To accomplish this object with tolerable safety, however, it was absolutely necessary that Sweden should be safe on the side of Denmark. But the court of Denmark having always governed Norway in a harsh unfeeling manner, it is said, that in the year 1772, Gustavus III. gave great countenance and encouragement to the malcontents of Norway. This last circumstance has been alleged, by the Danes, as an excuse for a treaty into which their government secretly entered at that time with Russia, whereby it was agreed, that, if Russia should be attacked, Denmark should assist her with 12,000 auxiliary troops, and six ships of the line.

But whatever may have been the conduct of the king of Sweden in 1772, there is no doubt that ever after that period he endeavoured, in the most anxious manner, to conciliate the good will of the court of Denmark. At the close of the year 1787, he paid an unexpected visit to the Danish court, at Copenhagen, in a manner totally destitute of all ceremony, and there endeavoured to prevail with the prince regent and his council, who governed the kingdom during the incapacity of the king, to enter into his views with regard to Russia. He pointed out in the strongest terms, the haughty spirit with which that ambitious power annoyed all her neighbours; that if her present design succeeded, of partitioning the Ottoman empire, her strength would become so vast, that Sweden and Denmark could afterwards only hope to subsist as miserable dependents on her clemency. The court of Denmark, however, could not be prevailed upon to enter into these views, and appears still to have concealed its own secret engagements with Russia, or the part it meant to take in case of a war between Russia and Sweden.

851 War between Sweden and Russia. In the month of July, the king of Sweden commenced offensive operations against Russia on the side of Finland. Here, however, the discontents which had been fostered by Russia among the Swedish nobles speedily came to view: Several officers declared, that the king had no right to make war without the consent of the states of the kingdom. The mutiny became general, and the troops refused to advance. When the king was in this embarrassed state, a Danish army suddenly advanced against Sweden under Prince Charles of Hesse Cassel, accompanied by the prince of Denmark, as a volunteer. To give this force the appearance of an auxiliary army, the prince of Hesse had been created a field marshal in the Russian service. The king of Sweden's affairs were now extremely desperate. The senate at Stockholm, during his absence, had assumed extraordinary powers, and had summoned a meeting of the states of the kingdom. The king, however, unexpectedly arrived at Stockholm from Finland,

851 The Danes invade Sweden.

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land, and put an end to their proceedings. He instantly sent off the whole regular troops from the capital; and having assembled the citizens, he declared, in a speech of great eloquence, that he intrusted to their fidelity the defence of his capital, and the protection of the queen and royal family. His audience were instantly seized with military enthusiasm; the citizens armed and embodied themselves, and performed the whole duty of the garrison. Such of the officers as had returned from the army in Finland, were insulted as traitors, and compelled to conceal themselves.

853 Efforts of the king of Sweden.

The king next hastened to the province of Dalecarlia, inhabited by a fierce and ignorant, but honest people, celebrated for the share which they took in the memorable revolution by which Gustavus Vasa rescued his country from the despotism and unequalled cruelty of Denmark, which had massacred the citizens of Stockholm, and almost exterminated the nobility of the kingdom. The loyalty of these people was kindled to enthusiasm by this second visit of a king to their mines and forests, and 4000 of them instantly came forth as volunteers. In the mean time, the Danish army was advancing along the sea coast, which had been left undefended. A body of Swedes were taken prisoners, and the army advanced towards Gottenburg.

854 Danger of Gottenburg and the king of Sweden.

The governor of this place, which is mostly built of timber, and therefore liable to instant destruction by bombardment, summoned a meeting of the inhabitants, and recommended submission to the invaders; to which they agreed. A Danish officer was, in the mean time, on his way to propose terms for capitulation. Thus was the rich mart and great emporium of the foreign commerce of Sweden, the only port of any value which she possessed on the ocean, at the very point of being lost; nothing more being wanted to seal her destiny, than the arrival of the Danish officer to conclude the capitulation. By unusual personal exertion, however, the king, at this critical period, passed unnoticed through the enemies parties, and entered the city. He assembled the people, and having exerted his usual powers of persuasion, the inhabitants unanimously resolved to encounter every hazard in defence of the city. The place was thus saved for a moment; but its situation, as well as that of the king himself, was still extremely perilous. He had no adequate force within reach, wherewith to resist the Danish army; and the desperate obstinacy of his courage was such, that nobody doubted his determination to perish in the ruins sooner than relinquish the place, while the native spirit of his subjects would scarcely permit those present to avoid becoming partakers of the ruin. On this occasion, however, the city and the king, and perhaps the monarchy of Sweden, owed their safety to the interference of a British subject.

855 The British envoy, Mr Elliot, saves the Swedish king.

It so happened that at this important period there was no titled ambassador in Sweden from any of the courts of London, Berlin, or Versailles. Their place, however, was well supplied by Mr Hugh Elliot, the British envoy at Copenhagen. This gentleman, from the first notice of hostilities, discerned the interests of his country and of Europe. He passed over into Sweden, and offered his welcome mediation to the king. He next threatened the Danes with an immediate invasion by a Prussian army, supported by a British and Dutch fleet. He continued his threats with such urgency and authority, that the Danish commander was intimidated, and delayed his threatened hostilities. A Prussian envoy soon arrived, and countenanced all the threats of Mr Elliot; the consequence of which was, that after much skilful negotiation, in which Mr Elliot was not a little perplexed by the impatient temper of the Swedish monarch, a suspension of hostilities was first concluded, and afterwards, in the month of November, the Danish troops totally evacuated the territory of Sweden.

Britain.

856 Treaties with Holland and Prussia.

Before taking our leave of foreign affairs for this year, it may be observed, that on the 25th of April, a treaty of defensive alliance was concluded between Great Britain and the states general of the United Provinces, whereby his Britannic majesty guaranteed the hereditary stadtholdership in the house of Orange; and on the 13th of August, another treaty of defensive alliance was concluded with Prussia.

857 The king's illness.

At the end of autumn of this year a domestic occurrence took place of a singular nature, and new in the British history. The health of the sovereign had suffered a gradual decline; a circumstance that was not ascribed to the freedom of indulgence, and the softness of luxury, but, on the contrary, to too severe a regimen, too laborious exercise, too rigid abstemiousness, and too short intervals of rest. As a remedy for the symptoms that discovered themselves, the king determined to visit the medicinal waters of Cheltenham, and accordingly travelled into that part of the kingdom immediately after the prorogation of parliament, and did not return to the metropolis till the 18th of August. No benefit answerable to the expectations that had been formed resulted from this excursion. His health was in a precarious state, and on the 22d of October symptoms were observed by one of the royal physicians, of that alienation of mind which was afterwards the occasion of so many important and interesting transactions. For some time it was thought proper to observe as much secrecy as possible respecting the nature of the king's indisposition. The retreat of the sovereign at Windsor was favourable to this purpose; and for several days an opinion was entertained by the people in general, that his indisposition was a fever, and that it had risen to so alarming a height as to threaten a speedy dissolution. The real nature of the case, however, could not long be suppressed. By the structure and practice of the English constitution almost every species of public business is, in some manner, implicated with the royal prerogatives. The administration of political government, in particular, was by the present event virtually suspended from its functions; and, notwithstanding the critical situation of Europe, and the very active share we had lately taken in its concerns, it was now deemed impracticable to return any sort of answer to the dispatches of foreign courts, or of our own ambassadors. In this situation the most natural expedient was to suffer the two houses of parliament, which stood prorogued to the 20th of November, to meet at that time, and either adjourn for a short interval, or immediately proceed to discuss the measures it would be proper to adopt at the present crisis. Circular letters were accordingly addressed to the members of the legislature on the 14th, signifying to them, that the indisposition of the sovereign rendered it doubtful whether there would be a possibility of receiving

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receiving his commands for the farther prorogation of parliament. In that case, the two houses must of necessity assemble, and the attendance of the different members was earnestly requested.

858 Parliament assembles.

Parliament being assembled, the lord chancellor observed in the house of lords, that the reason of their being thus unusually called together without the ordinary notice, for the dispatch of business, arose from the severity of the king's indisposition, which had rendered it impossible for him to approach the royal person in order to receive his commands. Lord Camden remarked, that the customary practice of giving 40 days notice previously to the meeting of parliament, was not in his opinion absolutely necessary. There was an express act of parliament, that limited the notice, in case of treason or rebellion, to 14 days; he therefore recommended an adjournment for that term; and at the same time moved, that the chancellor, by order of the house, should address an official letter to every individual peer. Mr Pitt stated to the house of commons, that every authority had been consulted respecting the present singular situation of affairs; but they did not point out either the possibility of directing a new prorogation, or enable ministers to open the session of parliament in any regular way. Under these circumstances it would be highly improper for the house to proceed to the discussion of any public business; and it was absolutely necessary to adjourn. He therefore recommended the interval of a fortnight, when, if the king's illness should unhappily continue, it would be indispensably incumbent upon them to enter upon the immediate consideration of the state of public affairs. Mr Pitt farther moved a call of the house for the 4th of December, and that the speaker be directed to send circular letters, requiring the attendance of every member on that day.

The tenour of the precedents afforded by the history of England were regarded, upon the whole, as in favour of a protectorate or regency, under which the whole, or a considerable part of the political power, should be confided to the next heir to the crown, or to the adult of the royal family most nearly related to the king. A circumstance that rendered this consideration more material upon the present occasion was, that the prince of Wales was understood to entertain an avowed partiality for the political connexion that had lately been instrumental in obtaining for him the discharge of his debts, and an increase of his annual income, as well as some personal resentment to the ministers now in possession of office. Accordingly, soon after the indisposition of the king had been ascertained, the prince despatched an express to Mr Fox, who was at that time in Italy, requesting his immediate presence to assist him in forming an administration. The ministers were aware of the intentions of the prince of Wales, and wished, if possible, to keep themselves in office. As the duration of the king's illness was necessarily uncertain, and he might speedily be able to resume the government, it was obviously their interest to procrastinate, as much as possible, any new establishment which might be thought necessary on account of the present exigency. They were enabled to do so partly in consequence of the profound tranquillity enjoyed by the nation, which did not render the exercise of the executive power of such immediate necessity as in times of war or public alarm. It is impossible also to avoid remarking, upon this occasion, the effect of reputation in supporting any political measure. Mr Pitt, and his colleagues in office, were in possession of the public favour in a degree in which perhaps no ministers in the British annals ever enjoyed it for so long a period of time. Upon Mr Fox and his associates remained a part of that odium which the coalition and the India bill had originally excited. The prince of Wales himself was still less popular. The sobriety of his father's life was thought to form a contrast to his youthful indiscretions; and the rumour of his marriage with Mrs Fitzherbert was still propagated, and met with some credit. In this state of affairs the king's ministers, who had ceased to be any thing more than a kind of ministers by courtesy, had every advantage from the countenance of the public in their project of delaying as long as possible the relinquishment of their official situations, by placing the exercise of the royal authority in new hands. On this occasion Mr Pitt conducted himself with great dexterity in contriving subjects of discussion in the house of commons, while his antagonists seem not to have been aware of his purpose, or, that while they were contending against him for victory in debate upon speculative political questions, they were in fact fighting his battle, by delaying the period of their own entrance into power.

859 Prospect of a change of ministry.

860 Report of the privy council on the king's illness.

Upon the re-assembling of parliament, on the 4th of December, a report of the board of privy council, containing an examination of the royal physicians, was presented to the two houses by Lord Camden and Mr Pitt; and it was suggested, that when the delicacy of the subject, and the dignity of the person in question were considered, parliament would probably perceive the propriety of acting upon this report, rather than of demanding that more direct and ample information to which, in strictness, they were entitled. This suggestion was undoubtedly reasonable, as it could not readily be supposed that the ministers of the crown could possibly have acted so directly in opposition to their own interests, as to have falsely represented their master as incapable of supporting them in their offices. Mr Fox, Mr Burke, and others, however, would not take their word upon this point, but insisted upon the solemnity of an inquiry by a committee of the two houses.

861 Report of a committee of the commons.

The report of the committee was laid upon the table of the house of commons, on the 10th, when a farther proposition was moved by Mr Pitt, for the appointment of a committee to inquire into precedents of cases in which the personal exercise of the royal authority had been prevented or interrupted by infancy, sickness, infirmity, or any other cause. Mr Fox observed, that though he had no objection to the appointment of a committee for the purpose proposed, yet as it was notorious, that no precedent existed, which could be applied to the present case, he took this opportunity of stating the following general principle; that in consequence of its being ascertained, that the king was at present incapable of holding the executive government, the prince of Wales had as clear and express a right to assume the reins and exercise the power of sovereignty during the continuance of the present incapacity, as if his father was actually dead. He added, however, that though the prince's right was perfect

861 The prince's right to the regency asserted by Mr Fox.

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fect and entire, the two houses of parliament, as the organs of the nation, were alone qualified to pronounce when he ought to take possession of his right. In reply to this remark, Mr Pitt said, he did not hesitate to affirm, that for any man to assert such a right in the prince of Wales, otherwise than as it was voluntarily conferred upon him by the two houses of parliament, was little less than treason to the constitution of his country; adding, that unless by their election, he had no more right, speaking of strict right, to assume the government than any other individual subject in England. He desired, that every man in that house, and every man in the nation, would consider, that on their proceedings depended, as well the existence of the constitution, as the interest and honour of a sovereign, who was deservedly the idol of his people.

863 Denied by Mr Pitt.

On the following day, the opinion which had been stated by Mr Fox, was, in the house of lords, attacked by Lord Camden, and defended by Lord Loughborough and Lord Stormont. Ministers had now got an abstract question as a subject for debate, of which they resolved not to lose sight, especially as their side of the question was likely to prove most popular, being an assertion of the powers of parliament in opposition to an assertion of hereditary right. Mr Pitt accordingly, when the subject was next mentioned, said, that the question that had been started respecting the rights of parliament was of much greater magnitude and importance than those which related to the present exigency; and he hoped there would be an unanimous concurrence of opinion, that it was impossible to dismiss the question of right without its being fully discussed and decided. On the 16th of December, in a committee upon the state of the nation, he entered at large upon the subject, and endeavoured to prove, that, by ancient precedent, the powers vested in a regent had always been inferior to those of the king, and that parliament had interfered in cases of royal infancy in appointing councils of regency, or a single regent or protector. At the same time Mr Pitt admitted, that it would be expedient to intrust to the prince of Wales, whatever powers should be thought necessary. Mr Fox, on the contrary, contended, that his doctrine was supported by the very nature of a hereditary monarchy. He said, that upon Mr Pitt's principles, if a man were questioned, whether the monarchy is hereditary or not, the answer must be, "I cannot tell; ask his majesty's physicians. When the king of England is in health the monarchy is hereditary, but when he is ill and incapable of exercising the sovereign authority, it is then elective." Mr Fox ridiculed the subtlety of Mr Pitt's assertion, that the prince of Wales had no more right than he had, at the same time that he confessed that parliament was not at liberty to think of any other regent. Mr Pitt's motion upon the question of right was carried, upon a division of 268 against 204.

864 Debate on the prince's right to the regency.

On the 22d of December, Mr Pitt proposed in the house of commons, a resolution, the object of which was, to declare, that it was necessary for the purpose of supplying the present defect, and maintaining the entire constitutional authority of the king, that the two houses should determine on the means by which the royal assent might be given to the bill, which they might adopt for constituting a regency. The object of this proposition was obvious; administration had resolved not to confide the regency to the prince of Wales unless under restrictions; but without the royal assent, an act of parliament, fixing these restrictions, could not be passed. They wished, therefore, to devise a solemnity which, in this case, should be held equivalent to the royal assent. Mr Pitt proposed, that the great seal should be affixed by the lord chancellor to the act of parliament, and that this should be held equivalent to the royal assent. Mr Fox, on the contrary, pressed an immediate address to the prince of Wales to take upon himself the regency. Long debates occurred upon the point in both houses of parliament, in which administration continued to be supported by the majority.

865 Proposal to make the great seal equal to the royal assent.

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866 New delays.

On the 2d of January 1789, a new cause of delay occurred in consequence of the death of Mr Cornwall, the speaker of the house of commons. Mr Grenville was elected, in opposition to Sir Gilbert Elliot, upon a division of 215 against 144. On the 6th of January, when the house of commons were about to consider Mr Pitt's proposed regency bill, Mr Loveden moved for the appointment of a new committee to inquire into the state of the king's health. The proposal, after a debate, was carried by administration.

867 The prince's correspondence with administration.

In the mean while Mr Pitt, in the name of the rest of the cabinet, explained to the prince of Wales, in a letter, the restrictions which were meant to be inserted in the regency bill. These were, that the care of the king's person, and the disposition of his household, should be committed to the queen; and that the power to be exercised by the prince should not extend to the personal property of his father; to the granting any office, reversion, or pension, except where the law absolutely required it, as in the case of the judges, for any other term than during the king's pleasure; nor to the conferring any peerage, unless upon such persons of the royal issue as should have attained the age of 21 years. Mr Pitt added, that the ideas he had suggested were founded upon the supposition, that the royal malady was only temporary, and might be of short duration. It would be difficult to fix at present the precise period for which these provisions ought to endure; but it would be open hereafter to the wisdom of parliament to reconsider them whenever circumstances might appear to render it eligible. In his answer, which was dated on the 2d of January 1789, the prince declared, that it was with deep regret he perceived, in the propositions of administration, a project for introducing weakness, disorder, and insecurity, into every branch of political business; a project for dividing the royal family from each other, for separating the court from the state, and depriving government of its natural and accustomed support; a scheme for disconnecting the authority to command service from the power of animating it by reward, and for allotting to him all the invidious duties of the kingly station, without the means of softening them to the public by any one act of grace, favour, or benignity. He stated it to be a principle of the British constitution, that the powers and prerogatives of the crown were held as a trust for the benefit of the people, and were sacred, as they conduced to preserve that balance of the constitution, which was the true security of the liberty of the subject; and he objected to

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making trial, in his person, of an experiment to ascertain with how small a portion of kingly power the executive government of the country could be conducted. He asserted his conviction, that no event could be more repugnant to the feelings of his royal father on his recovery, than to know that the government of his son and representative had exhibited the sovereign power in a state of degradation and diminished energy, a state injurious in its practice to the prosperity of the people, and mischievous in its precedent to the security of the monarch and the rights of his family. The prince declared himself resolved, however, to undertake, under every disadvantage, the office of regent, to avoid the evils which might otherwise arise.

We may here remark, that the most singular part of the project for the government of the kingdom appears to have been, that for confiding to the queen the power to remove, nominate, and appoint the officers of the royal household; assisted by a permanent council, to be selected by parliament, and to consist, in some measure, of the members of the present administration. The annual income of the royal household was computed to amount to 300,000l. and the number of officers of which it consisted to 400, an influence, that would certainly have been sufficiently formidable to a government in other respects restricted and limited. The lords of the bed-chamber had been made use of to defeat Mr Fox's projected India bill, and might, under a separate establishment, have proved embarrassing to the existing government. It may also be remarked, that during the whole of the present reign, the queen had never previously appeared to act beyond her domestic sphere, a circumstance which tended not a little to increase the personal respectability of her husband, as his conjugal fidelity and attachment had always been remarkable. In consequence, however, of her name being obtained at this time to the ministerial project, an idea came to be very generally entertained, that her influence or interference in political transactions was by no means inconsiderable.

It is worthy of remark, that on this occasion administration were, no doubt, greatly encouraged in their pursuit of the plan they had formed for restricting the prince's power, by the addresses that were presented to them from various parts of the kingdom, expressive of the gratitude of the persons by whom they were sent, for the assertion which had been made by the house of commons of their right of providing for the present deficiency.

On the 16th of January, Mr Pitt proposed his regency bill, resting it, in some measure, upon the decisive opinion of Dr Willis, who expressed great hopes of the king's recovery. After long debates, the limitations were supported by a considerable majority. In the house of lords, similar debates occurred, but there also administration were victorious.

868 Session of parliament opened in form by the lord-chancellor.

On the 31st of January, Lord Camden moved in the house of lords, that the lord-chancellor be directed, by authority of the two houses of parliament, to issue a commission in the name of the sovereign, for the purpose of immediately opening the session of parliament. The resolution was carried, the house of commons concurred in it, and the session was opened in the proposed form, on the 3d of February.

Though the principles of the regency bill had been previously discussed, yet its various clauses gave rise to new debates and votes, in which administration still maintained their superiority. The last clause provided, that when it should appear to the queen, and the majority of her council, that the king was restored to health, they should be authorized to signify it under their hands to the lord president of the privy-council, who should cause it to be recorded in full council, and having so done, should send a copy of it to the lord mayor of London, and cause it to be printed in the gazette. The king was then authorized to summon nine privy counsellors, not members of the council to the queen, by the advice of any six of whom, he should be authorized to issue a proclamation, countersigned by the six privy-counsellors, declaring his intention to resume the regal functions, and upon these formalities, the functions of the regent should immediately cease. It was farther provided, that, after this proclamation, parliament should forthwith assemble for the transaction of business. The bill passed the house of commons on the 12th of Feb. and was presented to the house of lords on the following day. It was discussed on the 17th and 18th, and a few amendments were introduced into it.

869 Regency bill passes the commons; debated by the lords.

Here, however, the whole of these proceedings terminated. On the 12th of February, the king had been declared by his physicians to be in a state of progressive amendment. An adjournment of the house of lords was therefore proposed on the 19th. On the 25th, the king was declared by his physicians free from complaint, and on the 10th of March, the lord-chancellor, by the king's authority, addressed both houses of parliament in a speech, and the ordinary business of the session commenced. The experiment was thus left untried, of the effects which the diminished authority of a regent might have produced, at the period in question, upon the practice of the British government.

870 The king's recovery.

871 Session opened anew in the usual form.

In the meanwhile, the administration of Mr Pitt had been less fortunate in the kingdom of Ireland than in his own country. The unexampled popularity that reconciled the people of Great Britain to all his measures, and the odium and suspicion that had fallen upon his opponents, had not hitherto, in any very eminent degree, communicated themselves to the neighbouring island. The prospect of his departure from office, therefore, in that country, excited little regret, and its parliament made haste to worship what they accounted the rising sun. It had stood adjourned, previous to the royal incapacity, to the 20th January 1789, and the marquis of Buckingham, then lord-lieutenant, with consent of the privy-council of Ireland, ventured to defer its meeting to the 5th of Feb. On the 11th of that month, two motions were offered to the consideration of the house of commons. The first of them by Mr Grattan, the member most distinguished for his talents; and the second by Mr Conolly, the richest of the Irish commoners. By the first, the royal incapacity was declared; and by the second, it was proposed to present an address to the prince of Wales, requesting him to take upon himself the government, with its various powers, jurisdictions, and prerogatives. In support of these motions, it was argued by Mr Grattan, that there were two modes of proceeding, familiar to the several branches of the legislature; the one legislation, and the other address. The former of these proceeded upon the supposition of a third estate, and required the concurrence of that estate, in order to give it validity; the latter was a function, exclusively the property of the

872 Conduct of the Irish parliament as to the regency.

873 Address to the prince moved.

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Britain. the two houses, and which was in itself complete and final. The plan he recommended, advised the creation of a third estate, in order to legislate; not the legislating, in order to create a third estate. To fill up the existing deficiency, was the only act the situation made indispensable. Limiting, therefore, their operation to the demand of the necessity, they parted with their extraordinary power, the very moment it was brought completely into exercise. This Mr Grattan considered as the first thing necessary to be done; but as the addresses of parliament, though competent to supply the deficiency, did not, and could not with propriety, annex to their act the forms of law, he thought it advisable, after the acceptance of the regency, that there should be an act passed, for the purpose of recognizing and giving the established form, to the measures which had preceded. The powers he recommended to be conferred upon the regent, were precisely those exercised by the king; and the reason of this, he said, was to be found in the very nature of the prerogative, which was given, not for the sake of the king, but of the people, for whose use both kings, and regents, and prerogatives, were created and constituted. He knew of no political reason, why the prerogatives in question should be destroyed, nor any personal reason why they should be suspended. He thought it unnecessary, to copy minutely the proceedings of England. The two nations concurred in the same general object, the choice of a regent, which was a common concern, the particular modification of which must be governed by the particular circumstances of the different countries.

874 Opposed. The attorney-general, Mr Fitzgibbon, was the principal champion of administration. He contended, that the Irish parliament ought to wait, till the prince of Wales was invested with the authority of regent in England. He would then have the command of the great seal of that country, the affixing of which was requisite to give authenticity to every legislative act in Ireland. Upon this last solemnity he laid great stress; asserting that the moment a regent was appointed for Great Britain, supposing him to be a different person from the Irish regent, he might send a commission under the great seal of England, appointing a lord lieutenant of Ireland; and to that commission, their regent, at the peril of his head, would be obliged to pay obedience. He asserted, that the government of Ireland, under its present constitution, could never go on, unless they followed Great Britain implicitly in all regulations of imperial policy. Mr Fitzgibbon predicted, that the unadvised rashness of those who disregarded this rule, must ultimately lead to a legislative union with England, a measure which he deprecated, but which was more surely prepared by such violence, than if all the sluices of corruption were prepared together, and poured in one overwhelming torrent upon the country's representatives.

Mr Hutchinson, the secretary of state, who at this time joined opposition, contended, that the regent of England could not, as such, give the royal assent to an Irish bill, and Mr Curran enlarged upon the evils which attended elective monarchy. He contended, that, without overturning the constitution, neither Britain nor Ireland could exert any choice upon the subject, but must receive into the royal office the heir of the monarchy.

The propositions of Mr Grattan and Mr Conolly were voted by the majority; and on the following day, an address to the prince of Wales was also voted, and sent to the house of lords for their concurrence. It was adopted by the house of lords by a great majority. The address was carried to the lord lieutenant on the 19th of February, who, however, refused to transmit it to England; upon which, the two houses appointed six commissioners, to present the address immediately to the prince. These measures, however, were scarcely carried through parliament, when the king's recovery rendered them ineffectual; the consequence of which was, that the majority of the Irish parliament, who were very far from having intended to engage in a contest with the British government, found themselves in an awkward situation. They maintained for a short time an appearance of firmness; but as the British administration avoided displaying any resentment, on account of the part they had acted, the legislature of that country speedily resumed its usual character of obsequiousness to the British government.

Britain. 875 Address carried.

876 Slave-trade. The subject of the slave trade, which had been suggested to the consideration of parliament during the preceding session, was not regularly resumed till the 12th of May. In the interval, various petitions had been presented against the abolition of the trade, by persons interested in it, in London, Liverpool, Bristol, and other places. The report of the committee of privy council, of which Mr Pitt had given notice during the preceding session, was in the mean time presented to the house of commons; and it is to be remarked that, during the preceding year, the enemies of the trade had been extremely active throughout the country, in endeavouring to excite the general indignation of the public against this odious traffic. Innumerable pamphlets were distributed, either gratuitously, or at a low price, giving an account of the calamities endured by the unhappy natives of Africa, in consequence of it. The wars, in which their petty princes were tempted to engage, with a view to the capture of prisoners, whom they might sell to European traders, were fully explained; the wretched manner in which these slaves were transported to the West India colonies, fettered and crowded together in such a way, as to occasion the destruction of multitudes of them by disease, was represented by prints, which were distributed along with the popular publications upon the subject; and, lastly, instances of the cruelty of the masters in the West Indies were published, which had a tendency to render the whole white inhabitants there extremely odious. In consequence of all these exertions, the public at large were induced to interest themselves with very great zeal, for the purpose of procuring, if not an abolition of the state of slavery which exists in the West India islands, at least a complete prohibition of the importation of additional slaves from Africa. To this last object, the abolition of the trade for slaves to the coast of Africa, the attention of the legislature was at this time confined.

877 Mr Wilberforce's speech against the slave-trade. Mr Wilberforce opened the business, by stating the effects of the trade upon Africa, as forming the principal motives of the wars in that country. He next noticed the mode of transportation, the most wretched part of the whole subject, in which, he said, so much misery, condensed in so little room, was more than the human imagination had ever before conceived. Dif-

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Britain. ferent accounts of this matter were indeed given, he said, by witnesses, according to their prejudices and interests; but he observed, that death was a witness that could not deceive, and the proportion of deaths would not only confirm, but, if possible, even aggravate our suspicion of the misery of the transit. It would be found, upon an average of all the ships upon which evidence had been given, that, exclusive of such as perished before they sailed, not less than 12½ per cent. died in the passage. Besides these, the Jamaica report stated, that four and a half per cent. expired upon shore before the day of sale, which was only a week or two from the time of their landing; one-third more died in the seasoning; and this, in a climate exactly similar to their own, and where, as some of the witnesses pretended, they were healthy and happy. The diseases, however, that they contracted on shipboard, the astringents and washes that were employed to hide their wounds, and make them up, as it was called, for sale, were a principal cause of this mortality. The negroes, it should be remembered, were not purchased at first, except in perfect health; and the sum of the different casualties, taken together, produced a mortality of above 50 per cent. Mr Wilberforce added, that, as soon as he had advanced thus far in his investigation, he felt the wickedness of the slave-trade to be so enormous, so dreadful, and irremediable, that he could stop at no alternative short of its abolition. A trade founded on iniquity, and carried on with such circumstances of horror, must be abolished, let the policy be what it might; and he had from this time determined, whatever were the consequences, that he would never rest till he had effected that abolition. The principle upon which he founded the necessity of the abolition, was not policy, but justice: but though justice were the principle of the measure, yet he trusted, he should distinctly prove it to be reconcileable with our truest political interest. In the first place, he asserted, that the number of negroes in the West Indies might be kept up without the introduction of recruits from Africa; and, to prove this, he enumerated the various sources of the present mortality. The first was, the disproportion of the sexes, an evil, which, when the slave-trade was abolished, must, in the course of nature, cure itself. The second was, the disorders contracted in the transportation, and the consequences of the washes and mercurial ointments, by which they were made up for sale. A third was excessive labour joined with improper food; and a fourth, the extreme dissoluteness of their manners. These would all of them be counteracted by the impossibility of procuring further supplies. It was the interest, they were told, of the masters to treat their slaves with kindness and humanity: but it was immediate and present, not future and distant interest, that was the great spring of action in the affairs of mankind.

Mr Wilberforce moved twelve propositions, upon which, however, he observed, that he did not mean to urge them to an immediate vote. They stated the number of slaves annually carried from Africa, imported into the British West Indies, and entered into the customhouse accounts; the number in the first of these articles amounting to 38,000. They entered into the probable demerits of the persons sold to slavery; the consequences produced upon the inhabitants of Africa, and the valuable and important commerce to that country which might be substituted in the room of the slave-trade. They stated the injury sustained by the British seamen, and the fatal circumstances that attended the transportation to the slaves. They detailed the causes of the mortality of the negroes, and enumerated the different items of calculation respecting the increase of population in Jamaica and Barbadoes; and they concluded with declaring, that it appeared that no considerable or permanent inconvenience would result from discontinuing the farther importation. Britain.

875 Mr Pitt, &c. oppose the slave-trade.

Upon this occasion, Mr Pitt supported that side of the question which had previously received, in a very remarkable degree, the sanction of popular applause. He declared himself satisfied, that no argument compatible with any idea of justice, could be assigned for the continuation of the slave-trade. He trusted, that the project now recommended, would not prove the means of inviting foreign powers to supply our islands by a clandestine trade. Should such an illicit proceeding be attempted, the only language which it became us to adopt was, that Great Britain had resources to enable her to protect her islands, and to prevent that trade from being clandestinely carried on with them, which she had thought fit, from a regard to her character and her honour, to abandon. It was highly becoming in Great Britain to take the lead of all other countries in a business of so great magnitude; and he could not but have confidence that foreign nations would be inclined to share the honour, and contented to follow us as their patterns in so excellent a work. Mr Fox highly approved of what Mr Pitt had said respecting the language it became us to hold to foreign powers. A trade in human flesh he considered as so scandalous, that it was in the last degree infamous to suffer it to be openly carried on by the authority of the government of any country. A regulation of the trade had been proposed by some persons; but his detestation of its existence led him, he said, naturally to remark, that he knew of no such thing as a regulation of robbery and restriction of murder. There was no medium. The legislature must either abolish the trade, or plead guilty to all the iniquity with which it was attended. Mr Burke observed, that, whatever were the present situation of Africa, it could never be meliorated under the present system. While we continued to purchase the natives, they must for ever remain in a state of savage barbarity. It was impossible to civilize a slave: it was contrary to the system of human nature. There was no country that continued under such disadvantageous circumstances, into which the shadow of improvement had ever been introduced.

879 Slave-trade supported by various members.

On the other hand, Mr Wilberforce's propositions met with considerable opposition. Mr Savage and Mr Newnham, on the part of the city of London, said, that the measure, if carried into effect, would render the metropolis one scene of bankruptcy. Mr Dempster said, that Mr Wilberforce's first proposal ought to be, to make good out of the public purse, the losses which individuals would sustain from the abolition of the trade. Lord Penrhyn asserted, that there were mortgages in the West India islands, to the amount of 70 millions sterling; and that Mr Wilberforce's project would bind the country in equity, for the repayment of this sum. Mr Henniker opposed the

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to interfere by force, in settling the internal disputes of an independent state. Was it a right which every individual possesses, of assisting those whom he sees oppressed by unjust force? No: that would be to take the question for granted; since the opponents of the stadtholder will not allow that he was oppressed by unjust force. Was it the right of assisting the majority of a country, to recover their ancient civil constitution from the encroachments and usurpation of a faction? He hoped the fact would bear out such a justification; but he was not well enough acquainted with the wishes of the majority of the Dutch nation upon that head. Upon what other ground did he approve of our late interference? It was on the ground of self-preservation; for if France had gained Holland, we had been undone. When it is said that Holland, and the other states of Europe, are independent states, the proposition is true only to a certain degree; for they all depend one upon another, like the links of a chain; and it is the business of each to watch every other, lest any one become so weighty and powerful, as to endanger the security or political importance of every other.

834 Naval promotions.

During the late interference of Great Britain and Prussia in the affairs of Holland, while a dread was entertained, that the discontented party in the provinces might receive assistance from France, and preparations were made on that account for fitting out a fleet, the lords of the admiralty had promoted 16 captains of the navy to the rank of admirals. In making this promotion, a selection had been made, in consequence of which upwards of 40 senior captains had been passed over, a circumstance which gave rise to various debates in parliament. To understand the subject, it is necessary to remark, that in 1718 an order of council directed the lords of the admiralty, in promoting officers to the rank of admirals in the navy, to prefer the senior captains, providing only they were duly qualified for the rank to which they were to be promoted. By a subsequent order of 1747, the lords of the admiralty were authorized to place such captains, as should be found incapable by age or infirmity of serving as admirals, upon the list of superannuated admirals, which had usually received the appellation of the list of the yellow admirals. In the promotion lately made, the board of admiralty had offered to place upon this list of yellow or superannuated admirals, most of the captains who were passed over; but conceiving themselves, from their capacity of future service, entitled to the rank of acting admirals, they had refused the retreat that was offered them, and a general disgust prevailed among the officers in the navy, on finding that their hopes of reward for the most active services, must at all times depend on their interest with the first lord of the admiralty.

835 Debates on the naval promotion.

On the 20th of February 1788, Lord Rawdon, in the house of lords, stated their case, and proposed an address to his majesty upon the subject. The first lord of the admiralty, Lord Howe, justified the exertion of a discretionary power, by the board, in promoting navy captains to the rank of acting admirals, as a man might be fit to command a single ship, who ought not to be intrusted with the care of a fleet. Lord Sandwich asserted the impropriety of interfering with the executive government in an affair of this nature, and Lord Rawdon's proposal of an address was rejected.

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The same subject was brought before the house of commons, in various forms, during the month of April, by Mr Bastard. He stated the merits of some of the individual captains who had been passed over as very great, and their services conspicuous, and asserted, that the most notorious partiality had been exerted in the promotion. He was supported by almost all the navy officers who had seats in the house, particularly Sir George Collier and Captain Macbride, who declared, that nothing short of ruin to the service must follow, if such a system of promotion was to continue. Mr Pitt defended the admiralty, by asserting, that no sufficient degree of misconduct had been stated, as could authorize the interference of parliament with the exercise of its powers. The board was protected, by a small majority of 150 against 134.

836 Duke of Richmond's plan of fortifying the West India islands.

During the present session some debates were occasioned, by certain plans of the duke of Richmond. His project of fortifying certain places in Great Britain had been negatived by the house of commons; but a part of the same plan, consisting of erecting fortifications for the defence of the West India islands, was still persevered in, and required an additional land force in that quarter, of 3064 men. He also wished to purchase certain powder mills at Waltham abbey, upon a project that government should manufacture gunpowder there, for its own use. He farther proposed, to raise a corps of artificers for the ordnance department, to be divided into companies, and subjected to martial law. This last plan met with considerable opposition, but was carried by administration, along with the other projects.

837 Act against exporting wool.

A bill was at this time brought into parliament, for subjecting to higher penalties than formerly, all persons who should export wool from the country, intending thereby to confirm the monopoly enjoyed by our own manufacturers in that article. The manufacturers asserted, that 13,000 packs of British wool were annually smuggled into France, which tended to raise the price of the commodity against our own manufacturers. Several country gentlemen opposed the bill, as an unjust hardship upon the profits of land in this country, which ought to have the world open, as a market for its productions. But the minister, who was aware of the importance of enjoying popularity with the commercial, that is, with the most active part of the British nation, gave full countenance to the bill, in consequence of which it passed into a law.

838 Flourishing state of the revenue.

In stating the situation of the revenue, Mr Pitt made some remarks, descriptive of the improving state of the country, which are not unworthy of being here noticed. He said, that the receipt of the permanent taxes, in the year 1787, exclusive of the land and malt tax, had been 13,000,000l. The receipt of the taxes in the year 1783, had been 10,184,000l. Thus, there was an increase of revenue of three millions, of which not more than one million and a half accrued from new taxes. In the trade, the navigation, and the fisheries, the progressive improvement bore an exact proportion to the increased revenue.

In the year 1772 our imports were	L. 14,500,000
Our exports	16,000,000
In 1787 the imports were about	15,800,000
But the exports were	16,600,000

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met with similar resistance in the house of lords from Lord Stormont, but with a similar issue.

884 Repeal of the shop-tax.

Mr Fox had annually brought forward a motion for the repeal of the shop-tax, which had proved extremely unpopular in the capital. During the present session, Mr Pitt consented that the tax should be abolished. Mr Beaufoy again introduced a motion for the repeal of the corporation and test acts. It was supported by Mr Fox, but opposed by Lord North and Mr Pitt, and rejected by a division of 122 against 102.

885 Lord Stanhope's bill to repeal religious penal statutes.

A bill was introduced into the house of lords by Earl Stanhope, for relieving the members of the church of England from various penalties and disabilities under which they laboured, and for extending freedom in matters of religion to persons of all denominations, Papists excepted. The laws it chiefly intended to repeal, were laws imposing penalties upon persons who did not frequent the established worship, and prohibiting men from speaking or writing in derogation of the doctrine of the book of Common Prayer. It also repealed the laws enjoining the eating fish on certain days, authorizing the imprisonment of persons excommunicated, prohibiting the exportation of women, and declaring all persons who should go to court, without having previously made a certain declaration, which probably had been made by no person now living, to be in the eye of the law Popish recusant convicts, which was a species of outlawry. Lord Stanhope also mentioned certain canons, of which, however, he did not propose the repeal, because he conceived them to be at present void of the force of law. By these canons, among other things, it was declared, that a person who should bring against another a charge of impiety, should not be allowed to be complained against, as having acted out of malice, or from any other motive than from the discharge of his conscience; and that no clergyman should, without license from the bishop, attempt, upon any pretence whatsoever, to cast out any devil or devils. Lord Stanhope deprecated the objection, that the laws he wished to repeal were obsolete, and never carried into execution; and undertook to produce above 30 cases within the last 26 years, some of them within 10, and some within one year, in which men had been persecuted under these laws; and, in some instances, the tables, chairs, dishes, and beds of poor people, had been sold by public auction to pay the penalties of not going to church. Lord Stanhope's bill was opposed by Dr Moore, archbishop of Canterbury, who insisted, that if a man were unfortunate enough to disbelieve the existence of a God, he ought not to be at liberty to disseminate so dangerous a doctrine. Dr Warren, bishop of Bangor, and Dr Halifax, bishop of St Asaph, observed, that Lord Stanhope was mistaken in imagining, that the canons to which he alluded had not the force of law, and asserted, that the clergy were still bound by them, though the laity were exempted. These bishops opposed all innovations upon such a subject as dangerous. Dr Horsley, bishop of St David's admitted that some of the old laws alluded to ought to be repealed; but he objected to Lord Stanhope's bill, as rudely tearing away the foundation of the church of England, and thereby weakening the English constitution. The bill was rejected; and the same nobleman immediately produced another bill, to prevent suits for the recovery of tithes from being instituted in the ecclesiastical courts, whose proceedings, he alleged, were severe, especially against Quakers, who, by their religious principles, were restrained from the voluntary payment of tithes. This bill also was rejected.

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886 East India Company's capital increased.

On the first of July, the East India Company petitioned the house of commons for permission to add an additional sum of one million to their capital, the whole to be subscribed by the present proprietors of East India stock. The request was granted with little difficulty. On the same day, Mr Dundas, as minister for India, or president of the board of controul, brought forward a statement of the revenues of India, which, after every article of expenditure in that country was deducted, he calculated at 1,820,000l. Mr Francis objected to some particulars of the statement; and Major Scott, the friend and supporter of Mr Hastings, took this opportunity of remarking, that when now, for the first time, an India budget had been opened, Mr Francis had omitted to say one word as to the state of the government of that country, or to reprobate, as he had been accustomed to do, the system under which it was administered. The system he affirmed to be the same which had been introduced by Mr Hastings, adopted by Lord Cornwallis, and sanctioned by the king's ministers. Thus the house of commons appeared, as he observed, to be alternately engaged in condemning and reprobating the system when they acted in one capacity, and bestowing upon it the highest applause when they acted in another.

887 India bill.

888 Mr Hastings's trial.

During the present session, the trial of Mr Hastings still went on before the house of lords. The third charge brought forward, respecting presents received by Mr Hastings during his government of Bengal, was opened by Mr Burke. In the course of his speech upon this occasion, Mr Burke alluded to the trial and execution of Nundcomar, and asserted that Mr Hastings had murdered that man by the hands of Sir Elijah Impey. The transaction respecting Nundcomar made no specific part of the charges which had been made against Mr Hastings by the house of commons; and the question, so far as Sir Elijah was implicated in it, had been examined and rejected during the preceding session. Mr Hastings, therefore, thought proper to present a petition to the house, in which he entreated them, either to cause the additional allegations that were urged against him to be brought forward, and prosecuted in specific articles, or to afford him such other redress as they might judge suitable and proper. In his petition he mentioned certain other accusations that had been brought against him in the course of the trial, which were not specified in the articles of impeachment. Mr Pitt supported the petition; asserting that the murder of Nundcomar was no part of the crime of peculation, and every rule of evidence was against its being alleged. It had been charged in order to discredit the character of the accused; but it was a rule in the courts of law, that no fact could be given in evidence to discredit even a witness. If then the murder of Nundcomar was not admissible as evidence, it could only be urged as matter of aggravation; but it was impossible to allow this. The common sense of the house, and of all mankind, would not permit the crime of murder to be urged to aggravate a crime of peculation. Mr Fox, on the contrary, quoted the case of a captain of

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of a ship, against whom murder was charged in having thrown his cargo of slaves overboard, in order to prove that he had by sinister means endeavoured to defraud the underwriters of the amount of the insurance. The present case, Mr Fox said, was exactly correspondent to this. It was impossible to relate the corrupt transactions of Mr Hastings, without relating the crimes that had accompanied them, or to relate the crimes without mentioning the names of the persons by whom they had been committed. A resolution, however, was moved by the marquis of Graham, one of the lords of the treasury, and carried, by which it was declared, that no authority had been given by the house of commons, for making any allegation against Mr Hastings, respecting the death of Nundcomar; and that the words of Mr Burke, complained of in the petition, ought not to have been spoken.

889 Mr Burke censured by the house of commons.

890 The rise and re-assembling of parliament.

The session of parliament was concluded on the 11th of August, by a speech delivered by the lord-chancellor, in the name of the king. The summer passed away in Great Britain, without producing any memorable event, and parliament assembled again on the 1st of January 1790. They were met by the king in person, who, in his speech from the throne, remarked, that he had received continued assurances of pacific dispositions, from the different powers in Europe, and congratulated the nation on the happiness it enjoyed, from the increasing advantages of peace.

891 French revolution.

During the preceding summer, the eventful career of the French revolution had commenced. To remedy the state of extreme weakness, into which the government of France had fallen, in consequence of the public debts, and the embarrassment of the finances, the king had called together the states of the kingdom, who had assumed the title of the national assembly. Their debates, which were held in public, diffused extensively a love of innovation, for the purpose of reforming their ancient government, and establishing a free constitution. When the court became alarmed by the violence of their proceedings, and attempted to set bounds to their projects, the populace of the capital rose in arms, and the military refused to act against them. The national assembly proceeded in the daily discussion of new plans of change. They seized the ecclesiastical property and tithes, resolving to limit the clergy for the future to stated salaries. They put an end to the monastic institutions. They abolished the whole order of nobility, and limited the power of the crown. These, and other proceedings, which we shall state in their proper place, could not fail to excite attention in Britain, and accordingly allusions to them became not unfrequent in the British parliament during the present session, and general questions were debated with more animation, and excited a higher degree of interest, than they had done during many years.

892 Allusions in the house of commons to the French revolution.

The supplies for the navy and army, having been stated to the house of commons at the same amount as in the preceding session; this circumstance produced, with regard to the army, some animadversions from Mr Marsham and Mr Pulteney, who alleged, that from the state of Europe, our military establishment might safely be reduced. Mr Fox observed, that if ever there could be a moment, in which he could be less jealous than usual of an increase of the army, the present was that precise moment. The example of a neighbouring nation had proved, that the former imputations upon standing armies were unfounded and calumnious, and it was now universally known through all Europe, that a man, by becoming a soldier, did not cease to be a citizen. He thought the new form the government of France was likely to assume, would render her a better neighbour, than when she was subject to the intrigues of ambitious and interested statesmen. Mr Pitt acknowledged, that the tumultuous situation of France afforded a prospect of tranquillity; but he thought, that the opportunity ought to be seized, to raise our army into such a state of respectability, as would leave no hopes to future hostility. The present convulsions of France, he observed, must sooner or later terminate in general harmony and regular order; but he confessed there was a probability, that while the fortunate arrangements of such a situation might render her more formidable, they would also convert her into a less restless neighbour. He hoped, he should do nothing wrong as an Englishman, while, as a man, he wished the restoration of the tranquillity of France, though that event appeared to him considerably distant. Whenever it arrived, and her inhabitants became truly free, they must be in possession of a freedom resulting from order and good government; they would then stand forward as one of the most brilliant powers in Europe, nor could he regard with envious eyes, an approximation towards those sentiments which were characteristic of every British subject. While Mr Pitt, who had commenced his own political career as the champion of political reform, and who, notwithstanding his official situation, had, upon important occasions, represented himself as not relinquishing his attachment to his first popular notions, was thus applauding the first revolutionary movements of the French; his friends accounted themselves at liberty to adopt sentiments of a different nature, upon the same subject. Viscount Valletort, who had moved the address to the king on the first day of the session, expressed great compassion on account of the unhappy state of the king of France, almost a prisoner in his own palace, and of the families of distinction who had found it necessary to fly to foreign countries, to avoid the unexampled barbarities which were committed with impunity at home. Colonel Phipps asserted, that the praise bestowed by Mr Fox, upon the conduct of the French military, was a poor compliment to the profession in general, and that if he had wanted a subject for panegyric, he ought rather to have adverted to the conduct of the English army, during the riots of 1780, when they were not led by false feelings to put themselves at the head of schemes of anarchy and cruelty.

893 Mr Pitt approves of the French revolution.

On the 9th of February, when the vote of supply for the army came a second time under consideration, Mr Burke revived the subject of the French revolution. He declared himself, in decided terms, an enemy to the measures that had lately taken place in that country. He conceived it would be the greatest of all calamities for Britain, if any set of men among us should represent the late transactions in France as a fit object for our imitation. On account of the weakness of France, however, he condemned the greatness of our military establishment. He declared, that on looking over the geography of this quarter of the world, he saw a great gap, a vast blank, the space hither-

894 Mr Burke hostile to the French revolution.

to

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Britain. to occupied by France, and which was no longer of any importance.

——Jacet ingens littore truncus,
Avulsumque humeris caput, et sine nomine corpus.

France, he said, had at different periods been as dangerous to us by her example, as by her hostility. In the last age, we had been in danger of being entangled, by her example, in the net of a relentless despotism. Our present danger, from the model of a people, whose character knew no medium, was that of being led, through an admiration of successful fraud and violence, to imitate the excesses of an irrational, unprincipled, proscribing, confiscating, plundering, ferocious, bloody, and tyrannical democracy. They had a good political constitution the day their states general assembled in separate orders; but this they had destroyed. They had now no other system, than a determination to destroy all order, subvert all arrangement, and reduce every description of men to one level. He was sorry, that a proceeding like this should be compared to the revolution in England, which neither impaired the monarchy nor the church; but merely drove away a legal monarch, who was attempting arbitrary power.

895 Fox and Sheridan defend the French revolution.

Mr Fox expressed great concern on account of his differing in opinion from Mr Burke, for whom he avowed the highest reverence and esteem. He repeated his former opinion on the subject of French affairs, but declared himself an enemy of all absolute forms of government, whether monarchy, aristocracy, or democracy. Mr Sheridan, in more unqualified terms, stated his disapprobation of Mr Burke's sentiments. He expressed his surprise, that any man who valued the British government, should feel such abhorrence of the patriotic proceedings in France. He declared himself as ready as Mr Burke to detest the cruelties which had been committed; but what, said he, is the striking lesson, the awful moral, that these outrages teach? A deeper abhorrence of that system of despotic government, that had so deformed and corrupted human nature, and that by its extortions, dungeons, and torture, prepared beforehand a day of sanguinary vengeance, when the irritated populace should possess themselves of power. He complimented individually, the Marquis de la Fayette, M. Bailly, and others of the French patriots. He avowed the hope, that the despotism of France would never be restored; but observed, that he ought not, on that account, to be considered as approving a wanton persecution of the nobility, or an insult upon royalty. Mr Burke answered Mr Sheridan with indignation. He denied that he was the advocate of despotism, but said that Mr Sheridan had sacrificed his friendship for the applause of clubs and associations.

896 Conduct of Mr Pitt.

It is probable, that by this time Mr Pitt was aware of the difficulty of his situation, with regard to the French revolution. It was at that period generally regarded with approbation in Britain, as an imitation of that spirit by which our ancestors had raised their country to a career of unexampled prosperity and happiness. At the same time, Mr Pitt must have known, that the court regarded it in a different light, and that, at no remote period, his ambition and his love of popularity might upon this question come to have very different interests. On the occasion now mentioned, he undoubtedly saw with satisfaction, a division likely to occur among those who had hitherto been his competitors for popularity. With that happy dexterity in debate, for which he appears to have been at all times remarkable, he instantly endeavoured to widen the breach, and to attach to himself a man of so much popular eloquence as Mr Burke. He declared, that he agreed with him, in almost every point that he had urged, respecting the late commotions in France. He drew a comparison, between the happy and genuine freedom enjoyed by Englishmen, and the unqualified nominal liberty of France, which was in fact, at the present moment, the most absolute, direct, and intolerable slavery. He said, he might differ from Mr Burke, in regard to some particulars, but he trusted they did not differ in fundamental principles. He felt himself bound to acknowledge, that the sentiments Mr Burke had that day professed, respecting the British constitution, filled him with the sincerest satisfaction; and the manner in which he had pledged himself, to maintain it for ever inviolate, entitled him to the gratitude of his fellow citizens at present, and of the latest posterity. Brita

897 Motion to repeal the corporation and test acts.

A new effort was made on the 2d of March, to procure a repeal of the corporation and test acts. The efforts of debate were more animated on this occasion than formerly. The dissenters had prevailed with Mr Fox to introduce the motion; and the clergy of the church of England, alarmed no doubt by the downfal of the church of France, were anxious to diffuse a spirit of opposition to the intended attack upon their privileges. Mr Fox represented his whole argument as resting upon this principle, that no government has a right to animadvert upon the speculative opinions of its subjects, till these opinions produce a conduct subversive of the public tranquillity. It was said, he remarked, that certain errors in religion tended to disturb the public tranquillity; but surely political errors must have this tendency in a greater degree: yet such was the absurdity of our present test laws, that a man who favoured arbitrary power in his sentiments, who should consider the abolition of trial by jury as no violation of liberty, and the invasion of the freedom and law of parliament as no infraction of the constitution, might easily pave his way to the first situations in the state. There was no political test to bind him; the obligation of all such tests had been justly exploded by the practice of the country, and what had been the consequence of this? A religious test was imposed for a political purpose. The object of this test had originally been, to exclude antimonarchical men from civil offices. But, he said, he would ever reprobate such a procedure; it was acting under false pretences; its tendency led to hypocrisy, and served as a restraint only upon the conscientious and the honest.

Mr Pitt supported, as he had formerly done, the privileges of the established church, asserting that though opinions might not be a warrantable ground for criminal accusation, yet they might afford a good reason for excluding particular individuals from the public service, and that to discover dangerous opinions a test might be highly expedient.

Mr Burke said, that he had absented himself from two former discussions of the subject, because his mind had not come to any decision concerning it. He was now

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Britain.

841 Bill to regulate the transportation of negroes.

they were abdicating their trust, and making way for an entire abolition of their functions. Sir William Dolben called the attention of the house to the condition of the slaves in one point, which he alleged called for an immediate remedy. He said he neither alluded to their sufferings at home from the hands of their cruel countrymen, nor to their sufferings from their unfeeling masters, the planters in the West India islands; but to that intermediate state of tenfold misery which they suffered in their transportation from the coast of Africa to the West Indies. He entered into a short detail of the horrors of that dreadful passage, which he said was scarcely less fatal in its effects upon the British sailors, than upon the wretched slaves themselves; and he declared himself ready to call evidence to the bar to prove the fact. This, he said, called aloud for a remedy, and that remedy ought to be applied immediately. If parliament did not apply some remedy, without delay, between the present session and the beginning of the next, 10,000 lives would be lost. He wished, therefore, that this grievance should be taken into consideration, independent of the general question; and that some regulation, such as restraining the captains from taking above a certain number of slaves on board, according to the size of their vessels, obliging them to let in fresh air, and provide better accommodation for the slaves during their passage, and such other regulations as should suggest themselves to the house, should be adopted. This proposal met with general approbation; and, accordingly, a bill was brought forward, and passed into a law, for regulating the transportation of the natives of Africa to the British colonies in the West Indies. It met with some unsuccessful opposition from the merchants of Liverpool, who petitioned, and were heard by counsel, against it.

842 Indian affairs.

In the present session, the affairs of India still continued to occupy the attention of the legislature and of the public. During the apprehensions of a rupture with France, on account of the affairs of Holland, government had resolved to send out four additional regiments to India, on board the company's ships, for the protection of our possessions in that quarter; and the proposal had been received with approbation by the court of directors. After the danger was past, government still adhered to their resolution of sending out four regiments, with a view to form a permanent establishment of the king's troops in that quarter. In consequence of this circumstance, a question arose with the court of directors of the East India Company, about the expence of sending out, and hereafter paying, these troops. By an act passed in 1781, the company were declared liable for the expence attending such troops only as should be sent out upon their own requisition. But administration now contended, that the act brought forward by Mr Pitt in 1784, which gave to the board of controul a power of counteracting the orders of the court of directors, and of directing the application of the company's revenues, ought to be understood to authorize that board to carry into effect the proposed measure. The court of directors, however, obtained the opinion of some eminent lawyers in their favour; and, accordingly, refused to take the troops on board the ships that were about this time to sail for India. For this reason, on the 25th of February, Mr Pitt proposed, in the house of commons, that all difficulties should be removed by a declaratory act, asserting the intention of the legislature, in the act of 1784, to have been agreeable to the construction put upon it by the board of controul. This mode of proceeding was strongly opposed. It was said, that the claims of government upon the company ought to be tried in a court of law, instead of being brought before the house of commons, where administration possessed an undue influence. It was contended, that the measure was in itself ill-judged, as it would have been more economical to have suffered the company to have raised four regiments, which would have enabled them to provide for many of their own officers, 600 of whom were living in India in very distressed situations, in consequence of having been reduced at the peace; or the mode might have been adopted, with better advantage to the company, of sending out recruits to complete the king's regiments at that time in India, which would have enabled them to avoid the additional burden of all the officers of four new regiments. The measure was farther condemned, as tending to produce confusion in India, by putting the power of the sword into two hands, and giving disgust to the officers in the company's service. It was added, that the power now claimed by the board of controul, of keeping an army of the king's forces in India, to any amount they thought fit, and of paying it out of the revenues of the company, was unconstitutional, as it enabled the king, contrary to the bill of rights, to keep a standing army in time of peace.

Britain.

843 Declaratory bill.

But the point of view in which this declaratory act was chiefly resisted, referred to its tendency to deprive the East India Company of the whole management of its own affairs, and the patronage arising from its revenues, which at the time that Mr Pitt's bill was passed, had never been understood to be the intention of the legislature or of government. Mr Pulteney and some other members, who usually voted with Mr Pitt, now declared that they supported his bill in 1784, only because it appeared to preserve uninjured the rights of the East India Company; that the construction attempted to be put upon it in the declaratory bill, made it equally obnoxious with the celebrated bill rejected by the lords in 1783, with only this difference, that what the one had for its professed object openly and without disguise, the other was attempting to effect by fraud and dissimulation. Mr Powis argued, from the various amendments which the act had received in its passage through the house, that no such ideas of its extent, as were now endeavoured to be established, were then entertained of it, much less expressed; and that if they had, it must have been rejected. Mr Baring, one of the directors of the East India Company, declared, that Mr Pitt's bill was generally understood at the time, by that board, to be utterly incapable of the unlimited construction now put upon it; and Colonel Barré declared that having asked one of the directors, why they had suffered the bill to pass unresisted and with the sanction of their concurrence, the director had admitted with him, that the bill darkly and tacitly conveyed powers to the board of controul, as hostile to the rights of the company as Mr Fox's bill; but that they had a confidence in the administration which introduced it, and had no doubt of their exercising these powers with gentleness and moderation.

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Britain. jesty informed parliament, that the differences which had arisen with the court of Spain, were brought to an amicable termination: That a separate peace had been made between Russia and Sweden, in which the Turks were not included, but that, in conjunction with his allies, his majesty had employed his mediation to negotiate a treaty between Russia and the Porte: That in like manner he was endeavouring to assist in putting an end, by negotiation, to the dissensions in the Netherlands. It was added, that the peace of India had been interrupted by a war with Tippoo Sultan, son of the late Hyder Ally; and the speech concluded with recommending to parliament a particular attention to the state of the province of Quebec.

Various debates occurred, which are of little importance in a historical point of view, upon the negotiations with Spain, concerning the fur trade at Nootka on the west coast of North America, and the expensive naval armament which had been fitted out to enforce the claims of Britain.

904 Division among the members in opposition.

In the beginning of March 1791, a bill was brought into parliament by Mr Pitt, for regulating the government of the province of Canada in North America. This circumstance is chiefly worthy of notice, on account of an altercation to which it gave rise between Mr Burke and Mr Fox. In the last session of the former parliament, Mr Burke had declared his disapprobation of the French revolution, while Mr Sheridan and Mr Fox had expressed very opposite sentiments. Mr Pitt laid hold of the opportunity to excite disunion among his antagonists, and declared himself highly satisfied with Mr Burke's attachment to the British constitution. Mr Burke had long been engaged in a career of fruitless opposition to the existing government. During the king's illness, in the end of the year 1788, he at all times expressed such a degree of indecent impatience when any expectation was expressed in the house of commons of his majesty's speedy recovery, as sufficiently demonstrated how eager he was to obtain possession of the emoluments of office. It is probable that the approbation expressed by Mr Pitt, of Mr Burke's fears from the French revolution, suggested a decisive opposition to the character of that revolution, as a mode of ingratiating himself with administration, and that this idea, concurring with his former sentiments, stimulated his eager mind to devote his principal attention

905 Burke and Paine's pamphlets.

to this subject. In November 1790, he published a treatise, in which he endeavoured to vilify the French national assembly, and to hold out the revolution as a subject of alarm and of detestation to all Europe. The style of copious and popular eloquence in which the book was written, together with the sentiments it contained, produced a great sale of it among the higher orders of society. Replies were made to it by Dr Priestley and others; but that which was most successful in gaining the attention of the public was, a pamphlet published at this time by Thomas Paine, who had formerly, in North America, published a pamphlet entitled "Common Sense," which was extremely prejudicial to the royal cause throughout the colonies. His present work contained a statement of the facts connected with the French revolution, together with much satirical remark upon what he accounted imperfections in the British constitution. He was not equal to his learned antagonist in copiousness of diction, but in shrewdness of remark and concise energy of style he was far superior. Mr Burke's love of literary fame was very great. It had been highly gratified by the attention paid to his book. He now saw his reputation rudely assaulted by a dangerous rival. His temper was ruffled, and at the same time he appears to have wished to find an opportunity of separating himself from his former political associates. On the 6th of May, when the clauses of the Quebec bill were about to be read in a committee of the whole house, paragraph by paragraph, Mr Burke rose, he said, to speak to the general principle of the bill. He enlarged upon the importance of the act which they were about to perform, that of appointing a legislature for a distant people. He thought the first consideration ought to be the competency of the house to such an act. He said, that by what was called the rights of man, a body of principles lately imported from France, "All men are by nature free, and equal in respect to rights." If this code were admitted, the power of the British legislature would extend no farther than to call together the inhabitants of Canada to choose a constitution for themselves: rejecting this code, however, which was never preached without mischief, he would assume the principle, that this country had acquired the right of legislating for Canada by right of conquest. The next question was, what model was to be followed in instituting a government for Canada; whether that of America, of France, or of Great Britain, which were the three great modern examples. Hence he took an opportunity to pronounce a vehement invective against the principles and enactments adopted by the French national assembly, in attempting to form a new constitution. He was called to order by some of his former friends, and an altercation ensued, during which he asserted, that a design was formed in this country by certain persons against the constitution. Mr Fox accused Mr Burke of leaving the question before the house to seek a difference with him, and to fortify misrepresentations of something which he had said in a former debate concerning the French revolution. He adhered to his former sentiments in approving the revolution, though not the new constitution of France. Mr Burke repeated his attack upon the French revolution. He declared that his friendship with Mr Fox was dissolved by that accursed event. Mr Fox, with much apparent agitation, endeavoured to soften the asperity of Mr Burke, but without effect. That gentleman had evidently resolved upon the part he was to act; and this may be considered as the first occasion upon which any member of the British legislature represented his own conduct as seriously influenced, to the extent of being led to desert his former political views and associates, in consequence of an alarm originating in the example of the French revolution.

Britain

906 Mr Burke deserts his position.

907 Slave-trade.

During this session, the question of the slave-trade was again brought forward by Mr Wilberforce, on the 18th of April, in a very copious speech, which he concluded by moving for leave to bring in a bill to prevent the further importation of African negroes into the British colonies. He was supported by Mr Pitt and Mr Fox. His motion, however, was negatived by a majority of 75. The zeal of the nation upon the subject, however, had at this time become very great. The evidence which had been led before the house of commons,

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Britain.

commons, had represented this trade as the source of multitudes of crimes, and of an immense mass of misery. Considerable numbers of persons became not a little scrupulous, even about the use of sugar, a commodity said to be produced by means of so much wretchedness and injustice. In consequence of subscriptions to a large amount, a company was established with the view of civilizing the natives of Africa, and of cultivating, by the hands of freemen, the West India productions in that country. A bill for granting to this company a charter was introduced on the 28th of March. They fixed their settlement at Sierra Leone, on the western coast of the central region of Africa; but the ultimate object of the undertaking has hitherto made little progress.

908 Sierra Leone Company established.

909 Dispute with Russia about Oczakow.

On the 28th of March, a message from his majesty announced, that his endeavours, in conjunction with his allies, to effect a pacification between Russia and the Turks, not having proved successful, he judged it necessary to add weight to his representations, by making some farther augmentation of his naval force. The question in dispute was this: The empress of Russia had gradually been making progress in her attempts for the subjugation of the Turkish provinces in her neighbourhood. After many efforts she had taken Oczakow, a town situated upon the Black sea, at the mouth of the river Dnieper, and considered as a situation, which at a future period might enable her to carry war into the very heart of the Ottoman empire. The Turks, being greatly exhausted, were reduced to the necessity of purchasing tranquillity at almost any price; but Prussia, being alarmed on account of the growing greatness of Russia, had, in conjunction with Britain and Holland, offered to mediate a peace, with a view to procure the restoration of Oczakow to its former masters. Russia refused the offer of mediation. She also refused to renew any commercial treaty with Britain, though she made one with France, and another with Spain. She even entered into a quadruple alliance with these two countries, and with Austria, for the obvious purpose of restraining the influence of Prussia, Britain, and Holland. Mr Pitt, in the usual form, moved an address to his majesty in consequence of the message. He said, that having entered into defensive alliances, which were admitted to be wise and politic, we ought to adhere to them, and if possible to prevent any changes in the general state of affairs, which might render them nugatory. Prussia was our ally; any event therefore which might affect that power, and diminish its influence on the continent, would be injurious to ourselves, as far as our mutual interests were united. The progress of the Russian arms against the Porte gave sufficient cause for alarm; for should success still attend them, and the power of the Porte be farther humbled by its aspiring rival, Prussia would instantly feel it; and not Prussia alone, but all Europe, which might prove in danger of being shaken to its very foundation.

910 Debate on the Russian armament.

Mr Fox expressed his conviction, on the contrary, that Prussia could not be endangered by any progress which the Russian arms might make in Turkey. An alliance with Russia appeared to him the most natural and most advantageous which we could possibly form. The address was carried by a majority of 228 against 135. Opposition finding themselves upon this occasion supported by greater numbers than usual, and that a war with Russia was unpopular throughout the nation, brought forward the question repeatedly for discussion. The result was, that administration, finding the current of public opinion to run against them, deserted their pretensions, and refused to support Prussia in attempting to set bounds to the ambition of the Russians.

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911 General state of Europe.

On considering the state of Europe at the time, we apprehend that administration were guided, in their jealousy of Russia, by the maxims which influenced the politics of Great Britain during the best periods of its history. The Spanish monarchy had long been in a state of such debility as rendered it of little weight or importance on the continent of Europe. France likewise, during a considerable number of years, had suffered her armies to decline, and had fallen by a sort of family compact under the influence of Austria. In consequence of the revolution, or rather of the weakness which preceded it, her capacity of interfering in foreign affairs had been utterly lost. In the mean time, Austria and Russia, relinquishing all rivalship, had of late years entered into a close combination, and acted in subserviency to each others ambition. To preserve against these two great military empires some tolerable balance of power on the continent of Europe, it became absolutely necessary that Great Britain and Holland should join their whole strength to that of Prussia and Sweden, and that these should protect the Turks, merely for the purpose of preventing the further aggrandisement of the two great and warlike powers of Russia and Austria. Prussia at this time had farther endeavoured to fortify herself against Russia, by encouraging an attempt made by the king, and some of the patriotic nobles of Poland, to reform the government of that ill-fated country, by abolishing the feudal anarchy, rendering the throne hereditary, and establishing a constitution formed in imitation of that of Great Britain. The British ministry, however, finding a war with Russia unlikely to prove popular, and that it was disliked by many of their friends in parliament, consented that Great Britain should relinquish, on this occasion, the proud office of holding the balance of the continent, for which she had on former occasions so lavishly sacrificed her blood and her wealth. The consequences of this desertion speedily appeared. Prussia was under the necessity of joining Russia and Austria in their schemes of aggrandisement, at the expence of the weaker powers, that she might strengthen herself by a share of the spoil. How far the British administration acted with magnanimity in deserting what they accounted their duty, in compliance with the apparent wish of the nation, is a question which was never discussed; because the consequences of Great Britain deserting its usual political station at this time were soon overlooked and forgotten, amidst the great events which speedily occurred to alter the relative force of the states of Europe. But the impartial voice of history will probably hereafter record the event now alluded to in a manner little to the credit either of the people, or of the political parties, of Great Britain. During the preceding year, the public had no objection to a Spanish war, because plunder was to be won, while no danger was to be apprehended. They now disliked a war with Russia, in which nothing could be gained, while trade might be interrupted. From the

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Britain. love of popularity, and the habit of resisting all the projects of administration, opposition at this time encouraged the pusillanimity of their countrymen, which soon cost Europe and Britain very dear; while the members of administration, from the fear of losing their places, suffered their country to be degraded from its rank and influence in the scale of Europe, and prepared the way for the partition of Poland, the projected partition of France, the war of the revolution by which that project was resisted, and the immeasurable aggrandisement of that power which soon proved so dangerous to Europe and to Britain.

912 Motion to repeal the test act in favour of the Scotch. An unsuccessful effort was made during this session of parliament by Sir Gilbert Elliot, to procure for the members of the church of Scotland, an exemption from the test act. The general arguments employed in favour of the application were nearly the same with those formerly stated in support of a repeal of that statute; and it was added, that by the treaty of union, the subjects of both countries were to have a free communication of right throughout the whole united empire, which the members of the Scottish presbyterian church could not enjoy while the English test act remained in force. To this it was replied, that it was certainly known to the Scotch, previous to the treaty of union, that the test act existed, as appears by their own debates on the subject. This being the case, being fully aware of it, and voluntarily agreeing to the union notwithstanding its existence, any attempt to get rid of it at present was a kind of chicane which would never be countenanced in private conduct. The motion was rejected by a majority of 87.

913 Relief of protesting Catholics. A part of the body of the Roman Catholics in England were more fortunate, during the present session, in obtaining relief from certain penal statutes. As the Romish church was the great object both of political and religious terror in the first stages of the reformation in Europe, the English statute book was loaded with the most rigorous edicts against the professors of that obnoxious faith. Though, in the year 1780, some of these were removed; yet in the year 1791, in a well-known book, Burn's Ecclesiastical Law, not less than 70 pages were to be found occupied with the enumeration of the penal statutes in force against the Roman Catholics. Among these were some of the most sanguinary nature. It was high treason and death to make a convert to the Roman Catholic faith; severe penalties were enacted against Papists for hearing mass by some statutes, and by others they were compelled to attend the established worship, however contrary to their consciences. A reform in the penal statutes was now more obviously reasonable, since, in the year 1790, a body of Catholic dissenters had formally protested against the temporal power of the pope, and against his assumed authority to release men from their civil obligations, or to dispense with the sacredness of oaths. Mr Millford brought forward a bill to relieve these protesting Catholics from the penalties and disabilities to which persons professing the Popish religion were by law subject. The bill passed unanimously, excepting that Mr Fox wished to extend it not merely to protesting, but to all Roman Catholics, upon this principle, that in his apprehension the state has no right to inquire into the opinions of the people either political or religious, but only to take cognizance of their actions. This sentiment was opposed by Mr Burke, who said that opinions might influence the human passions, and that the passions govern the man; that it was therefore the duty of the state to watch over the opinions of the people; but in this case, he observed, there was no danger from the pope; it was not by him that the Americans were absolved from their allegiance, nor had his interference produced any of the late revolutions in Europe. Britain

914 War in India. The war which was now carrying on in India was the cause of some debates during the present session. Like all other wars in that quarter of the globe, it was undertaken, on our part, for the purpose of aggrandisement, and on the part of our antagonist, from a jealousy of the British power. The ostensible cause of the war, however, was this. The Dutch had long been in possession of two forts, called *Cranganore* and *Jaccotab*, upon the frontier of Hyder Ally's kingdom of Mysore. In the year 1780, Hyder seized and garrisoned these forts, under the pretence that they belonged to a vassal of his. Having speedily thereafter joined the Dutch and French against the British, the forts were given up to the Dutch; but in 1789 Tippoo again claimed the forts. The Dutch, dreading his power, sold the forts to the rajah of Travancore, a vassal or ally of the British. Tippoo, resenting this mode of evading his claim, made war upon Travancore; but as the rajah had made his purchase under secret instructions from the British government in India, he was defended by them. Thus the war was said, on our part, to have been made in defence of the just rights of our ally, the rajah of Travancore; while on the other hand, it was contended that this was nothing more than an attempt made to subdue the monarch of Mysore, and extend our eastern empire, at a time when the power of France was annihilated, and our own forces in great strength in that quarter. 915 Its ostensible cause.

916 Trial of Mr Hastings. In the trial of Mr Hastings little progress was made during the present session. As parliament had been dissolved during the dependence of the trial, a question occurred, whether that circumstance did not put an end to the impeachment. The friends of Mr Hastings adopted the affirmative side of the question. They were supported by Mr Erskine and the attorney and solicitor general, M'Donald and Scott; while Mr Pitt, Mr Burke, and Mr Fox, contended, that a dissolution had no effect upon an impeachment. The argument, from expediency, seemed to be upon their side; as, if the house of commons were not to be held a permanent body, every judicial proceeding of this kind would be subject to interruption from the prerogative of the crown. It was carried in the house of commons, that the impeachment was still depending, or, in the language of the lawyers, that it did not *abate* by a dissolution of parliament. The same decision was adopted by a majority of the house of lords, on the 16th day of May; and the session of parliament was concluded on the 10th of June.

917 Early popularity of the French revolution. As the avowed purpose of the first leaders of the revolution which had recently occurred in France, was the establishment of a system of political freedom, or of a representative government, with a hereditary monarch at its head, and as one of the consequences which they expected to follow from the establishment of

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Britain. of the new system, was the complete abolition of wars, which, unmindful of the general temper and violent passions of men, they ascribed entirely to the ambition of kings, the progress of the revolution was regarded with much favour by persons of a speculative character in Great Britain. The reform of the Roman Catholic church, though it alarmed the English clergy, was favourably regarded by the English dissenters, and the abolition of titles of honour was not disliked in a country where they are only enjoyed by a few individuals, and are chiefly valued, not for themselves, but on account of the privilege of hereditary legislation, by which they are accompanied. The English also had at all times been accustomed to boast of their own political freedom, and of their superiority in this respect over their French neighbours. When the populace of Paris rose in arms, when the military refused to act against them, and the state prison or fortress of the Bastile was taken and demolished, persons fond of political speculation in Great Britain regarded with applause, as an imitation of the efforts of our own ancestors, the attempts made by the French to shake off their ancient despotic government, and to renovate the order of society. Though the British public at large had not yet given much attention to the subject, yet of the curious and the idle, a sufficient number had done so to form parties who commemorated the 14th of July, the day on which the Bastile was taken, by convivial meetings in taverns in many of the most considerable towns throughout the island. These meetings were, on the whole, understood to be rather unfavourably regarded by that description of persons who are most attached to the monarchical part of our constitution, but no public expression of disapprobation had hitherto appeared. One of these festive meetings was to have been held at Birmingham on Thursday the 14th of July 1791; but on the preceding Monday, some copies were left in a public house, by a person unknown, of a hand-bill, of a most inflammatory nature, which represented the late transactions in France as proper to be imitated in England. The contents of this hand-bill, having been generally circulated, produced much conversation in the town, and the magistrates offered a reward of 100 guineas for discovering the author, printer, or publisher of it. In the mean time, the friends of the intended meeting thought it necessary to disclaim the sentiments contained in the seditious hand-bill; but finding their views misrepresented, they at one time resolved that the meeting should not take place. Another determination was afterwards adopted, and the company assembled to the amount of 80 in number. The house was soon surrounded by a tumultuous mob, who expressed their disapprobation by hisses and groans, and by the shout of "church and king," which became the watchword on this occasion; upon which the meeting immediately dispersed. In the evening of the same day, the mob attacked and burned an unitarian meeting-house belonging to the congregation of the celebrated Dr Joseph Priestley, a man, who, at that time, as an experimental philosopher, and a voluminous but most ingenious and original writer upon a great variety of speculative subjects, might be considered as at the head of English literature. Dr Priestley himself had not been present at the convivial assembly above mentioned; at half-past nine at night, however, he was under the necessity of suddenly escaping with his family from his own house, which was attacked by the mob. The whole of his library, his valuable philosophical apparatus, and his manuscripts and papers, were destroyed. The magistrates were accused of having at first favoured and given encouragement to the mob, whose fury they afterwards found it impossible to resist. During three succeeding days they destroyed some other meeting-houses, together with the dwelling-houses of several eminent dissenters in the neighbourhood. It was not till Sunday night that some parties of light dragoons arrived in Birmingham; and the first days of the week were spent in scouring the country, to clear it of the parties of rioters, who, in different directions, attacked the houses of dissenters. Five of the rioters were tried at Worcester, and one was convicted and executed. At Warwick twelve were tried, and four were convicted of burning and destroying houses; three were executed, and one was reprieved upon the application of the magistrates, as it appeared that his interference in the riot was accidental, and that he had only made an opening into a house to let out a body of smoke by which a party of the rioters were about to be suffocated from fire of their own raising.

918 Riots at Birmingham.

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At this time a foundation was laid on the European continent for the most important political changes. The various nations of Europe had for some centuries owed their independence to the mutual jealousies which they entertained. Many petty states were altogether unable to contend in war against their powerful neighbours; but they were safe, because these neighbours were held in check by other great powers, who would not permit their aggrandisement. When any one nation became dangerous by its ambition, the combination of a number of other states repressed its progress. In this way the Spanish, and afterwards the French monarchies were retained within bounds. During the late century a new power, that of Russia, had become formidable in Europe, and its rulers contrived rather to undermine than to overthrow that balance of strength to which the lesser states of Europe had owed their safety. A former Russian empress had entered into close ties of amity with the empress queen of Hungary, or head of the house of Austria. This union had nearly proved fatal to the Prussian monarchy, notwithstanding the talents of the great Frederick. The house of Austria, finding the advantage of such an alliance, attempted, at the same time, to attach itself to France, its ancient hereditary enemy, by the marriage of the archduchess Maria Antonietta to the dauphin. This marriage had fully produced its intended political effects. The French court, relinquishing its former policy of humbling Austria, suffered its armies to decay, and allowed itself to be led on all occasions by this more active power. The French revolution, which so essentially altered the whole government of the state and order of society, by subverting every existing establishment, and exciting jealousies and discontent in every quarter, brought the nation, in the eyes of foreign powers, into a state of utter debility. The king and royal family had been exposed to endless insults and humiliations, and compelled to submit to a new constitution, which placed the royal authority on a very

919 Remarks on the state of Europe.

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Britain. very precarious footing. The principal nobility had emigrated. The king himself had attempted to do the same, but was seized, and brought back as a fugitive, and reluctantly placed at the head of a form of government of which he disapproved.

In this state of affairs the two great military powers, Russia and Austria, acting in conjunction, saw nothing to resist their ambition. They had recently wished to divide the best provinces of the Turkish empire between them. The Austrians had met with unexpected resistance, and desisted from the attempt. The Russians, on their side, were more successful. The king of Prussia, with the aid of Britain and Holland, had attempted to restrain the progress of Russia; but being deserted by Britain, he now found it necessary to be upon good terms with that power, and with Austria; and for that purpose, as well as to avoid being left behind in the career of usurpation and aggrandisement, to enter into all their ambitious schemes.

920 Project for dividing Poland and France.

Poland and France were, at this time, two of the weakest states in Europe. We have said, that for the sake of erecting a barrier to his own states, the Prussian monarch had encouraged the king and the leading nobles of Poland to form for their country a new political constitution, by which its government might be strengthened; but Russia and Austria had cast their eyes upon this country, with a view (in imitation of what they had done in 1772), to seize its best provinces, and the king of Prussia now found it necessary to acquiesce in this project. The state of France at this period held out great temptations to the formation of a similar project with regard to it. Leopold, emperor of Germany, in consequence of the ties of affinity, had a fair excuse for interfering in French affairs, to rescue the king from the state of thraldom into which he had evidently been brought by his subjects. At the same time, the other princes of Europe were become jealous of the examples set by France, of limiting the authority of a monarch, of destroying the privileges of the nobility, and reducing to a level all classes of persons in the state. It therefore now formed a part of the plan of the united powers of the north to restore the French king and his nobles; but at the same time it was determined to divide among themselves or their allies a part of the provinces of France. These points were adjusted towards the close of the summer 1791, at a

921 Treaty of Pilnitz.

meeting which took place at Pilnitz in Saxony between the emperor Leopold and the king of Prussia. The treaty was intended to be kept secret; but it speedily transpired, and was afterwards, by the jealousy which it excited in the French nation, the cause of some important events. Its general object is understood to have been the partition of Poland, and of a part of France. Poland was to be divided among the three great military powers in different proportions. With regard to France, the emperor was to obtain Bavaria; in exchange for which he was to conquer the French Netherlands, and give them, along with the Austrian Netherlands, to the elector of Bavaria. The archduke Charles was to obtain the duchy of Lorrain. Strasburg and Alsace were to be restored to the empire. The king of Sardinia was to receive Dauphiny, if he acceded to the coalition. Spain was to receive, on the same condition, the French part of the island of St Domingo, with Corsica and Roussillon, and Bearn. The Swiss cantons, if they acceded to the coalition, were likewise to receive certain territories. This treaty was publicly disavowed; but at the same time, it was universally talked of and believed throughout Europe, under the appellation of the *Concert of Princes*. Britain

922 Parliament assembled

The British parliament assembled on the 31st of January 1792. A variety of uninteresting debates occurred, the principal of which related to the armament which had taken place on account of the dispute with Russia concerning Oczakow. As ministry had adopted mild measures, opposition endeavoured to triumph over them, in consequence of their own successful resistance to the intended interference in continental affairs. Administration chiefly rested their defence upon the importance of preserving the balance of power on the continent. As France had now totally sunk into insignificance, they contended, that the only power now to be dreaded was Russia, which had showed a hostile spirit against Great Britain, and could only be resisted by adhering to Prussia, and protecting the Turkish empire.

923 Duke of York's marriage.

During the preceding autumn, the second son of the king, the duke of York, had married a daughter of the king of Prussia. This prince was known to be a favourite son; and as the marriage was understood to have been contracted, not as a political engine like the usual marriages of princes, but from the private choice of the parties, it gave much satisfaction to the public in Britain. The dowry of the princess amounted to 22,000l. a sum which, in the wealthy nation of Great Britain, was considered as unworthy of notice in the solemn treaty entered into between the British and Prussian monarchs on this occasion. A provision of 37,000l. per annum was readily made by parliament for the parties.

924 Taxes begin to be repealed.

On the 17th of February, Mr Pitt brought forward a statement of the public revenue, from which it appeared, that about 400,000l. might be applied towards the extinction of taxes, or the payment of the national debt. He proposed, therefore, to remove an additional tax which had recently been imposed upon malt, together with the taxes on female servants, on carts and waggons, and on houses under seven windows, and part of the duty on candles. The repeal of these taxes would, he said, diminish the revenue to the extent of 222,000l. and the other 200,000l. he proposed to apply to the reduction of the national debt. Mr Pitt concluded by giving a most flattering statement of the prosperity and happy prospects of the country, declaring, however, that these prospects were connected with peace abroad and tranquillity at home, of any interruption to which he appeared to entertain no doubt.

925 Slave-trade.

On the 2d of April, the question of the African slave-trade was again brought under the consideration of the house of commons by Mr Wilberforce. He disclaimed any project of immediately emancipating the negroes, whom he admitted to be in a state unfit to receive the enjoyment of freedom; but he contended that, by the immediate abolition of the importation of new slaves, the state of those in the West Indies would be improved, by the necessity under which the planters would be brought of treating them well, that they might produce families to support the population of

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Britain. of the islands. From the evidence which had been led before the house of commons, Mr Wilberforce stated various instances of extreme barbarity on the part of the traders in slaves, together with the loss of seamen as well as of negroes, occasioned by the unhealthy state into which the latter fall in consequence of their captivity and expatriation. The slave-trade on this occasion was defended by Colonel Tarleton and Mr Jenkinson, on the general principle of its having received the sanction of parliament, and that an immense yearly loss would fall on the manufacturers and shipbuilders of this country in consequence of its abolition. Mr Wilberforce was supported by Mr Montague, Mr Whitbread, and Mr Milbank. Mr Dundas professed himself a friend to the abolition of the slave-trade, and that he only entertained doubts with respect to the mode of effecting it. He thought the African trade not founded in policy, and agreed, that the continuation of it was not essential to the West India islands, where he thought, that without it, the human race might not only be maintained but increased; but he doubted of the propriety of a direct abolition of the trade. He proposed to accomplish the object by regulations tending to promote the increase of the negroes in the West Indies, and gradually to put an end to hereditary slavery. Mr Addington agreed in opinion with Mr Dundas. He thought the trade ought to exist for some years longer, and therefore could not vote for an immediate abolition; but he proposed certain regulations for giving grants of land or money to those who should rear a certain number of children, to institute premiums for the invention of instruments of agriculture; and that the importation of males should be subject to a heavier duty than that of females, to promote the population of the islands, to which he thought the trade still necessary.

Mr Fox deprecated, upon this subject, in strong terms every kind of deception or delusion upon the country. He said he neither felt, nor wished to feel, any thing like moderation on the question. Regulations would be as disgraceful as they would be impotent. He reprobated, in particular, Mr Addington's proposed premium for the transportation, that is, for the kidnapping, of females. He said, he should like to see the clause by which this inhuman measure was to be presented to the parliament of England, or the man capable of conceiving words in which it should be framed. Last session, said Mr Fox, we were cajoled, and taught to believe, that something would be early brought forward. Have we not passed a year, and nothing has been done? Are we still to be deluded and betrayed? Why were we not at an earlier period entertained by the proposition for a gradual abolition? Mr Dundas having moved, as an amendment of Mr Wilberforce's motion, that the trade should be abolished "gradually," Mr Pitt declared his disapprobation of the amendment. He lamented the state of barbarism in which the wretched Africans were plunged in consequence of the trade; and repeated certain calculations which he had produced in the former session, to show, that the population of the islands might be supported without any supply from Africa. The motion for a gradual abolition was carried by a majority of 68.

216 A gradual abolition voted.

On the 23d of April, Mr Dundas stated the regulations which he meant to propose, towards accomplishing the abolition of the trade; these consisted chiefly of increasing the duties upon the age of the negroes imported; of abolishing the trade, so far as not intended for the supply of our own islands; of limiting the tonnage to be employed in it; and, of punishing British subjects, guilty of crimes in the conduct of it. He proposed, that the importation of negroes into the British colonies, should cease on the 1st of January 1800. Mr Wilberforce disclaimed all acquiescence in these propositions; and Mr Fox ridiculed them, by asking where was the baptismal register kept on the coast of Africa, to ascertain the age of those who were to be exported. Lord Mornington moved, that the abolition should take place on the 1st of January 1793, expressing his satisfaction, that the great blow to the slave-trade was struck, but alleging, that it admitted of no modification, as we could not modify injustice, and could not carry on a trade which we had condemned as inhuman. Lord Mornington's amendment, however, was rejected by a majority of 49. On a future day, he altered the period of abolition to the 1st of January 1795, and at last consented that it should be fixed for the 1st of January 1796, and this amendment was carried by a majority of 40. On the 1st of May, a series of resolutions, similar on the whole to those proposed by Mr Dundas, were presented to the house of commons by Mr Pitt. In the upper house, the advocates for the abolition were less successful; and they were not a little provoked, on finding one of the younger branches of the royal family, the duke of Clarence, declaring himself decidedly hostile to their wishes, in what they accounted a question of humanity. On the 8th of May, the subject came forward upon a question of form, regarding the expediency of hearing evidence at the bar of the house, or before a committee. The friends of the abolition, Lord Grenville, the bishop of London, Lord Porchester, Earl Stanhope, and Lord Rawdon, desired despatch, and therefore urged the necessity of a committee; but the duke of Clarence, the lord-chancellor, Lord Stormont, Lord Hawkesbury, and the bishop of St David's pleaded with success for hearing evidence at the bar. Evidence was accordingly ordered to be heard at the bar, which necessarily produced delay, and little progress was made during the session.

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217 Scotch borough reform.

On the 18th of April, Mr Sheridan moved for an inquiry into the grievances, of which the royal boroughs of Scotland had complained by petition. Of 66 royal boroughs, 50 concurred in the complaint, which Mr Sheridan now supported. The petitions complained of the mismanagement of the revenues of the boroughs by their magistrates, who were self-elected, that is, elected their own successors, and, at the same time, could not be called to account before any court of law. The remedy proposed by Mr Sheridan for the abuses, consisted of abolishing the self-electing power of the magistrates, and of extending the right of election. Alluding to the subject of the French revolution, he said, that by assuring us of tranquillity abroad, it afforded leisure to look into abuses at home, and that the lesson which that event ought to afford, was this, that rational and sober reformation of abuses, in a season of tranquillity, was the best way of avoiding the

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Britain. the evils of a reform accomplished by violence. The motion was resisted by Mr Anstruther, Mr Dundas, and Sir J. St Clair Erskine, upon the general ground that no serious grievance existed, and the inquiry was refused by a majority of 69 against 27.

Excepting some debates relative to the French revolution, nothing farther of importance occurred during the present session: and that we may not afterwards have occasion to interrupt our detail of the transactions
928 War in India. connected with this interesting event, we shall here take notice of the war which had for some time been going on in India, and which was now brought to a fortunate termination. The western side of the peninsula of Hindostan consits of a level country for about 70 miles inwards. At the back of this level tract of territory, and parallel to the ocean, runs a chain of lofty mountains, whose front is abruptly broken towards the west, forming tremendous precipices, but which on the other side consist of an extensive plain, gradually descending eastward to the bay of Bengal, and forming the territory of the Mahrattas, Mysore, Madras, the Carnatic, and other states included within that great peninsula. Tippoo possessed territory on both sides of these mountains, which are denominated *Ghauts* (passes), from the narrow paths or passes, by which they are ascended. The British Carnatic army, under General Meadows, was directed to attack the territories of Tippoo from the east; while the Bombay army, under General Abercromby, was to reduce the country to the westward of the Ghauts. The Mahrattas, and the nizam of the Decan, agreed to attack Tippoo's country from the north and northeast, where it touched their own territories; and Seringapatam his capital was fixed upon, as the point towards which the whole of the hostile armies were to direct their efforts.

On the 15th of June 1790, General Meadows entered Tippoo's country. The grand army on this occasion amounted to 14,000 effective men, a body of European troops which no power in India could encounter in the field, on account of the superiority possessed by men of the race of Europe, over the timid and superstitious natives of that enfeebling climate. A variety of operations occurred, which are uninteresting in detail, on account of the want of equality between the contending parties. Little, however, appears to have been accomplished towards the subjugation of the enemy (excepting the capture of the country to the westward of the Ghauts by General Abercromby) till the end of February 1791, when Lord Cornwallis, having assumed the command in person, proceeded against Bangalore, which he reached on the 5th of March. A breach being made in the walls by means of four batteries, the fort was stormed on the 21st, with little loss to the British. Of the garrison not less than 1000 were massacred with the bayonet, and a small number were taken. Earl Cornwallis being joined by above 14,000 of the nizam's troops, and 700 Europeans, with 4580 troops under Colonel Oldham, proceeded against Seringapatam, in the neighbourhood of which he arrived on the 13th of May, after a difficult march in bad weather over a hilly and
929 Tippoo retreats into his capital. barren country. Tippoo now stood an engagement, in which, though he was beaten, he suffered little loss; but he was under the necessity of retiring into his capital, which being defended by a river, which at Britain this season was swelled with rains, afforded him protection. Lord Cornwallis finding himself destitute of provisions to support his army during a protracted siege, and General Abercromby not having been able 930 to join him from the west, he judged it prudent to Lord Cornwallis retires. return to Bangalore, after destroying his battering artillery. On his retreat he was joined by the Mahrattas, to the number of 30,000. General Abercromby, in the mean time, retired across the Ghauts to the westward, with a fatigued and dispirited army, and thus for the present Tippoo escaped the necessity of standing a siege in his capital.

After his retreat, Lord Cornwallis employed himself for some time in reducing various smaller forts in 931 the neighbourhood of Bangalore. Some of these are Strong forts described as of such prodigious natural strength, as reduced. would render them, in any other hands than those of the feeble natives of that country, absolutely impregnable. Nundydroog is described as built on the summit of a mountain 1700 feet in height, three-fourths of which are absolutely inaccessible. After a siege, from the 22d of September to the 18th of October, a breach was made, and the place was assaulted at midnight, and taken, though not by surprise. In consequence of the efforts of Captain Robertson, little blood was shed upon this occasion. The fortress of Savendroog, 18 miles to the west of Bangalore, is described as still more strongly situated. It stands on the summit of a vast mountain or rock, which rises half a mile in perpendicular height, from a table or base of eight or ten miles in circumference. At its summit it is divided into two hills, which have each their peculiar defences, and are capable of being maintained independent of the lower works. The whole mountain is surrounded by a strong wall, and in every accessible part cross walls and barriers are erected; yet this stupendous fortress was taken in ten days.

In December, General Abercromby once more crossed the Ghauts, and proceeded eastward towards the Mysore country, while Lord Cornwallis, in the beginning of February 1792, advanced from Bangalore. He arrived on the 5th within sight of Seringapatam, under the walls of which Tippoo Sultan was posted to receive him. On the 6th of February, at 932 eight o'clock in the evening, the British made an at- Seringapatam besieged. tack on Tippoo's camp. After an engagement in different points, some parties of the British crossed the river, and posted themselves upon the island on which the city of Seringapatam stands. Being thus pressed by the invaders in every quarter, his palace and beautiful gardens in their possession, and his power reduced within the narrow limits of a fortress, Tippoo found it necessary to endeavour to purchase peace upon almost any terms. With this view he released two prisoners, lieutenants Chalmers and Nash, and requested the former of these gentlemen to present a letter from him to Lord Cornwallis. The operations of the siege, however, still continued to go on; and, on the 19th of February, the trenches were opened, while the Bombay army, under General Abercromby, invested the western side of the capital. But a cessation of hostilities was agreed upon on the 23d of February. 933 By the treaty of peace, concluded on this occasion, it Treaty of peace with was stipulated, 1st, That Tippoo was to cede one half of Tippoo.

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of his dominions to the allied British and Indian powers; 2dly, That he was to pay three crores and 30 lacks of rupees: 3dly, That all prisoners were to be restored; 4thly, That two of the sultan's three eldest sons were to become hostages for the due performance of the treaty. On the 26th, the two princes, each mounted on an elephant, richly caparisoned, proceeded from the fort to Lord Cornwallis's camp, where they were received by his lordship with his staff. The eldest, Abdul Kallich, was about ten, the youngest Mooza-ud-deen, about eight years of age. The princes were dressed in long white muslin gowns, with red turbans richly adorned with pearls. Educated from infancy with the utmost care, the spectators were astonished to behold in these children all the reserve, the politeness, and attention, of maturer years. The kindness with which they were received by the British commander, appeared to afford them visible satisfaction. Some presents were exchanged on both sides; and the scene is described by an eye witness, Major Dirom, as highly interesting. It was the 19th of March before the definitive treaty was finally adjusted, and delivered by the young princes into the hands of Lord Cornwallis.

934 Causes of impending changes in Europe.

In the meanwhile the nations of Europe were hastening fast into scenes of unparalleled importance and activity. These arose from two causes, the ambition of the great military powers of Europe, and the French revolution. When, by a corruption of that policy which had once produced a vigilant attention to what was called the balance of power, Russia and Austria had formed, as already mentioned, the new project of extending their dominions, not by contending in arms, as had been the custom of former ages, against nations of equal strength, but by amicably dividing the weaker states; and Prussia, not to be left behind in the career of aggrandisement, found it necessary to concur in their policy; it became evident that the situation of Europe must speedily undergo great changes: and there was reason to fear that the mildness of government, which in some measure had arisen from the facility of emigration, and of obtaining protection in neighbouring states, might come to an end. The French revolution, which had speedily reduced that once potent monarchy to a state of complete debility, seemed to afford an opportunity to the remaining great powers to extend their system of ambition, by enabling them to regard its ample and fertile territories as a farther subject of partition.

935 Ambition of the great powers.

936 The French revolution.

In another point of view, however, this revolution had now begun to appear an object of no small jealousy and alarm. The distinguished place which France holds among the nations of Europe, rendered the late change of her government an object of universal attention; and it now began to be seriously feared as an object of imitation. The public discussions which took place in her national assemblies, and in printed publications, were conveyed, through the medium of a language almost universally understood, to the most obscure corners of Europe; and kings, nobles, and priests, became apprehensive, that the contagion of innovation might not terminate in the country in which it had begun. Hence a general wish existed among these ruling classes of society, that an effort should be made to overwhelm, before it should be too late, that country, from which so much danger to established governments seemed to originate. It is still perhaps too early, even for the most enlightened and unimpassioned mind, so far to elevate itself above the current of events, as to be enabled to take a clear view of the philosophical history of modern Europe; and more especially of that great convulsion, which now began to be the hinge of all the changes that occurred in this, and even in other parts of the globe.

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937 Progressive improvement of Europe.

It is to be remarked, however, that, during six centuries, the condition of the human race had, in Europe, been in a state of rapid and obvious amelioration. This quarter of the globe was at one time governed by a barbarous military aristocracy, that held agriculture and every useful art in contempt; or by a wealthy and numerous, but illiterate and licentious priesthood; while the body of the people remained in an enslaved condition. By the efforts of various princes the nobles were gradually subdued. The dominion of law and of order was established; and the body of the people were protected, and, by means of industry, enabled to rise to the possession of wealth. Literature was encouraged among all ranks of persons; and the human character assumed a more respectable and a happier aspect. This fortunate progress was indeed early disturbed. The new intelligence which they had acquired, enabled mankind to discern the vices which existed in their priesthood, which formed one of the principal orders, possessing a very large proportion of the wealth of every European community. This class of men had been rendered voluptuous by riches, and indolent by long possession of power; and the ignorance into which they had fallen, with the superstitions which they still encouraged, were now beheld with contempt and indignation by a populace that were acquiring industry, riches, and knowledge. Princes and people in many countries shared the same sentiments. Some reforms were attempted; but the clergy having resisted such changes as the temper of mankind now rendered necessary, a zeal for their destruction was excited, which rapidly diffused itself from mind to mind, and from one country to another, till it embraced the extremities of the Christian world. Men were, however, divided in their sentiments; and many princes dreaded that the love of change might not stop short with the extirpation of one great order of the state. Destructive wars, therefore, took place, embittered by religious zeal, in which one half of Europe contended with ferocity against the other. This sanguinary rage, which divided not only states but private families, gradually subsided. It was at last found, that the clergy might be reformed, while the prince and his nobles retained their power. Nations once more made war from views of policy, and religious quarrels were forgotten.

In the mean time, the nations of Europe still continued their progress in improvement; and, as soon as tranquillity had been restored by the peace of 1763, this benevolent spirit started into action in every quarter. As the kings of Europe had originally, by the elevation of their own power, and of the importance and prosperity of the people, upon the ruins of the feudal anarchy, been the prime movers of the improvement of the human character in Europe, so at this time they continued to take the lead in the same honourable

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Britain. nourable career. The value of the most important of all arts, that of agriculture, had gradually been seen. The reasonings and experiments of philosophers were employed upon it; and in Prussia, Russia, and other countries, it was cherished by royal bounty. Poland was still behind the other nations of Europe. There the authority of the crown was little more than nominal. A feudal aristocracy governed the country, and the cultivators of the soil were in a state of slavery. Even there, however, it became a sort of fashion among the more enlightened nobles to give freedom to their peasants.

The mercantile interest advanced still more rapidly into importance in Europe. The pre-eminence which commerce had given to Great Britain, stimulated all who had the means and the opportunity, to foster and increase it by every artificial aid among their own subjects. Manufactories were established and supported by many of the crowned heads on the continent; and trading companies were erected, vested with ample immunities, and sometimes assisted with great loans. The pride of the military nobility was passing away. They found successful rivals for the efficient offices of state in the professors of the law. The establishment of standing armies rendered them of little importance in war; and their wealth, as the great landholders of Europe, was daily more and more eclipsed by the opulence of the industrious classes; and though titles of honour still remained, the estimation in which they were held was much diminished, in consequence of the attention universally paid to men of letters. Still, however, considerable abuses remained. In those states that had resisted in former times the innovations produced by religious zeal, a wealthy priesthood and monastic orders still existed. The privileges of the nobles and of the clergy rendered taxation unequal; and commerce was embarrassed by restrictive laws, and the privileges of old incorporations. There was therefore much to reform among the continental states of Europe; but everywhere princes were seen taking pride in helping forward this work of reformation. In particular, the late emperor of Germany was extremely eager to distinguish himself in this career. He abolished monastic establishments, emancipated the peasants, abolished the privileges of the nobles to a very great degree, and extended the protection of the law, and the privileges enjoyed by other subjects, to that unfortunate people, the Jews, who had long been objects of religious hatred and persecution. This prince, however, urged his projects with a degree of restlessness and impatience, which in many instances defeated the purpose for which they were undertaken, by not giving leisure to the sentiments of the people to go along with him in his innovations.

938 Character of the royal family of France. Though the house of Bourbon had supported in France the Roman Catholic system of superstition, yet, upon the whole, they were of a more liberal spirit than any other royal family in Europe, and had given greater encouragement to letters, and to every kind of improvement. It is not wonderful, therefore, that in France, the Roman Catholic superstition had become contemptible, and that the desire for improving the condition of mankind, and simplifying the arrangements of society, which was everywhere pursued by the princes of Europe, should here have become extremely prevalent. Unfortunately, however, though the benevolent character of the reigning monarch led him to encourage such projects, yet his undecided and inactive spirit, together with the embarrassed state of the finances, prevented him from taking the lead in these changes, or from repressing them when inordinately pursued by others. In the mean time, the example of prosperity enjoyed under the free constitution of Great Britain, together with the pride of having recently contributed to the establishment of a republican government in North America, fixed the character of any changes of a political nature, which at this period might originate in France, from the men of letters, the army, or the people at large.

939 Passion reform, history character There is a passion of the human mind, to which philosophers have not hitherto given a name, which at times remains dormant for ages, but which, when kindled into action, seldom fails to alter the whole face of society. This is the passion or rage for reforming the world, or for propagating that which, under the influence of this sentiment appears good for the human race, or just and right with regard to society at large. In the regions of Asia, under the Arabian prophet, it assumed the form of a zeal for religious truth, or a passion to destroy every form of idolatry, and to bring mankind to the worship of one God. Supported by the energy which this passion inspired, and the contagious frenzy which it communicated, the Mahometan faith was conveyed from the Arabic gulf to the banks of the Ganges, the deserts of Tartary and of Africa. At one time it seemed to embrace all Europe, invading Germany from the east, and advancing from the south through Spain into the centre of France, where its career was with difficulty arrested by Charles Martel, after a sanguinary conflict of many days. The same passion has, in Europe, at different times, assumed the form of a zeal for freedom and of religious enthusiasm. At the time of the reformation from Popery, it chiefly appeared under the aspect of a desire to accomplish religious reform. In those countries which, like England, were vigorously governed, and where the prince and the people concurred in the same object, the zeal of the multitude was restrained, and the reformation was not carried to extremes; but where the populace led the way, as in Scotland, Geneva, and other places, the reformation was destructive to all ancient religious institutions. When the passion for reform, after two centuries of internal tranquillity, was communicated to the French nation, by the example of the princes of Europe and of the citizens of America, it assumed the shape of a zeal for freedom, and religion was treated with contempt. The passion, however, was the same that had formerly induced the European states to engage in sanguinary wars for the support or the overthrow of their religious establishments. In both cases, the followers of the new sect were filled with enthusiastic notions of their own powers and their own worth, with visionary schemes of impracticable improvement, and with complete impatience of opposition, accompanied with an eager zeal for making proselytes. Like other social passions, its contagion rapidly flew from city to city, and in a less or greater degree it extended to the utmost limits of Europe. It more particularly seized the minds of men of letters, who regarded the French revolution, in its commencement,

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commencement, as their own work, and as the fruit of the war which they had long waged against monastic institutions, and the exemptions from taxes, or the public burdens of the state, which were enjoyed by the privileged orders. On the other hand, princes and the clergy, together with persons of high rank and great opulence, were seriously alarmed by the example which France had given of diminishing the power of the throne and of the altar, and destroying all privileges enjoyed by particular orders of men; and they feared that this system of innovation might proceed, as some of its wild votaries hoped, to overturn the safety of private property; while, at the same time, no European nation might be free from its contagion. It is not wonderful, therefore, that the princes of Europe combined against France on this occasion, or that they were supported by their clergy and their nobles. It remained to be seen, however, what part Great Britain would act in this important scene. Her church and her aristocracy were already reformed, and the first French reformers began their career by the avowed imitation of her example.

940 Defect of the new French constitution.

In forming a political constitution, the vanity of the French, which induced them to avoid the appearance of servile imitation, had unhappily led them to differ in one essential point from the British constitution. Their legislature consisted only of a king and a single house of representatives; whereas in Britain, by means of a third estate, that of the peerage, who are naturally jealous of popular innovation, laws injurious to the royal prerogative are prevented from being enacted, without the king being involved in any personal dispute with the commons. But, in France, the king himself was laid under the necessity, in such cases, of preventing the passing of the law, by personally exercising a negative voice; that is, he was placed in the unpopular and absurd situation of opposing his single judgment to the united will of a nation, and that too in the present perilous and critical times, when he could not fail to be suspected of disliking a constitution, by which his despotic power was taken away. Still, however, the representative government of Britain had radically been the model on which the French had proceeded; and there is no doubt, that they expected, during any contest in which they might be involved with the powers of the continent, that they would enjoy, if not the support, at least the neutrality and favourable countenance, of the British nation.

On the other hand, however, the passion for innovation which had seized the French nation, had, in many instances, proceeded to very extravagant lengths; and there was reason to fear, on the part of the court of London, that this passion might communicate itself in an inconvenient degree to Britain, where, though political abuses were comparatively trifling, and the passion would consequently find less food for its exertion, yet enough might exist to kindle disturbances and produce anxiety.

941 Society of friends of the people.

In the month of April 1792, a society was instituted in London, at the head of which appeared Mr Grey, Mr Baker, Mr Whitbread, Mr Sheridan, Mr Lambton, Mr Erskine, and several other members of parliament, for the express purpose of obtaining a reform in the representation of the people. The association assumed the popular title of *the Friends of the People*; and it was speedily joined by some very respectable characters in the commercial and literary world. Similar societies had, at former periods, existed in Great Britain; and the duke of Richmond, Mr Pitt, and others, while they were zealous advocates for the reform of parliament, had attended meetings, not merely of persons acting in their individual capacity, but, what was undoubtedly more dangerous, of persons appearing as delegates of other societies. At the present period, however, government, not without reason, appear to have regarded any association of this kind, as unusually dangerous. The society had resolved, that, early in the next session, a motion should be brought forward in the house of commons, for the reform of parliament, and that the conduct of the business should be committed to Mr Grey and Mr Erskine. In conformity with the intentions of the association, on the 30th of April, Mr Grey gave notice in the house, of a motion, which next session he intended to submit to their consideration, for a reform in the representation of the people. Its necessity, he said, had been admitted both by Mr Pitt and Mr Fox. The times were indeed critical, and the minds of the people agitated, but his object was to tranquillize them, by removing every cause of complaint. He requested gentlemen to consider the question in the interval, and hoped, that by the time the motion was brought forward, the sentiments of the people on the subject would be fully ascertained.

942 Mr Grey announces a motion for a reform of parliament.

Mr Pitt rose with unusual vehemence. He said, he felt no difficulty in saying, in most decisive terms, that he objected both to the time and the mode in which this business was brought forward. He retained his opinion of the propriety of a reform in parliament, if it could be obtained by a general concurrence; but he feared at this moment, that if agreed on by that house, the security of all the blessings we enjoyed would be shaken to the foundation. The present, he alleged, was not a time to make hazardous experiments. Could we forget what lessons had been given to the world in a few years! or could men be supposed to regard the situation of this country as in any respect unfortunate when contrasted with that of others? He took notice of the new association, and the advertisements in newspapers, by which they invited the public to join the standard of reform. He said, he saw with concern the gentlemen to whom he alluded, united with others, who professed not reform only, but direct hostility to the very form of our government, who threatened an extinction to monarchy and every thing which promoted order and subordination in a state.

943 Opposed by Mr Pitt.

Mr Fox declared himself satisfied concerning the necessity of a reform in the representation, but that he never entertained very sanguine hope of its accomplishment. He would repeat however what he had said almost the first time he addressed that house, that the greatest innovation which could be introduced into the constitution of England was to come to a vote that there should be no innovation in it. His name did not indeed appear in the list of the society for reform, because, though he saw great abuses, he did not see the remedy. Had his honourable friend consulted him, he should have hesitated in recommending the part he had taken; but having taken it, he could not see why the period was improper for the discussion. He professed strong attachment to the British constitution, but

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did not regard this as the only free country in the world. He noticed particularly the American states as in the enjoyment of practical freedom, and approved of the new constitution of Poland. After a tumultuous debate in which Mr Burke and Mr Windham opposed Mr Sheridan and Mr Erskine, the subject was dropt.

944 Paine's second part of the Rights of Man.

In the mean time, a variety of political pamphlets were daily published, the most remarkable of which was a publication by Thomas Paine, entitled "The Rights of Man, part second." This was a direct and most inflammatory attack upon the whole principles and practice of the British constitution. Administration thought fit, on the 21st of May, to issue a royal proclamation against the publishing and dispersing of seditious writings; exhorting the magistrates to vigilance in attempting to discover the authors of such writings, and to preserve the peace and tranquillity of the kingdom; and exhorting the people to guard against all attempts which aimed at the subversion of regular government.

945 Royal proclamation against seditious publications.

It is not easy to perceive what precise purpose government intended to serve by this proclamation. The authors of the seditious publications alluded to did not conceal themselves, and the publications were openly sold without any attempt to suppress them by prosecutions. Perhaps it was intended to prepare the minds of men for these future measures of direct hostility against France, on which government had already resolved. Perhaps it was only meant to rouse and countenance, in the friends of government, a spirit of opposition to the proposals of innovation which were now afloat, or it might be intended in this way to try the general feelings of parliament and of the public upon the subject; but whatever object administration might have in view by this proclamation, its first effect was to excite a general spirit of political curiosity, and to serve as a public advertisement to the dangerous writings of Thomas Paine and others. In all parts of the island multitudes of persons, who had not hitherto interrupted their ordinary occupations to attend to the transactions of the continent, or the speculative discussions which the present state of France had excited, were now seen crowding to the shops of booksellers, inquiring for the treatises, the names or titles of which they knew not, against which the king's proclamation had issued. Every printing press in the kingdom was occupied, and copies could scarcely be supplied in sufficient abundance to satisfy the demand.

On the 25th of May, an address to his majesty being moved by the master of the rolls, in consequence of the proclamation, he intimated that the object of the proclamation was Mr Paine's works. He read an extract from one of his pamphlets, importing that all kings were tyrants, and their subjects slaves, and complained of the circulation of such publications. Mr Grey asserted, that the minister, apprehensive of the effects of the association of the friends of the people, had concerted this measure with an insidious view of separating those who had been long connected. He pretended that such sinister practices were delighted in by a gentleman, whose whole political life was a tissue of inconsistency, and who never proposed a measure without intending to delude his hearers. He said, that mode of proceeding against seditious writings was inefficient, irregular, and mischievous. If improper writings were published, his majesty's ministers ought to have prosecuted the authors or printers. Upwards of twelve months had elapsed since the publications now complained of made their appearance. What could they now say for themselves, or what could the public think of the conduct of the ministers of the crown, who had suffered these publications, which were said to be the bane of the public tranquillity, to poison the public mind for a whole year? He wished to know what could be the motives that brought forward at this time this sudden show of ardour to subdue disorder. Had it always manifested itself in the conduct of ministers? Was there any remarkable activity displayed in preserving order in the affair of Birmingham, where there had been actual outrage and violence to the laws, to liberty, and order? Mr Fox disapproved of the proclamation, because it was insidious and ambiguous, tending to propagate vague and unnecessary alarm. Mr Pitt said he was far from imputing any ill design to the new association; but observed that it might be taken advantage of by ill-disposed persons, who under the shelter of a respectable body might push their own sinister designs. The plan of the persons to whom he alluded, was evidently to destroy the monarchy, and convert the kingdom into a republic. The address to the throne was agreed to without a division; and in the house of lords on the 31st of May a similar address was voted after some debate. Parliament was prorogued in a short time thereafter.

946 France announced with immediate invasion.

The eyes of all Europe were now turned towards France; and the combination which the kings of Europe were known to have formed against that country was expected speedily to proceed to action. The king of Sweden, who was fond of war, and had greatly distinguished himself in his late contest with Russia, having now settled all disputes with that state, offered to lead in person the armies of the combined powers, to destroy in France those new institutions and opinions which threatened to subvert the whole ancient system of public order in Europe. He still, however, continued in a state of extreme hostility with his disaffected nobles; and on the 16th of March he was assassinated at a masquerade by an enthusiast, a nobleman of the name of Ankerstroom, who boasted, when he was apprehended, that he had liberated his country from a tyrant. In the mean time, Leopold emperor of Germany had also died, and was succeeded by his son Francis II. Leopold had chosen to temporize with France, but his successor thought it unnecessary to observe any measures of caution. On some remonstrances being made by the French government against his permitting troops to assemble on the frontiers, he avowed the concert of princes against the constitution of France; and he stated it to be one of the conditions necessary to the preservation of peace, "That the neighbouring powers should have no reason for the apprehensions which arise from the present weakness of the internal government of France." This acknowledged intention to interfere in the internal affairs of the French nation, produced a proposal on the part of the French king to the national assembly, which was readily acceded to, for declaring war against the king of Hungary and Bohemia, and in a short time war was in like manner declared against Prussia and Sardinia.

In the mean while, though the combined princes had

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had not probably as yet completely adjusted the shares they were to receive of the spoils of France and Poland; yet that the latter might be retained in a state of weakness, and that all traces of the new principles which were at this time alarming the world, might as far as possible be obliterated, the empress of Russia gave notice to the king of Poland of her determination to invade that state with an army of 150,000 men, for the purpose of overturning the new constitution, which had been framed in imitation of that of Great Britain. No provision had been made by the king, who appears to have been a well-intentioned but a weak man, to resist such a force. An attempt was however made by Kosciusko, a Polish nobleman, who had served under General Washington in America, to defend the independence of the country. Some battles were fought, but the Russians continued to make progress; and on the 23d of July, the king, despairing of the result of the contest, submitted without reserve to Russia, and consented to the restoration of the old constitution with all its weakness and anarchy. When this event took place, considerable numbers of persons in Britain were promoting a subscription of sums of money to assist the Poles to maintain their independence. The population of Poland was sufficient to have enabled it to resist the power of Russia; but the people at large were still the property of the nobles, and consequently illiterate, and incapable of exerting themselves with that union which is necessary to a great national effort.

947 The Russians invade Poland.

While the combined princes were thus successful in the north, a very different train of events awaited them in France. The French king and his ministry directed the Austrian Netherlands to be invaded, but the object was accomplished in an unskilful manner. Four distinct detachments, under Fayette and other generals, were directed to enter that country at different points. They made some progress; but their raw troops were speedily repulsed by the disciplined armies of Austria, which afterwards advanced with considerable force. At length Prussia and Austria, who had undertaken the extinction of the revolution in France, had completed their preparations, and the duke of Brunswick was appointed commander of the combined armies which were to enter that country. In a long manifesto issued by the emperor and the king of Prussia, they thought it necessary to disclaim all views of aggrandisement, or interference in the internal administration of France; but declared themselves resolved to re-establish in that country public security, with the ancient order of things, and to protect the persons and property of all loyal subjects. They threatened to punish in a striking manner, and to give up the city of Paris to most dreadful and terrible justice, if the least insult should be offered to the king, the queen, or the royal family. The duke of Brunswick also issued a manifesto, in his own name, on the 27th of July, at Coblentz his head quarters, in which he declared that the two allied courts had no intention to make conquests from France; that they meant merely to deliver the king and royal family from captivity, and to restore his authority. The duke promised protection to all who should submit to the king. He required the national guards to protect the public safety till farther orders, and threatened to treat such of them as should resist him in arms as rebels to their king. He required, in like manner, the officers and soldiers of the French regular troops to submit to their legitimate sovereign. He declared the French magistrates responsible, on pain of losing their heads and estates, for every disorder which they should not have attempted to prevent. He threatened with death the inhabitants of towns and villages, who should dare to defend themselves against his troops, but promised protection to those who should submit. He called upon the city of Paris to submit instantly to the king, making personally responsible, on the pain of losing their heads, pursuant to military trials, all the members of the national assembly, and the magistrates and national guards of Paris; threatening on the word of the emperor and king, that if the palace of the Thuilleries should be forced or insulted, or the least outrage offered to the king, queen, and royal family of France, or if they were not immediately placed in safety and set at liberty, to inflict the most exemplary and ever memorable avenging punishments, by giving up the city of Paris to military execution, and exposing it to total destruction: Lastly, It was declared that no other laws could be acknowledged in France, excepting those derived from the king when at full liberty; he was therefore invited to come to some frontier town, where he might provide for the restoration of order, and the regular administration of his kingdom.

948 Duke of Brunswick's manifesto.

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949 Consequences of publishing the duke of Brunswick's manifesto.

This fatal manifesto was no sooner published, than all France was in commotion. The insolent language held in it by two foreign powers, one of which, Austria, had for ages been regarded with hereditary hostility, wounded the national pride and patriotic spirit of every Frenchman. Many who were the enemies of the revolution, could not brook an attack upon the national independence; and the zeal of those who had been enthusiastic promoters of freedom was kindled into frenzy. From all quarters of the country, multitudes hastened to the frontiers, to share the danger of protecting the independence of their country. Unhappily for the monarch, Louis XVI. the enemies of the nation had loudly declared themselves to be his friends, and the restoration of his absolute power was made the excuse for a hostile invasion. The king, therefore, and all who were attached to him, became objects of public jealousy. A very small republican party had previously existed; every hour now procured to it an accession of strength, as it appeared dangerous to intrust the national defence in the hands of the king. He was, therefore, dethroned on the 10th of August. A republic was proclaimed, and the capital soon became the scene of a sanguinary massacre of those persons who had been imprisoned on suspicion of adhering to his cause.

950 Duke of Brunswick enters France.

The duke of Brunswick was, in the mean time, advancing into the country at the head of the combined armies. Verdun and Longwy surrendered to his arms in the end of August, and he gradually advanced to the neighbourhood of Chalons. He had been opposed, however, at every step of his progress; the people of the country removed all kinds of provisions from the course of his march, while the French army under Dumourier was well supplied. At last, as the French daily acquired discipline, General Kellerman was able to sustain, with 16,000 men, an attack of 14 hours by a superior force. The combined army suffered by disease, while their adversaries were rapidly augmenting in

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in numbers and in courage, so that it became not a little dangerous to attempt to advance to the capital.

951 Conduct of Prussia.

The king of Prussia was personally present with the combined army. We have already noticed the policy of that prince, or of his cabinet. He had resisted the combination of Russia and Austria to accomplish their own aggrandisement by dividing the territories of the Turks, and he had given countenance to the new Polish constitution, to form a barrier against Russia. Being deserted in his views by Britain upon the question concerning Oczakow, and finding France unable to give him any support, he had found it necessary to enter into the views of the two imperial courts; but he appears by no means to have regretted the discovery which he now made, that France was by no means in the prostrate state to which it had been supposed to be reduced; that she was capable of resisting an invasion, and was likely soon to resume her place among the European powers, and consequently, according to her ancient policy, to give countenance and protection to Prussia, and to repress the ambition of the court of Vienna. It may be farther remarked, that in consequence of Prussia being a Protestant state, and of the philosophical notions that had been diffused by the former monarch, Frederick II. many of the Prussian courtiers and military officers were not unfavourable to some of the principles of the French revolution, particularly to the overthrow of the Roman Catholic church. Neither was Prussia very jealous of political reforms, as it had countenanced the establishment of a free constitution in Poland, to assist her in resisting the restless ambition of Russia.

952 Duke of Brunswick's retreat.

A retreat was begun by the combined armies, without any very desperate attempt being made to force the French to a general engagement, or to penetrate farther into their country; so that some suspicions were at this time entertained, by discerning men, that France would not have much to dread from the obstinate hostility of the king of Prussia. He probably wished to allow the new republic another winter within which to establish a government for themselves. If they succeeded in their object, he would be safe against the future ambition of Russia and Austria. If they failed to acquire sufficient energy to defend themselves, he could return during the following summer, to take his share of their spoils. After his retreat, the French, with wonderful activity, commenced offensive operations. General Custine took Mentz in October. In the same month Dumourier invaded the Netherlands, and on the 4th of November, fought the celebrated battle of Jemappe, in which the Austrians were beaten; and, as the late emperor Joseph II. trusting to his alliance with the royal family of France, had demolished the fortifications of the towns in the Netherlands, excepting Luxembourg and the citadel of Antwerp, the whole of that country, to the frontiers of Holland, now suddenly fell into the hands of the French.

953 Battle of Jemappe. Invention of flying artillery.

At the battle of Jemappe, a new invention in the art of war, that of flying-artillery, is said to have been first put in practice by the French army. Like all other contrivances in the art of war, it derived much weight from its novelty; and as success in this terrible art depends greatly upon influencing the passions of mankind, by striking terror by what is unknown, or inspiring hope and confidence in consequence of any new device, this invention, at the period alluded to, made much noise in Europe. The French boasted greatly of the superiority which they derived from the use of it, and this boast was no doubt of some use to their enterprises. The invention itself is understood to have been made a short time before the battle of Jemappe, by the late Mr John Anderson, professor of natural philosophy in the university of Glasgow. He is said to have informed his friends in Scotland, that he offered the contrivance originally to the British government, at least to some persons connected with administration for the time, but that it was neglected by them. Being a man of an irritable temper, he was greatly enraged by this neglect, and instantly went over to France, where he communicated his contrivance to M. de la Fayette. Here he met with a very different reception. His experiments having been repeated by a committee of French engineers, the importance of the invention was instantly discerned; he was caressed by the most distinguished persons in the French capital, and considered as one of the most ingenious men of his age. He was seen looking from a window with Madame de la Fayette, on the day that the king was brought back to Paris after his unfortunate flight to the frontiers. His vanity appears to have been much gratified by the attention which, on this and other occasions, he received; and he remained during life an admirer and friend of the French revolutionary leaders. In the mean time, that people enjoyed the benefit of his invention, which on some occasions proved very fatal to their enemies; and the use of it is believed to have been only borrowed from them by the British army at a future period.

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954 Proceedings of the French government.

After the victory of Jemappe, the government of the new French republic, to conciliate the inhabitants of the Austrian Netherlands, published a resolution to open the navigation of the river Scheldt (which for some centuries had been kept shut up by the jealousy of the Dutch), and thereby to revive the trade of Antwerp, anciently one of the first commercial cities in Europe. At the same time to counteract, if possible, the combination of princes which had been formed against them, and which was now rapidly extending itself to every court in Europe, the new French convention (or representative body which had been elected after the deposition of the king) eagerly endeavoured to represent their own cause as the cause of mankind, or of the people at large in every country, in opposition to that of their princes or hereditary rulers, whom they denominated despots and tyrants. On the 19th of November the convention passed a decree, declaring, that they would give assistance, by their armies, to every people that should attempt to establish a free government for themselves. The same convention, two months thereafter, by a majority of votes, ordered their imprisoned monarch to be put to death on an accusation that he had betrayed the cause of the nation.

955 Effects of the continental transactions in Britain.

The important transactions which were taking place on the continent could not fail to produce a powerful effect upon the British nation, where the minds of men, as already remarked, had been directed in so particular a manner, to political questions by the late royal proclamation. According to the different sentiments of men, they perused with terror, or with satisfaction, the duke of Brunswick's manifesto. Men of a patriotic

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Britain.

otic character, however, whatever their political opinions might be, were in general not dissatisfied to see a nation capable, amidst the utmost public confusion, of repelling an invasion by the best disciplined armies, conducted by the most experienced commanders, in Europe. The horrid massacres, however, which took place in September, together with the treatment of the royal family, excited very different sentiments, as exhibiting an instance of unparalleled barbarity and useless bloodshed. In consequence of the political publications which, by the months of August and September, had been universally read, the whole British nation was in a most agitated state. In all companies, political questions on the comparative merits of monarchical and republican government, together with the propriety of a reform in the British house of commons, formed the sole subjects of conversation. Persons of every rank and sex entered into these discussions with singular eagerness. In general, at the commencement of the dispute, very few had any idea that a republican government would be found practicable in France. With regard to Britain, which enjoyed a sound administration of justice, and much internal prosperity, no change seemed necessary. In proportion, however, as the French gained victories, a republican government seemed less impracticable in such a country; and, in proportion, as the subject of political abuses was canvassed, new ideas concerning the state of government in Britain began to be entertained.—The disgraceful scenes of tumult and notorious corruption which had occurred in borough elections, the inattention of parliament during late years to the petitions presented for the abolition of the slave-trade, or motions made upon other popular topics, and last of all, the memory of the coalition, and the reproach under which the house of commons ever since that time had fallen, induced many persons to think a reform in the representation of the people absolutely necessary. As it is the nature of the human mind, when its attention is completely occupied on any subject, to proceed to extremes, new notions were daily broached at home, or imported from the volcanic region of France; one notion, in particular, was extremely prevalent, that of the boundless perfectibility of the human mind, which is so true in theory, but so false in fact; which, in the hands of providence, seems to be gradually and surely going forward, but which has never failed to cover with confusion all those who have hitherto attempted to act upon it as a present and existing reality. At the period alluded to, however, when so many novelties were afloat, this notion gained singular favour. Men of science or benevolence, who judged of others from the rectitude of their own intentions; men of ardent imaginations, who believed every thing practicable to their unbounded zeal; together with the young and inexperienced, who were unacquainted with the imperfections of the human character,—all imagined, that the period was arrived when mankind, become rational and just, were no longer to engage in sanguinary wars of ambition; when good sense alone was to rule the world; and when the public business of society, reduced to the narrow limits of administering justice and constructing high roads and harbours, might be conducted with little trouble, and without the establishment of king and nobles, and different ranks and orders of men, or the display of military force for the

956 Political ferment in the nation.

preservation of public tranquillity. As these notions were extremely favourable to the common people, they entered into them with much eagerness, and thus contributed to give them a greater appearance of practicability. A sort of general delirium upon political subjects prevailed, and mankind were led to believe that the greatest changes in the order of society might be accomplished with facility and safety.

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957 Political associations.

Besides the society called the *Friends of the People*, other associations of less distinguished persons, called the *Constitutional and Corresponding Societies*, were established in London; and during the harvest, societies assuming the name of that of Friends of the People, were established in all towns and villages throughout the country, for the avowed purpose of accomplishing a reform of parliament. In proportion, however, as the character of the French people began to display itself, in the sanguinary nature of their revolution, and the extravagant projects and sentiments which they published, persons of rank and property, as well as those of a mild and moderate disposition in Britain, became greatly alarmed lest something similar should occur in this country. In the month of November an association was instituted at the Crown and Anchor tavern in London, by Mr Reeves, the chief justice of Newfoundland, and other gentlemen connected with administration; the avowed purpose of which was the protection of liberty and property, against the attempts of republicans and levellers. Similar associations for the support of government were instituted in other parts of the metropolis, and throughout the country. These last included, in the course of the winter and succeeding spring, almost all persons of property in the island, besides great numbers of others who, from a spirit of timidity, or the desire of appearing the friends of the existing government, thought fit to join them, so that in point both of number or wealth it appeared, that, comparatively, very few had formed a resolution to avow a desire of innovation at this period. In Scotland, where the literature generally diffused among the common people enabled them to obtain a full knowledge of the new notions then afloat, which their rank and situation in society induced them to regard with favour, it was found very easy to quiet the general ferment; because the same literature enabled them, by the perusal of newspapers and pamphlets, to see the universal combination of persons of rank and property that was formed against the opinions which had recently gone abroad.

958 Parliament assembled hastily.

Parliament was assembled on the 13th of December 1792. The speech from the throne intimated, that his majesty had judged it necessary to embody a part of the militia, and to assemble parliament previous to the time fixed for that purpose. It stated, as the causes of these measures, the seditious practices which had been discovered, and the spirit of tumult and disorder shown in acts of riot and insurrection, which required the interposition of a military force in support of the civil magistrate. The industry, it added, employed to excite discontent on various pretexts, and in different parts of the kingdom, appeared to proceed from a design to attempt the destruction of our happy constitution, and the subversion of all order and government, and that this design had evidently been pursued in connection and concert with persons in foreign countries.

959 Speech from the throne.

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Britain. countries. His majesty asserted, that he had carefully observed a strict neutrality in the present war on the continent, and had uniformly abstained from any interference with respect to the internal affairs of France; but that it was impossible for him to see, without the most serious uneasiness, the strong and increasing indications which had appeared there of an intention to excite disturbances in other countries, to disregard the rights of neutral nations, and to pursue views of conquest and aggrandisement, as well as to adopt towards his allies, the states general, measures which were neither conformable to the law of nations, nor to the positive stipulations of existing treaties. Under all these circumstances he felt it his indispensable duty to have recourse to those means of prevention and internal defence with which he was intrusted by law; and thought it right to take some steps for making some augmentation of his naval and military force, being persuaded, that these exertions were necessary in the present state of affairs, and were best calculated both to maintain internal tranquillity, and to preserve the blessings of peace.

960 Debate on the king's speech. An address, in consequence of the speech from the throne, having been moved, as usual, in the house of commons, Lord Wycombe opposed it. He said the speech calumniated the people of England; that no insurrection existed; that the kingdom was on the contrary overflowing with loyalty; that speculative political opinions had always been agitated under the free constitution of Britain: and that the persons thought most disaffected, wished to reform that constitution. He apprehended we had no just cause of war at present; for he considered the opening of the Scheldt, or even the protection of the stadtholder's privileges, as no sufficient justification of such a measure. Mr Fox said, that the present was the most momentous crisis, not only that he had ever known, but that he had ever read of, in the history of this country; and that on the conduct of parliament, depended not merely the fate of the British constitution, but of doctrines which go to the happiness and well-being of all human kind. He alleged, that there was not one fact asserted in his majesty's speech, which was not false. He denied the existence of an insurrection; remarking that though the sailors at Shields, Yarmouth, and other places, had entered into riots for an increase of wages, nobody had alleged that they had any political object in view. He justified the joy which many persons had expressed, on account of the retreat of the duke of Brunswick; and asserted, that this did not imply, in the minds of such persons, the existence of a dislike to the British constitution. One extreme, said he, naturally leads to another; those who dread republicanism, fly for shelter to the crown; those who desire reform, and are calumniated, are driven by despair to republicanism, and this, said he, is the evil that I dread; these are the extremes into which these violent agitations hurry the people, to the gradual decrease of that middle order of men, who dread as much republicanism on the one hand, as they do despotism on the other. He described the calling out of the militia, as a fraud, intended to induce the people to believe, that great cause of alarm existed, and thereby to bring them more completely under the influence of government. He treated the opening of the Scheldt, as no just cause of war, and said, he did not believe that it would ever be the real cause, though it might be the pretext. He said, that such a war would undoubtedly aid the object of republicans and levellers; and recommended the removal of acknowledged grievances, as the certain means of appeasing discontents among the people. He, therefore, moved an amendment to the address, which simply pledged the house, to make inquiry into the facts stated in his majesty's speech. Britain.

Mr Windham now deserted the opposition, and joined administration, in contending that great danger to the constitution existed. He declared his approbation of the march of the combined armies into France, because he believed their motives to be good. Mr Dundas asserted, that under the pretext for reform, the example of France had been held out for imitation to the people of this country; that the object of the French evidently was the aggrandisement of their dominions. He said the interests and honour of this country, required that we should protect Holland, in the right of keeping the Scheldt shut, and thereby convince it, that it was happier to be connected with Great Britain, than with France. He took notice of the invasion of Poland, that had been alluded to in the debate; and said, that if there had not been such a division in that house, on the subject of the Russian war, Poland would have escaped her present fate. Mr Sheridan denied the existence of any just cause of alarm, and said, that he should vote that English minister to be impeached who should enter into a war, for the purpose of re-establishing the former despotism in France, or should dare, in such a cause, to spend one guinea, or shed one drop of blood.

961 Great defection from opposition. From the commencement of Mr Pitt's administration, a considerable number of members of parliament, the remnant of the coalition, had remained in opposition to his measures. At this time, however, in consequence of the alarm which had diffused itself among persons of high rank, and perhaps also in consequence of a plausible excuse being found for deserting a fruitless and unprofitable opposition, of which they were weary, a great number of the members of the party hitherto hostile to administration, now joined in supporting those measures which they perceived to be agreeable to the executive power. On a division there appeared for the address 270; for the amendment 50. On the following day, when the address was reported by the committee appointed to prepare it, Mr Fox moved an amendment, the object of which was to prevent a war. He remarked, that some gentlemen had said, that ministers ought sooner to have taken the alarm, and sooner interposed to guard against the ambitious designs of France. He also thought, that they ought to have armed sooner, but not for the purpose of joining the general confederacy against France, but of counteracting it. They should have armed, the instant they heard that the two great military powers of Germany had confederated, and resolved to enter France; they should have opposed any such invasion, because it must have been productive of great injury to Britain, and to the other states of Europe, had it been attended with success. He said, he was an enemy to the aggrandisement of France; but in opposing it, he would take care to have justice on his side. Had he been minister when Prussia and Austria resolved to invade that

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Britain. that country, he would have told those powers they had no right to enter France. Had this been done, the English must have acquired such an influence in the councils of that nation, as would have completely prevented any attack upon Holland. He contended, that, in case of a war, the mutual jealousies of Austria and Prussia would render them unsteady allies; nor was Holland to be trusted, on account of the existence of a strong party, hostile to the stadtholder. Mr Burke compared the new French republic to the system of Mahomet, who, with the Koran in one hand, and a sword in the other, held out the former to the acceptance of mankind, which the latter compelled them to adopt as their creed; and asserted, that the two states of France and Britain might already be considered as actually in a state of war. Mr Dundas defended administration for not having mediated on the invasion of France by Austria and Prussia. He admitted, that the successes of the French had been incredibly great; but he noticed the emptiness of Dumourier's military chest, and the expences daily increasing; comparing them with the situation of this country, and pronouncing confidently that the war must be successful and glorious. Mr Fox's amendment was negatived without a division.

In the house of lords, similar debates took place upon the address, and opposition experienced a similar desertion of a part of its members. The duke of Norfolk, the marquis of Lansdowne, Lord Rawdon (since earl of Moira), and Earl Stanhope, declared themselves averse to war; while Lord Grenville, Lord Stormont, the marquis of Townshend, and others, supported the sentiments expressed in the king's speech.

After the French king had been dethroned, Earl Gower the British ambassador was recalled; but the French ambassador, M. Chauvelin, still continued to reside in London. On the 15th of December, Mr Fox moved, that a minister should be sent to Paris, to treat with the provisional executive government of France. He declared, that by this motion, he meant not to approve of the conduct of the French government, but simply to record it as his opinion, that it was the true policy of every nation to treat with the existing government of every other nation, with which it had relative interests, without regarding how that government was constituted. He said, we could have no stronger objection to the existing government of France, than to the government of Algiers and Morocco, where we have consuls. This motion gave rise to a very animated debate, in which the present opposition were accused of wishing to encourage discontent and sedition, and were defended by Mr Taylor, Mr Grey, and Colonel Tarleton. Mr Jenkinson enlarged on the flourishing state of our finances, while the French were involved in enormous expence; that the period for going to war was favourable; that the disaffected party in this country was very small; and, in the mean time, that the ambition of the French nation was daily increasing, and the ambition of a nation was more dangerous than that of a king. He considered the protection of the Dutch, in their claims to prevent the navigation of the Scheldt, as a just cause for going to war; and said, that by sending an ambassador to Paris, we should offend those who were to be our allies, the king of Prussia and the emperor. Mr Fox's motion was negatived.

962 Mr Fox's motion to treat with the French.

On the 19th, Lord Grenville introduced into the house of lords, what has been called the alien bill, which authorized government to dismiss from the kingdom such foreigners as they might think fit. It passed after some opposition from the earl of Lauderdale and the marquis of Lansdowne. During its dependence, the latter nobleman ineffectually proposed an address to his majesty, to enter into a negotiation with the existing government of France, for the purpose of averting the fate of Louis XVI.

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963 The alien bill.

On the 28th of December, Mr Secretary Dundas urged the house of commons to pass the alien bill, on account of the extraordinary influx of foreigners into the country, and on account of the dissatisfaction of persons at home. Sir Gilbert Elliot supported the bill, and declared his regret on account of being under the necessity of differing from his former political associates. Mr Burke, as usual upon the subject of French affairs, spoke with great violence. He said, he would give the bill his most cordial support, as being calculated to keep out of England those murderous atheists, who would pull down the state and church, religion and God, morality and happiness. The bill, he said, was intended to drive from this country murderers and assassins. At one part of his speech, he drew a dagger from under his coat, and with much vehemence of action, cast it on the floor. This, said he, pointing to the dagger, is what you are to gain by an alliance with France; wherever their principles are introduced, their practice must also follow: you must guard against their principles; you must proscribe their persons. I vote, said he, for the present bill, because I consider it as the means of saving my life, and all our lives, from the hands of assassins. When they smile, a see blood trickling down their face; I see their insidious purposes; I see, that the object of all their cajoling is blood. I now warn my country to beware of those execrable philosophers, whose only object is to destroy every thing that is good here, and establish immorality and murder by precept and example.

Hic niger est, hunc tu Romane caveto.

While the alien bill was still under consideration, another measure allied to it in principle was introduced. This was a bill to prevent the circulation of assignats and other paper money, under the authority of France. The object of the bill was to make payments made in this way illegal, even when accepted. During the month of December, an order of council was also issued for preventing the exportation of corn to France, and some ships which had grain on board were compelled to unload. On the 26th of December, an act of indemnity passed upon the subject.

964 Lord Grenville and M. Chauvelin's correspondence.

Affairs were now hastening to an open rupture with France. On the 17th of December, M. Chauvelin transmitted a note to Lord Grenville, one of the secretaries of state, in which, in the name of the executive council of the French republic, he demanded to know whether his Britannic majesty ought to be considered as a neutral or a hostile power. He said, that no wish existed on the part of France, to entertain any doubt upon the subject. That they even wished to answer previously all those reproaches which might be thrown out against them. Notice was taken of the decree of the French convention of November 19th, which it

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Britain. was alleged had been misinterpreted; that the French republic did not intend to favour insurrections in neutral or friendly states, and that the decree applied only to those people, who, after having acquired their liberty, might request the assistance of the French republic, by a solemn and unequivocal expression of the general will. A promise was made that the neutrality of Holland should be respected, while that power confined itself on its part within the bounds of strict neutrality. With regard to the question of opening the Scheldt, it was a question irrevocably decided by reason and justice, of little importance in itself, in the opinion both of England and Holland, and which could not seriously become a cause of war. It was added, however, that on the fatal supposition of a war being resolved on, while the intentions of France were thus peaceful and conciliatory, the whole weight and responsibility of it would sooner or later fall on those who had provoked it.

Lord Grenville's answer to this note, which bears date 31st December 1792, disclaims considering M. Chauvelin in any other public character than that of minister from his most Christian majesty. His lordship denied, that the decree of 19th November was satisfactorily explained, as the promoters of sedition, in every country, might still have in view the cases in which they might count beforehand on the support of France. The neutrality of Holland was said to be already violated by a French officer, who had navigated the Scheldt, to attack Antwerp; that the unimportance of the Scheldt would only render the opening of its navigation a clearer proof that an intention existed to insult the allies of England, by violating the rights which were guarded by the faith of treaties.

An official note of the executive power of France was transmitted through M. Chauvelin in reply to Lord Grenville's answer, in which an attempt was made to justify their former explanation, or to explain farther the obnoxious decree of November 19th. All intention of making a conquest of the Netherlands was disclaimed; and it was added, that if the Belgians, through any motive whatever, should consent to deprive themselves of the navigation of the Scheldt, France would not oppose it. In an answer to this note by Lord Grenville, these explanations were declared unsatisfactory. On the 17th of January, M. Chauvelin sent to Lord Grenville his letters of credence, as an ambassador from the French republic. On the 20th of the same month, Lord Grenville sent him a letter, refusing to receive his credentials, or to consider him in any other character than that of one among the general mass of foreigners resident in England. On the 24th of January, Lord Grenville sent to M. Chauvelin a passport for himself and his suite, declaring that, after the fatal death of his most Christian majesty, he could no longer be considered as holding any public character in Britain.

In consequence of this correspondence, the French convention declared war against England and Holland on the 1st of Feb.; and in the mean time, on the 28th of January, Mr Secretary Dundas presented to the house of commons a message from the king, stating that copies of the papers now mentioned, were laid before the house. It was added, that his majesty thought it necessary to make a farther augmentation of his forces by sea and land, and, that he relied upon the zeal of the house of commons to enable him to take the most effectual measures for maintaining the security of his own dominions, for supporting his allies, and for opposing the ambition of France, at all times dangerous, and peculiarly so, when connected with the propagation of principles utterly subversive of the peace and order of all civil society.

965 The king's message announcing war.

Britain.

Thus Britain became a party in the most sanguinary and eventful war that Europe ever saw. We may here remark, that, in the month of April, the French government made an attempt to enter into a new negotiation. The minister (Le Brun), transmitted to England by a private gentleman letters to Lord Grenville, to be delivered by Mr John Salter a notary in London, in which he requested passports for M. Maret to come to Britain to negotiate peace; but no public notice was taken of the application.

966 The French attempt to renew the negotiation

In the quarrels of nations, the real sources of hostility are often very different from those that are ostensibly held out to the world. It was for some time customary to dispute in Great Britain, with much eagerness, the question concerning who were the aggressors in this war. In such disputes the friends of administration were under great difficulties, in consequence of the narrow ground upon which government had thought fit to rest the grounds or causes of hostility. The French government had been willing to explain away the offensive decree of the 19th November, and the question about the Scheldt they were willing to give up. It would seem, that their total ignorance of the nature of the British constitution, and of the elements which influence it in practice, prevented them from entertaining any idea that they were likely to encounter hostility from this country in consequence of their revolution. Hence they not only neglected their navy, but they had already, in some measure, ruined it, by sending their seamen to the frontiers in the character of soldiers. But though the French had originally no hostile designs against this country, and though the ostensible causes of war on the part of Great Britain were weak, it by no means follows, that the motives which actually influenced the conduct of the British government, on this occasion, were of the same nature. France had been the ancient and the dangerous enemy of England. She had suddenly fallen into a state of anarchy and consequent debility. All Europe was now leagued against her. Within she was divided by faction, and without she was assailed by immense hosts of the best disciplined soldiers in Europe, conducted by the most skilful leaders, to whom she had nothing to oppose but an undisciplined multitude, led on by low-born and inexperienced chiefs. In this state of things, it seemed a very safe measure to make war against her. To do so, was only to retaliate the conduct she herself had recently observed, when she accomplished the dismemberment of the British empire, by assisting our revolted colonies. It now seemed practicable, by dismembering France, to render her for ever incapable of being dangerous to Britain.

967 Remarks on the causes of the war.

But the most powerful incitements to this war undoubtedly arose from the example of political innovation, which it was so much the interest of every government in which there existed any mixture of hereditary authority, completely to defeat and overwhelm.

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Britain. To comprehend the full force of this motive for going to war, it is necessary to have lived in these times, to recollect the ferment which universally prevailed in the minds of men, and to imagine the situation and the feelings of a prince, who, though still safe himself, yet saw, in his immediate vicinity, the first of European monarchs, of the most ancient race, and at the head of the mightiest kingdom, hurled from his throne to a prison, and from that prison to a scaffold; his power assumed by the meanest of his subjects, who justified their own conduct as the triumph of reason and of freedom; their minds inflamed by furious zeal, devoting to destruction whatever resisted their career; while, at the same time, the contagion of their sentiments extended itself into neighbouring kingdoms, and from the license of speech and of publication allowed in Britain, produced a vehemence of discussion, which threatened to break out into actions not less violent than those of the primary revolutionists of France. In this state of things, and under the influence of such sentiments, a war against France seemed to be a war in defence of the whole arrangements of society, whether civil or religious; and princes and nobles considered themselves as engaged in the protection, not merely of their rank and riches, but of their personal safety. By engaging in war, the hands of government would be strengthened, in consequence of the patronage produced by the expenditure of public money, and of placing the patriotic sentiments of the people, or the wish to defend their own country, in opposition to the feelings of sympathy, with which they were disposed to regard the efforts of the French leaders in establishing a republican constitution, and defending their national independence.

968 Doubts of the necessity of the war. Still, however, there were not wanting at that time some individuals, who thought the war altogether unnecessary to the support of the British constitution and government. The great amount of the national debt, together with the patronage of the crown, and the general happiness and integrity of character which the admirable jurisprudence of England produces in the people at large, gave powerful assurances of stability to government, and safety to property. Even before the war commenced, the crimes committed by the French revolutionists had greatly diminished the popularity of their cause; while the associations on the side of government that were forming throughout the kingdom, demonstrated the superiority of its adherents in wealth and numbers. It was therefore thought by a few persons to be completely practicable to weather the storm, without having recourse to war, especially as the body of the people of Great Britain were at this time entire strangers to the military art, and completely destitute of arms, while a considerable standing army was in the hands of the crown. The example of the American government, which, though weak in itself, and totally destitute of a standing army, while the people, as individuals, were all possessed of arms, and though greatly disturbed at this time by the admirers of the French revolution, yet, under the virtuous administration of George Washington, contrived to preserve its neutrality, affords some countenance to this idea. There were even some who doubted the prudence of the war, notwithstanding the strength of the combination formed against France, and who suspected, that in a sanguinary and desperate contest, such as this was likely to prove, armies led on by princes, brought into power by the casualty of birth, might prove no match for French enthusiasm in the first instance, and far less ultimately for the superior tactics and enterprise which must speedily be introduced, by men rising to command in consequence of the admiration produced by their talents and their success. Last of all, we have already remarked the opinion suggested by Mr Fox, that Great Britain ought, on this occasion, to have actively protected the independence of France, which would have given such an ascendency over her councils, as would have enabled us to protect Holland, perhaps to preserve the life, and even the sovereignty, of Louis XVI.; and, at all events, would have enabled us speedily to terminate the war, without any important changes being suffered to take place in the relative strength of the continental states of Europe. Britain.

969 Mr Pitt absent from parliament for a time. It is to be observed, that at the close of the year 1792, Mr Pitt did not attend parliament when it first assembled; nor did he make his appearance in the house of commons till the alien bill was going through its last stages in January, after the first debates were ended, and the relative strength of parties had appeared. The ostensible cause of his absence was, that having obtained, on the death of Earl Guildford (Lord North), the place of warden of the cinque-ports, and thereby vacated his seat as a member of the house of commons, he had gone to Cambridge to secure his re-election. The length of his absence, however, suggested to some persons a suspicion, that he was hesitating about engaging to support the court in going into the war. Mr Dundas, in the mean while, who, during Mr Pitt's administration, had usually left the entire management of every debate to the premier, though he had acted otherwise when supporting Lord North's ministry, stood forth in the house of commons, as the leading servant of the crown, in support of the proposal for engaging in the war. Mr Pitt, however, on his return, resumed his station in the debates of the house, and supported the present measure with the utmost ardour. In the mean time, it is to be remarked, that, at this period, Lord Thurlow was removed from the office of lord-high-chancellor, and was succeeded by Lord Loughborough, who had originally owed his preferment to the support given by him to Lord North's administration and measures, and who had hitherto adhered to opposition, but in the late debates had defended the plans of administration.

970 Debates on the French declaration of war. On occasion of the message from his majesty announcing the actual declaration of war by France, Mr Pitt stated, that his majesty had always declined taking any part with regard to the internal government of France; and, during the summer, while France had been engaged in war with Austria and Prussia, his majesty had in no form departed from his neutrality; but as the French seemed now determined to subjugate other nations to their principles, he was under the necessity of interfering for the protection of his own allies, the Dutch, who had not indeed made any formal requisition for assistance, but to whose government the French had at all times been notoriously hostile. Mr Pitt also represented the language of the men in power in France, as intolerably menacing towards the government

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Britain. vernment of Britain, and, as dangerous, from its tendency to introduce anarchy. He read an extract from a letter, written by one of the French executive council, and addressed to all the friends of liberty in the French sea-ports: "The king of England and his parliament mean to make war against us. Will the English republicans suffer it? Already these free men show their discontent, and the repugnance which they have to bear arms against their brothers the French. Well, we will fly to their succour; we will make a descent on the island; we will lodge there 50,000 caps of liberty; we will plant there the sacred tree, and we will stretch out our arms to our republican brethren: the tyranny of their government will soon be destroyed." Mr Pitt also adverted, in strong terms, to the death of the French king as a calamitous event; an act of outrage to every principle of religion, justice, and humanity; an act, which, in this country and the whole of Europe, had excited but one general sentiment of indignation and abhorrence, and could not fail to produce the same sentiments in every civilized nation. He compared it, and other late proceedings, to the massacre of St Bartholomew. It was, he said, in all its circumstances, so full of grief and horror, that it must be a wish, in which all united, to tear it, if possible, from their memories; to expunge it from the page of history; and remove it for ever from the observations and comments of mankind.

Excidat ille dies ævo, neu postera credant
Secula? Nos certe taceamus, et obruta multa
Nocte tegi nostræ patiamur crimina gentis.

All the members who remained in opposition, concurred in reprobating the conduct of the French revolutionists. Mr Fox, however, asserted, that the general maxim of policy was, that the crimes committed in one independent state could not be cognizable by another. He alleged, that the topics adverted to by Mr Pitt, were introduced into the debate to blind the judgment, by exciting the passions; and he contended, that the opening of the Scheldt, and the decree of the 19th of November, which were stated as the causes of the war, could never justify such a measure. He censured our past neutrality as unfair. While the French were invaded, we were quiet spectators; but, on their becoming invaders in their turn, we said Europe was in danger, and interfered against them. With respect to the general situation of Europe, he said, we had been scandalously inattentive. We had seen the entire conquest of Poland, and the invasion of France, with such marked indifference, that it was evident the professed causes were not the real grounds for going to war. He asserted, that the real cause, always disavowed by our government, but ever kept in mind, was the internal government of France. The destruction of that government was the avowed object of the combined powers. We were about to join them; but we were ashamed to own that Britain was engaging to aid the restoration of despotism; and therefore the Scheldt and Holland were collusively had recourse to as pretexts.

In the house of lords, when the same subject was discussed, the marquis of Lansdowne contended, that, by sending an able and experienced minister to Paris, our government might have saved the life of Louis XVI. He said, the war would be a wanton war on our part, without provocation on the part of France; and he highly disapproved of the insulting manner in which M. Chauvelin was dismissed. Various debates afterwards occurred, in which both parties eagerly disputed the question, whether the French or the British were the aggressors in the war. Britain

971 Though from the expensive nature of modern wars, a great commercial nation, in consequence of its wealth and credit, is enabled to engage in them with considerable advantage; yet, on every such occasion, it makes an immense sacrifice of individual happiness. The derangement of great branches of trade, and the disappointment of commercial speculations, never fails to reduce to instant ruin vast numbers of manufacturers and merchants, while many thousands of their dependent labourers, suddenly deprived of bread, are under the necessity of enlisting as soldiers; a circumstance, which is indeed attended with conveniency to government, but is productive of much wretchedness, for a time, to the families of such persons. At the period of which we are now treating, the British commerce had become extremely extensive, and, in consequence of the commercial treaty, the British and French merchants had become closely connected. From the sudden stagnation of trade, which the war now produced, added to the alarms which had been excited upon political subjects, a general paralysis appeared to seize the country, and the number of bankruptcies exceeded all that had ever happened in the most calamitous times. A general stoppage of commercial credit took place. No bank would venture to advance money to merchants or manufacturers; the consequence of which was, that many of them, with large quantities of goods in their possession, were unable to make effectual the smallest payment. To apply a remedy to this alarming evil, several of the principal traders and merchants waited upon Mr Pitt, and requested the interference of government; which was granted. A select committee of the house of commons was appointed to investigate the subject. After consulting with a variety of bankers, manufacturers, and merchants, the committee, on the 29th of April, gave a report favourable to the solicitations of the merchants for relief. Great commercial failures.

972 A bill was accordingly introduced, on the 1st of May, authorizing government to issue five millions by exchequer bills, in loans to such merchants and manufacturers, as should deposit goods in security for the sum advanced. The measure proved extremely salutary. When it was found that the traders could obtain money from government, the bankers, and all other persons, immediately became willing to advance them money, or give credit to their bills; the consequence of which was, that not one half of the exchequer bills was ever issued. Trade gradually revived, and new channels were by degrees found out, for the disposal of the productions of British industry. Loan to the merchants.

973 On the 27th of March, Mr Pitt, in a committee of the house of commons, stated that he had borrowed for the service of the present year 4,500,000l. The terms of the loan were, that for every 72l. advanced to the public, the lenders should be entitled to 100l. stock, bearing an interest of 3 per cent. which would make a capital of 6,210,000l. the interest of which, to be paid by the public, would amount to 186,000l. Loan to government.

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Britain.

a year. He said, there was another charge attending the loan; for, by the act for appropriating the million surplus to a sinking fund, it was provided, that whenever a new loan should be made, a fund equal to one per cent. on the whole of it must be provided, and applied to the liquidation of it. This would require an annual charge of 62,100l. making in the whole, including the interest, 248,400l. per annum.

974 Traitorous correspondence bill.

On the 15th of March, the attorney-general brought forward a bill for preventing traitorous correspondence with the king's enemies. It was the intention of this bill to prohibit the sale to the French government, or the French armies, of arms, military stores, provisions, or clothes, under the penalty of high treason. The purchase of lands in France was also prohibited. No person was allowed to go from this country into France, without a license under his majesty's great seal, under the penalty of being accounted guilty of a misdemeanour. Persons, though subjects of this country, coming from France, were prohibited to enter the kingdom without a passport, or, at least without presenting to the master of the vessel, a declaration to be transmitted to the secretary of state, and that, in the mean time, they should not quit the place where they had landed, without the permission of a justice of peace, or finding security for their good behaviour. Lastly, The insurance of vessels, either coming from France or going to France, was prohibited. The bill was opposed as unnecessary, because the ancient English treason laws prohibit the supplying of the king's enemies with naval or military stores, and because there was little danger of British money being conveyed to France, in the present distracted state of that country. It passed through both houses, supported by great majorities.

975 Petitions for parliamentary reform.

During the present session, a very great number of petitions were presented to the house of commons, from different parts of the country, praying for a reform in the representation. On the 6th of May, Mr Grey brought forward the question, after presenting a petition, which had been framed by the association called the Friends of the People in London, and which had a very numerous subscription annexed. He asserted, that the number of petitions now brought forward, demonstrated, that the house of commons were not the real representatives of the people. He gave a detailed statement of the various defects in the representation; and, as a specimen of the mode of argument now maintained upon the subject, it may be remarked, that when Mr Grey came to take notice of burgage tenures, and the splitting of messuages and hereditaments, for the purpose of multiplying voters, contrary to an act of King William for preventing such practices; he quoted an opinion given judicially by Lord Thurlow, when sitting as chancellor in the house of lords, in an appeal cause from Scotland, respecting the right of voters at elections. His lordship said, "If the right of election could be tried by law, in a court of law in England, he was convinced that an English court of law would not be satisfied with such a mode of election as this, that a nobleman's steward should go down to a borough with ten or twelve pieces of parchment in his hand, containing each the qualification for a vote, and having assembled a sufficient number of his master's tenants round a table, should distribute among them the parchments, then propose a candidate, and afterwards collect these parchments, and declare his lord's friend duly elected for the borough. These elections Lord Thurlow called a mockery." Mr Grey, after asserting that a considerable part of the representation of England was in this defective state, and urging the necessity of a reform, concluded, with moving that the petition should be referred to a committee. A very animated debate ensued, which was adjourned, and renewed on the following day. The proposal of reform was chiefly opposed on account of the hazard attending it, which appeared from the example of France, and on account of the length, universal suffrage, to which its more ardent partizans out of doors wished it to be carried. Mr Pitt, in a speech of considerable length explained his former motives for being friendly to a parliamentary reform, and his objections against it at the present moment. If this principle of individual suffrage (pointed at in several of the petitions) was to be carried to its utmost extent, it went, he said, to subvert the peerage and to depose the king, and, in fine, to extinguish every hereditary distinction, and every privileged order, and to establish that system of equalizing anarchy, announced in the code of French legislation, and attested in the blood shed in the massacres at Paris. "The question then," added Mr Pitt, "is, whether you will abide by your constitution, or hazard a change, with all that dreadful chain of consequences with which we have seen it attended in a neighbouring kingdom."

Britain.

Mr Fox, on the contrary, represented in strong terms, the inconsistency of Mr Pitt's present conduct with his former professions. As to the time of attempting a reform, he said, it had been proposed at all periods, in war and in peace; but they had all been represented as improper. The present, he contended, was not a more dangerous period than the year 1782, when Mr Pit himself had brought forward a similar proposal. Mr Fox said, he had always disliked universal representation as much as the chancellor of the exchequer, but that dislike was no reason for charging it with more mischief than was fairly imputable to it. He denied that it had been the cause of all the evils which had occurred in France. These he ascribed to the councils, generally unwise, and often wicked, by which that country had recently been governed. Mr Grey's motion was rejected, upon a division of 282 against 41.

976 Question about the slave-trade dropped by the public.

We have already remarked, that during some preceding years, the people at large took a very considerable interest in the question concerning the abolition of the African slave-trade, and that great numbers of petitions had been presented to the house of commons, during every session, praying that it should be prohibited. During the present session, however, no such petitions were brought forward. In consequence of the French revolution, and of the dread of innovation at home, the greater number of the original enemies of this traffic had been deterred from opposing it, lest they should give countenance to the discussion of a popular question, by which a dangerous enthusiasm might at this critical time be excited. The remaining enemies of the trade, being also zealous advocates for a reform of the parliamentary representation, had resolved to drop all inferior questions, and

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Britain. to concentrate their strength upon that single point, assuring themselves, that if the house of commons should once be elected in a manner in any degree approaching towards universal suffrage, every popular question would thereafter be easily carried. The subject being thus in some measure deserted by the people at large, Mr Dundas did not account it necessary to revive the propositions, by which, on the part of the government, during the former session, he had endeavoured to moderate the views of the opponents of the trade.

On the 14th of May, however, Mr Wilberforce moved for leave to bring in a bill, for abolishing the trade carried on by English merchants, for supplying foreign territories with slaves. The motion was carried by majority of 7; but as it was not to take effect for some years, according to the resolution of the house in the preceding session, Mr Wilberforce moved, that leave be given to bring in a bill, for limiting and regulating the importation of slaves into the British West India colonies, for a time to be fixed in the act. This motion was also carried by a majority of 35 against 25. The bill proceeded through a first and second reading, but was rejected on the 12th of June, by a majority of 31 against 29.

977 Board of Agriculture instituted.

During the present session, certain popular measures were adopted. On the recommendation of Sir John Sinclair, a gentleman who of late years had been extremely active in calling forth a spirit of attention to the improvement of the domestic productions of the island, 3000l. per annum was voted by the house of commons, for the establishment of a board of agriculture. This institution has been the means of collecting and conveying to the public much useful information respecting that most valuable of all arts. At the same time, the institution is believed to have suffered from the unpropitious effect of political influence, which is so apt to injure the utility of every British establishment; and after the removal from its head of its original proposer, which happened in a few years, in consequence of his opposition to Mr Pitt's measures, it lost much of its utility. As it possesses little patronage, and has no special business allotted to it, there seems to be danger that it may sink into insignificance.

978 Relief of Scotish Catholics.

In consequence of a motion of the lord advocate of Scotland, Robert Dundas, Esq. a bill was in the month of April brought into parliament, for the relief of the Roman Catholics of Scotland. The persons of that proscribed sect were still incapacitated by law from holding or transmitting landed property, and were liable to other very severe restrictions. These were now removed by a bill which passed without opposition. The passing of this bill was at the present period a popular measure, although a dozen of years had scarcely elapsed, since the people of Scotland had almost universally, and with the utmost violence, combined to oppose any relaxation of the penal laws against the Catholics. But one of the favourite notions of all political reformers at this time, was that religion ought to have no influence on government; that religion, or our duty to God, is a subject about which men are only interested as individuals, and concerning which society has no right to interfere. On the other hand, the opposers of every kind of innovation, were disposed to regard the Catholics with a favourable eye, as the adherents of an ancient system, which reprobated all novelties, and tended to inspire the utmost reverence for established authority.

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975 Tax on coals ca ried no ward co ways re peaked.

The inhabitants of the north of Scotland were successful, by the assistance of Mr Dundas, in obtaining a repeal of the duty on coals carried coast-ways, as far as respected that part of Great Britain: but the cities of London and Westminster were less fortunate, in a similar attempt, to procure a repeal of the taxes paid by them on the same article; as the minister would not agree, at the commencement of a war, to relinquish a tax which amounted in this case to a considerable sum.

980 India Co pany's charter r newed.

At this period the exclusive charter of the East India Company being within a year of expiring, that body presented a petition for a renewal of it. On the 23d of April the subject was considered in the house of commons. Mr Dundas introduced the business by observing, that the proposal he was about to make of a renewal of the charter was undoubtedly attended with considerable difficulties. "No writer upon political economy, (said he), has as yet supposed that an extensive empire can be administered by a commercial association, and no writer on commerce has thought that trade ought to be shackled with an exclusive privilege. In deviating from these principles, which have been admitted and admired, I am sensible that my opinions have popular prejudices against them: but I am supported by successful experience; and when the house adverts to the peculiarities of the subject before them, they will at once see that I am not attempting to overturn theories, though I am unwilling to recede from old and established practice. It would be idle, and a proof of ignorance, to maintain, that all the advantages that Great Britain possesses from its connexion with India, arise out of the present exclusive privilege of the company; but it would be impossible to say what might be the political or commercial effects of a variation from the present system." Mr Dundas then stated, that the shipping employed by the East India Company amounted to 81,000 tons; that the seamen navigating those ships were about 7000 men, who had constant employment; that the raw materials imported from India for the use of home manufactures amounted annually to about 700,000l.; that the annual exports of British produce and manufacture to India and China in the Company's ships, amounted to upwards of a million and a half sterling. He stated, that great difficulties would attend any alteration of the present system of government in India, especially from the effects which the innovation might have on the minds of the natives. He therefore proposed a variety of resolutions, the most material of which was; "That it appears to be fit and proper to continue to the East India Company their exclusive trade, within the limits now enjoyed by them, for a farther term of 20 years, to be computed from the 1st of March 1794, liable to be discontinued at the end of such a period, if three years notice shall previously be given by parliament; subject, nevertheless, to the regulations herein after specified for promoting the export of goods, wares, and merchandise, of the growth, produce, or manufacture of Great Britain or Ireland, and for encouraging individuals to carry on trade to and from the East Indies." The regulations

referred

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referred to, permitted the export and import of certain commodities in the company's ships, at a stated freight. The resolutions proposed by Mr Dundas having been carried, a bill was brought forward, and passed through both houses, with little opposition, for renewing the East India Company's charter. Britain.

The trial of Mr Hastings still proceeded, though very slowly, and was now totally disregarded by the public. A petition was presented to the house of lords on the 18th of April, from Mr Hastings, complaining of "the enormity of the delays which have attended his long protracted trial," and earnestly entreating, that their lordships would adopt such means as might seem best calculated to accomplish the end which the petitioner so anxiously solicited, viz. a close of the trial during the present session of parliament. Mr Hastings had addressed the court on the 27th of February, to the same effect, but the business was not at this time brought to any conclusion.

During this year, government endeavoured to strengthen itself by erecting barracks in the neighbourhood of all the great towns in the island: that, by residing there, the soldiers might be removed from the hazard of receiving the contagion of popular opinions. A considerable degree of political fermentation still prevailed in the minds of the people, which, however, was rapidly subsiding. In England a bookseller was prosecuted, and punished with imprisonment for selling the second part of Paine's Rights of Man; and one or two individuals, of low rank, were committed for seditious words. In Scotland, the public attention was much excited by the prosecution of two gentlemen, Mr Thomas Muir, a member of the faculty of advocates, and Mr Fysche Palmer, a member of the university of Cambridge, who acted as a unitarian minister at Dundee. Mr Muir had been extremely active during the autumn of the preceding year, when the political agitation was at its height, in promoting associations about Glasgow and its neighbourhood, for the avowed purpose of procuring a popular reform of the representation in the house of commons. His talents as a man of letters were only moderate, but he possessed the faculty of unpremeditated elocution in a surprising degree; and he appeared to be influenced in a great measure by the vanity of haranguing without end, which the daily meetings of these societies afforded him an opportunity of doing. In other respects he was no way formidable, possessing little knowledge of the world, and still less discernment of the human character. He injured the cause he meant to promote, by constantly collecting numerous assemblages of common people, first at Glasgow and afterwards at Edinburgh, which gave an appearance of disorder and turbulence to the state of society, that was extremely alarming, not merely to government, but to persons who, in other respects, might have been disposed to favour the political sentiments which he avowed, but who were intimidated by the events which were passing on the continent of Europe, and by the unsettled appearance which affairs were thus made to assume at home.—Mr Palmer was a man of more literary talents. He attended political societies, but without making any remarkable efforts in them. He was tried before the circuit court of justiciary, on the 17th of September, some months after Mr Muir's trial at Edinburgh, and found guilty of publishing a political libel, which had been written by some other person, but which he had corrected, and ordered to be printed. Both of these gentlemen were condemned to transportation, Mr Muir for fourteen and Mr Palmer for seven years, to such place beyond seas as his majesty should think fit to appoint; and they were accordingly sent to Botany Bay. The severity of these sentences excited considerable discussion. The crime with which they, the condemned parties, were charged was, that of sedition or leasing-making, or public libel; the express punishment for which is prescribed by the law of Scotland, to be fine, imprisonment, or banishment. As it is a rule in law, that penal statutes are to be strictly interpreted, it was doubted how far the punishment of transportation could be inflicted under a statute which points out, in general terms, banishment as the punishment of the offence. The ancient practice of the Scottish courts was undoubtedly favourable to the extensive and more severe interpretation now adopted.

984 British convention.

Not intimidated by these trials, a few persons of no public or political importance whatever, met at Edinburgh in the month of November, and thought fit to call themselves a British convention. They mimicked the proceedings of the French national convention as closely as possible, saluting each other with the title of *citizen*, holding public sittings, admitting strangers to the honours of the sittings, &c. and mingling the solemn with the ridiculous in a most singular style. At any other period their conduct would have excited nothing but ridicule. At this time, however, it was considered in another light, as some of the members were brought to trial, and punished with the same severity that had been exercised towards Muir and Palmer.

985 Foreign treaties.

To promote the success of the war, a convention had been signed in the spring between our court and that of Petersburgh, stipulating for the prosecution of hostilities till the French should relinquish all their conquests. A treaty was soon after concluded with the landgrave of Hesse Cassel, for a subsidiary body of 8000 men; a number which, by a subsequent agreement, was extended to 12,000. The king of Sardinia engaged (for 200,000l. per annum) to keep up an army of 50,000 men, to be employed in the particular defence of his dominions, and in general service against the enemy. A compact of alliance was adjusted with Spain, one with Naples, and others with Prussia, Austria, and Portugal. Besides the stipulations of vigorous hostility, it was agreed, that the conduct of other powers should be watched with extraordinary circumspection in this case of common concern to every civilized state, lest they should abuse their professed neutrality by protecting the commerce or property of the French.

986 The war.

We reserve the particular detail of the military transactions of this most eventful contest for the article FRANCE, to which we refer the reader. We may here observe, however, that during the present campaign the independence of France seemed at one time to be brought into considerable hazard. The faction that overturned the monarchy, assembled a convention of national representatives, and was endeavouring to establish a republican form of government, soon divided

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Britain. ed itself into two parties. The leading party at the first establishment of the republic consisted chiefly of men of letters, who were led by their speculations to expect a wonderful amelioration of the human character, and of the state of society, from the changes they were producing. They wished to avoid sanguinary measures at home, and to restore tranquillity to their country as speedily as possible. These men, however, appear to have been deficient in activity, as well as in knowledge of the character of their countrymen. They were opposed by a turbulent and ferocious minority, led by Robespierre, Danton, and other men of a most unprincipled and sanguinary temper. The moderate and ruling party were deceived by many of those whom they employed; and at last their chief commander, Dumourier, having been repulsed in the Netherlands by the united forces of Austria, Prussia, and England, entered into a negotiation with these powers for the restoration of monarchy in France. The negotiation was rendered abortive by the fidelity of his army, almost the whole of which deserted their general, and refused to bring the independence of their country into hazard by allowing foreign armies to interfere in the arrangement of its internal government.

987 Defection of Dumourier.

The defection of Dumourier, together with the repulse of their armies, brought the moderate party, which still ruled in the French convention, into great difficulties; and it is perhaps a most unfortunate circumstance, that the British government did not seize that opportunity of making peace with them. The hazard of innovation was now over in Britain. One of the maxims of the first French republicans was the love of peace and hatred of war. The unsuccessful issue of the attempt which they had made to penetrate into other countries might have remained long upon their minds, and added force to this sentiment. The tranquillity of Europe might thus have been insured during a considerable period. A mild party would have been preserved in power, an influence obtained by Great Britain over their councils, and the sanguinary scenes would have been avoided which afterwards occurred in the interior of France, and upon the frontiers. This opportunity of making peace, however, was unhappily disregarded, and nothing less was expected from its distraction within, and the immense combination of force assailing it from without, than the complete subjugation of that country. The want of success in their military operations at last encouraged the antagonists of the more moderate French republicans to attempt their overthrow by an insurrection of the common people of Paris. The national representatives were in this way subdued. Ninety members of the convention were imprisoned, and the minority were enabled to convert themselves into an apparent majority. By this event all France was thrown into confusion. The authority of the convention, thus mutilated, was rejected by the whole of the south of France, and the royal or national harbour of Toulon, with its fleet and stores, surrendered, by negotiation, to the British admiral, Lord Hood, as trustee for the next heir of the monarchy. In the western parts of France, the standard of royalty was reared, and joined by immense multitudes, who adhered to it with the most obstinate bravery, and were not subdued till after a greater expence of blood than was found necessary for the repulse of the combined armies of Europe.

988 Favourable opportunity of making peace lost.

On the part of Britain the general plan of a war of such magnitude and supposed importance does not seem to have been well contrived, or properly carried into effect. A great part of the western coast of France was in full possession of the royalists, while, at the same time, the British navy commanded the ocean. It was therefore an easy enterprise, at a time when Britain had an opportunity of taking into pay so many foreign troops, to have landed a great army on the French coast, to have assisted the royalists, and advanced along with them through an open country, destitute of fortified towns, to the capital, against a convention whose authority was scarcely acknowledged by one-third of the nation. Instead of this mode of proceeding, the combined armies advanced against the French Netherlands, and wasted the summer, as well as their own strength, in the siege of a few of the powerful fortresses which defended that frontier. Thus the attack upon France was actually made upon its strongest side, that is to say, in the most injudicious manner possible. Leisure was given to the convention to establish its authority at home, and to call forth immense levies for the defence of the country, so that before the close of the year the tide of success was turned in their favour. Toulon was retaken, and the Spaniards beaten in the south; while on the northern frontier, the British army was repulsed before Dunkirk, and the commander in chief of the allies, the prince of Cobourg, before Maubeuge. The duke of Brunswick and Prince Wurmser were driven across the Upper Rhine near Mentz, within the last fortnight of the year, after a succession of sanguinary conflicts, in which the French, by fighting every day in succession, and daily bringing forward fresh troops, who had been allowed to repose on the preceding days, at last succeeded with their raw levies, in wearing down the strength and the courage of their veteran enemies.

990 King's speech.

The British parliament assembled on the 1st of January 1794. In the speech from the throne his majesty called the attention of the two houses to the issue of the war, "on which," he observed, "depended the support of our constitution, laws, and religion, and the security of all civil society;" to the advantages that had attended our arms both by land and sea; and the expectation of ultimate success, as the operations of our enemies were alone derived from an arbitrary system, which enabled them unjustly to dispose of the lives and properties of the people, which must necessarily introduce internal discontent and confusion. His majesty proceeded to state the impossibility of making peace upon the only grounds on which it ought to be concluded, the permanent safety of the country, and the tranquillity of all other nations. He noticed the treaties and conventions into which he had entered for this object with foreign powers; and mentioned the general loyalty which prevailed amongst all ranks, notwithstanding the continued efforts to mislead and seduce the people. He lamented the necessity of additional burdens upon the people, but noticed the favourable state of the revenue.

As usual, the topics mentioned in the king's speech became the subject of debate, both in the house of lords

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Britain. lords and in the house of commons, but they excited little attention throughout the nation. Men of property, in general, had been so much alarmed by the events which occurred in France, that they accounted it absolutely necessary to repose implicit confidence in government; and as administration seemed resolved not yet to despair of success in the war, they received full support from the approbation of the public. A minority, indeed, existed throughout the country, by whom the war was openly disapproved of; but as they consisted in general of persons of little influence, they could in no way embarrass the measures of administration. By this minority, the debates in parliament were as little regarded as by the supporters of government. They had no confidence in that assembly, in consequence of the inconsiderable number of the members that remained in opposition; and the memory of the coalition between Lord North and Mr Fox, together with the moderate and correctly constitutional nature of the principles supported by Mr Fox, deprived this statesman of the confidence of the more ardent lovers of political innovation, and rendered his eloquence of little value in their estimation. Indeed there was something in the form which the parliamentary debates generally assumed during the present war, which tended to render them uninteresting. It was understood by the public, that the war was undertaken for the purpose of subduing the political principles adopted by the French leaders; but these principles, notwithstanding the extravagant length to which they had been carried, and the absurdities and the crimes which had been committed under pretence of them by the ruling factions of France, still, at bottom, bore such a resemblance to some fundamental maxims of the British constitution, and to the principles for which our ancestors so earnestly contended, that the members of administration seem to have accounted it imprudent to avow in their public speeches, that the war originated in the purpose which their friends out of doors considered as its radical object. They were unwilling to say, that they wished to encroach upon the independence of a neighbouring state, or to prevent its establishing a representative government; and chose rather to allege that the war was occasioned by the direct aggression and ambition of the French, in attempting to establish their dominion over other nations, and that our object in it was merely to obtain indemnity for the past, and security against such aggression for the future. As opposition possessed considerable advantages from this equivocating mode of defending the war, every debate was apt to turn into this channel, and the same arguments were continually repeated without any person being convinced.

991 Debates on the address.

On occasion of the king's speech, Lord Wycombe moved an amendment to the usual address of thanks, recommending pacific measures. Lord Mornington, on the other hand, who was one of the principal supporters of the address, contended that the alternative of war and peace did not at present exist. Before we could relinquish the principles on which the war commenced, proof was necessary, either that the opinions which we had conceived of the views of France were erroneous; that the war was become desperate and impracticable; or that, from some improvement in the system and principles of the French, the justice and necessity which prompted us to commence the war no longer existed. His lordship ascribed to France unlimited views of aggrandizement; ambition connected with principles subversive of all regular government. In support of his opinion, he adduced the act of fraternity, the assumption of sovereignty in Savoy and the Netherlands, the opening of the Scheldt, and the apparent designs of hostility against Holland. That such were the motives his lordship contended from a pamphlet written by M. Brissot, the conduct of the French residents in America and Constantinople, and the scheme of emancipating and arming the negroes in the West Indies. From all these proofs, his lordship declared himself fully convinced of the original justice and necessity of the war. He was so pleased, notwithstanding the late reverses, with the general result of the campaign, that he entertained confident hopes of ultimate success. He considered the foundations of the French power as so unsound, and the new government as so weak, that the effect of the confederate arms would soon be triumphantly striking. He acknowledged, that the enemy had displayed extraordinary vigour and energy; but he was convinced that power obtained by a system of terror would not be permanent. He opposed a negotiation as unlikely to be effectual in the present circumstances, and advised the continuance of the most resolute exertions of hostility.

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Mr Sheridan, in reply to Lord Mornington, asserted that Great Britain had acted with no less disregard of the independence of neutral states than the French; that we had endeavoured to compel Genoa, Switzerland, and Tuscany, to join the confederacy against France, by the most insulting menaces; and that, as far as prudence would permit, we had assumed the same language towards Sweden and Denmark. He said, that if the French system of fraternizing with other nations that wished to overturn their own internal government was a just cause of war, their dereliction of that system ought to be a reason for making peace. He denied that the French were the original aggressors. "I am astonished," said he, "that the minister who sits near the noble lord, does not himself feel it necessary to his own dignity to oppose this paltry argument of the act of aggression having come from them, instead of leaving that task to us, to whom comparatively the fact is indifferent. When he hears this called a war of necessity and defence, I wonder he does not feel ashamed of the meanness which it spreads over the whole of his cause, and the contradiction which it throws among the greater part of his arguments. Will he meet the matter fairly? Will he answer this one question distinctly? If France had abstained from any act of aggression against Great Britain, and her ally Holland, should we have remained inactive spectators of the last campaign, idle, apart, and listening to the fray; and left the contest to Austria and Prussia, and whatever allies they could themselves have obtained? Does he then mean to say that he would have sat still; that Great Britain would have sat still with arms folded; and reclining with luxurious ease on her commercial couch, have remained an unconcerned spectator of this mighty conflict, and have left the cause of civil order, government, morality, and religion, and its God, to take care of itself, or to owe its preservation to

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Britain. the mercenary exertions of German and Hungarian barbarians; provided only that France had not implicated Great Britain by a special offence, and forced us into this cause of divine and universal interest by the petty motive of a personal provocation? He will not tell us so: or if he does, to answer the purpose of the hour, will he hold the same language to our allies? Will he speak thus to the emperor? Will he speak thus to the king of Prussia? Will he tell them that we are not volunteers in this cause; that we have no merit in having entered into it; that we are in confederacy with them only to resent a separate insult offered to ourselves; which redressed, our zeal in the cause at least, if not our engagement to continue in the alliance, must cease? Or if he would hold this language to these powers, will he repeat it to those lesser states, whom we are hourly dragging into this perilous contest, upon the only plea by which such an act of tyrannical compulsion can be attempted to be palliated, namely, that a personal ground of complaint against the French is not necessary to their enmity; but that as the league against that people is the cause of human nature itself, every country where human feelings exist, has already received its provocation in the atrocities of this common enemy of human kind? But it is unnecessary to ask whether he would hold this language to the greater powers. The king of Prussia, Sir, at this moment, tells you, even with a menacing tone, that it is your own war; he has demanded from you a subsidy and a loan; you have endeavoured to evade his demand, by pleading the tenor of your treaty of defensive alliance with him, and that as the party attacked, you are entitled to the whole of his exertions; he denies that you are the party attacked, though he applauds the principles upon which you are the aggressor; and is there another power in Europe, to whom our government will venture to refer the decision of this question? If what I now state is not the fact, let me see the minister stand up and contradict me. If he cannot, let us no longer bear that a fallacy should be attempted to be imposed on the people of this country, which would be treated with scorn and indignation in every other corner of Europe. From this hour, let him either abandon the narrow ground of this being a war of necessity entered into for self-defence, or give up the lofty pretence of its being a war of principle, undertaken for the cause of human nature." Mr Sheridan admitted, that enormities had been committed in France, which disgusted and sickened the soul. This was most true; but what relation had these to England? And if they had, what did it prove? What but that eternal and unalterable truth, that a long-established despotism so far degraded and debased human nature, as to render its subjects, on the first recovery of their rights, unfit for the exercise of them? But, he said, he should always meet with reprobation the inference from this truth, that those who had long been slaves ought ever to continue so. That we and all the powers of Europe had reason to dread the madness of the French, Mr Sheridan agreed; but was this difficult to be accounted for? Wild and unsettled as they must necessarily be from the possession of such power, the surrounding states had goaded them into a paroxysm of madness, fury, and desperation. We called them monsters, and hunted them as monsters. The conspiracy of Pilnitz, and the brutal threats of the abettors of that plot, had to answer for all the additional horrors that had since disgraced humanity. We had covenanted for their extermination, and now complained that they turned upon us with the fury that we had inspired. The same speaker asserted, that no reasonable hope of success existed upon which we ought to be led. "What," said he, "was the state of our allies when we entered into the confederacy? The force of Austria unbroken, though compelled to abandon Brabant, and the power of the veteran troops of Prussia absolutely untried, though the seasons and disease had induced them to retire from Champagne. What is their state now? Defeat has thinned their ranks, and disgrace has broken their spirit. They have been driven across the Rhine by French recruits, like sheep before a lion's whelp, and that not after the mishap of a single great action lost, but after a succession of bloody contests of unprecedented fury and obstinacy. Where now is the scientific confidence with which we were taught to regard the efforts of discipline and experience, when opposed to an untrained multitude and unpractised generals? The jargon of professional pedantry is mute, and the plain sense of man is left to its own course." Mr Sheridan asserted that the efforts of the inferior states, the Dutch, the Portuguese, the Italians, whom we had compelled to enter into the war, had been of no importance, and he alleged that government had conducted the contest with little vigour or ability. Britain.

Mr Windham combated the opinion, that the enormities committed in France were the effects of the war. It was, he said, the duty of every government to interfere, for France was making war against all government, all religion, and all principle. How was it possible to preserve peace with a nation which formed a ground for quarrel with every government that dared to suspect the purity of their intentions? Whatever might be understood as the binding law upon nations carrying on offensive war, with respect to interfering in the internal affairs of other countries, he conceived that such opinions could not affect a nation sustaining a defensive war. "Standing (said Mr Windham) as we do, the defenders of the present and the future world, ought we meanly to crouch in cowardice, and sink in despair."

Mr Dundas defended the management of the war and the activity which had been employed by government in it. Our seamen in the beginning of the year were only 15,000; in the course of the war 54,000 men had been added. At the commencement of the war, we had only 13 ships of the line and 30 frigates fit for service; at the present time we had 80 ships of the line and 100 frigates in actual employ, which, with the armed vessels now in the service of the public, made the whole above 300 sail. In augmenting the army, the most effectual and economical system had been pursued; besides the militia, 30,000 men had been added to the army. He concluded, that more had been done in the first year of this, than of any former war; and added, that upon the issue of this struggle, every thing that was valuable to us, either as individuals or a nation, depended.

Mr Fox repeated in a variety of forms the assertion that we were the aggressors in the war. He contended, that every state had a full right to regulate its internal government;

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Britain. government; and asserted, that the manifesto of the duke of Brunswick had occasioned all the excesses of the French. Upon the subject of acts of aggression previous to the war, he thought, that this difference between the conduct of the parties subsisted; France was always ready to negotiate, while the British government invariably refused. The former expressed the strongest dislike to war, and took every step to avoid it. The latter not only showed an inclination for war, but endeavoured to inflame and provoke hostilities. He contended, that the nature of the conduct of the French government towards this country, afforded no good reason for a continuance of hostilities, and no rational objection against the permanency of any treaty that might be concluded with them. We negotiated with Louis XIV. though his pretensions were no less dangerous to this country, than those of the present French leaders. That monarch was a declared enemy to our revolution. He corresponded with the jacobites of England. He endeavoured to overturn our establishment in church and state. He invaded Holland, and confined not his projects of conquest to the banks of the Rhine. Mr Fox said, we ought to be satisfied with the best security for peace, that the nature of the circumstances in which it was made would permit, taking care that the power with whom it was made should have no temptation to break it. He denied, that the prodigal manner in which the French government conducted their affairs, and the confusion and ruin into which their finances were hastening, afforded any prospect of success to the allied powers. He said, he remembered, that during the American war, there was much talk of a vagrant congress, which was nowhere to be found, of their miserable resources, and their wretched paper money at 300 per cent. discount, of which, with any few halfpence you had in your pocket, you might purchase to the amount of 100 dollars. The Americans were represented, as exercising on each other the most intolerable tyranny, on the royalists the most unheard-of cruelty; and it was then said, that if such principles were suffered to exist, if the cause of America was ultimately successful, there was an end of all civilized government; England must be trodden in the dust. "Yet then (said this statesman), I recommended negotiation, and lived to see Great Britain treat with that very congress so often vilified and abused, and the monarchy remain in sufficient vigour. God grant that I may not see her treat with the present government of France in circumstances less favourable for making peace than the present." He reprobated the conduct of administration, in endeavouring to compel the weaker states to join them in the war, while, at the same time, they were inveighing against the French, as invaders of the rights of nations. He concluded with a most splendid panegyric upon the superior dignity which appeared in these times in the character and conduct of the illustrious General Washington, who, for the preservation of his authority, as first magistrate of a free people, had not recourse to tricks of policy or arts of alarm, but depended upon his own wisdom, moderation, and firmness; which enabled him to preserve the neutrality of America, without fear of the contagion of the French revolution, or of the threats of British hostility.

Mr Pitt recapitulated the arguments formerly used, to prove that the aggression had certainly taken place on the part of France. He mentioned the system adopted by the French as subversive of all regular government, their usurpation of foreign territory, their hostile intentions against Holland, and their unprecedented views of aggrandisement and ambition. Unless it could be proved that we had mistaken these principles, we were bound, he said, to continue the war; and supposing that difficulty and disappointment had occurred in the prosecution of it, these ought to inspire us with additional vigour, and stimulate us to new exertions. Had there been any misconduct, of which he was not sensible, in conducting the war, yet that could not affect the general question. If the difficulties we had experienced, arose from the want of abilities in those to whom the management was entrusted, let us resort to other men. If the difficulty arose from the nature of the contest, then the argument against ministers would be much weakened. He stated the objects of the war to be, to procure a secure and permanent peace, and an indemnity for the expences incurred. To accomplish these ends, he asserted the necessity of interfering in the internal affairs of France, and he vindicated this measure upon the ground of securing our own safety. He conceived there was not the least probability of the continuance of the present government of France. The efforts of the people had been merely the result of terror. They were supported by the most desperate resources, which could not possibly continue. He said, that peace with the present French government was less desirable to him than war, under any disasters which he could possibly imagine. He admitted, that a safe and advantageous peace ought to be concluded, as soon as it could possibly be obtained; but he affirmed, that the security and benefits of peace with France must depend upon the establishment of a government essentially different from the present. He asserted, that had Louis XIV. succeeded in his projects, what we should have suffered from him would have been a deliverance, compared with the consequence of success attending the present French system. He said he did not attach the same degree of importance to the restoration of monarchy in France, as to the destruction of the present system. He attached importance to the former, only as a form of government in which the greater part of the people would be disposed to concur, and which would afford the best security for the permanence of peace. He noticed, as precluding all negotiation, a late decree of the French convention declaring the unity and indivisibility of their republic, in the enumeration of the territories of which they included their late conquests. He concluded with saying, that there could be no question but to resist, till such time as, by the blessing of providence upon our endeavours, we might secure the independence of this country, and the general interests of Europe. The address was carried by a majority of 277 against 59.

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992 Debate on the address in the house of lords.

In the house of lords, a similar debate took place upon the same occasion. Lord Stair moved the address, and the motion was seconded by Lord Auckland, with speeches which recited in strong terms the atrocities committed by the French factions upon each other, together with the successes of the British troops under the duke of York and elsewhere. These noblemen were supported by the duke of Portland, Earl Spencer,

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Britain. Lord Coventry, the earl of Mansfield, the earl of Hardwicke, the earl of Carlisle, Lord Grenville, and others. They were opposed by the earl of Guildford, who proposed an amendment to the address, recommending negotiation, and by the duke of Norfolk, the earl of Derby, the earl of Lauderdale, Earl Stanhope, and the marquis of Lansdowne. Earl Mansfield asserted, that the war was begun by the unprovoked aggression of France; and continued on our part, not from the motives of ambition and conquest, but to restore the blessings of order and good government to that country, to resist and defeat the wild attempts of those, who had declared it to be their purpose to disorganize Europe, and who were the enemies of the whole human race. He said that a lasting peace with France would be impossible. No alliance could be made with anarchy. The government of France was continually fluctuating, and the leaders of the present faction were not likely to respect any engagements formed by their predecessors.—Other noblemen supported the necessity of persevering in the war, to avoid breaking faith with foreign powers, and as the only means of preserving the independence and the constitution of this country; while, on the other hand, the marquis of Lansdowne contended, that the speech from the throne had discovered an important secret, that this was a war for nothing, or which had no specific object in view. He ridiculed, with much success, the difficulty of treating with the French, because they had no government, or were in a state of anarchy. Let the ministers, said his lordship, ask General Wurmser if there is no existing government in France. Let them ask the duke of Brunswick and the king of Prussia. Let them ask Lord Hood and Sir Gilbert Elliot, the royalist army of La Vendee, the unfortunate Lyonese, the Spaniards retiring before their arms. He feared it would not be long, before the prince of Saxe-Cobourg and the duke of York must allow that there was a government in France. The horrid outrages perpetrated in France, be considered as chiefly owing to the delusive hopes entertained by the royalists, of assistance from this country. The earl of Lauderdale regretted the consequences, which, by the management of ministers, the war was made to produce upon the situation of the people of this country. He asserted, that the alarm spread by ministers had been made the ground for a system of persecution. The revolutionary tribunal had been regarded with horror and disgust; but what had been the conduct of the courts of justice in this and a neighbouring country? What their sentences? Who could venerate a constitution, which must be protected by the friend becoming a spy on the actions of his neighbour, and the house of domestic conviviality being subjected to a state inquisition? His lordship discussed at some length the severities exercised in Scotland, and ascribed the revolution in France to the severity of punishments and the oppression of the poor. "Does the minister then (said his lordship), take the way to prevent the introduction of French principles, when he embarks in a war which weighs down the people with taxation; and introduces a system of severity, which must make them detest, not admire, the constitution of Great Britain." The address was carried in the house of lords, by a majority of 97 against 12.

Several debates of a similar nature occurred during the course of the session; but as the issue of the whole was the same, and the arguments employed did not differ essentially from those now mentioned, it is unnecessary to state them in detail. Britain

993 Remarks the source of alarm Britain.

It is one of the remarkable characteristics of the British nation, to be at all times easily thrown into a state of great anxiety and alarm, by any object which government for the time thinks fit to represent as dangerous. The two greatest objects of political terror to Englishmen, have at all times been the fear of a foreign invasion, and the dread of secret conspiracies, asserted to be entered into by a disaffected party. It is true, that during many ages Britain has not been successfully invaded, and that, since the time of the Spanish armada, no such attempt has been made by any of those governments with which Britain has engaged in hostility; but this very circumstance, which leads reflecting persons to regard such a project as extremely unlikely to occur at any particular period, seems to produce a contrary effect upon the people at large. The evils attending invasion having never been felt, lay hold of their imaginations in the wildest and most exaggerated forms; and from the terror thus produced, they are prevented from reflecting upon the difficulties attending such a project, which deterred Louis XIV. from attempting it while in the height of his power, and possessing the advantage of a disputed succession to the crown. Such is the credulity of the British nation upon this head, that administration can at any time throw them into a state of the utmost consternation, by expressing an apprehension of a French invasion. From this alarm, ministers usually derive considerable advantages. The voice of faction is silenced for a time by patriotic terror, and all parties are under the necessity of arranging themselves under the banners of government for the defence of their country.

994 Fear of invasion.

995 Fear of plots.

The dread of plots and conspiracies produces effects somewhat similar. It is true that no conspiracy of Englishmen was ever productive of danger to the government, while it remained even tolerably popular; but this never prevents the nation from being thrown into the utmost consternation, by intimations, on the part of government, that some desperate conspiracy is secretly carrying on, and is ready to burst forth, to the utter destruction of the public tranquillity.

During the war of which we are now treating, Mr Pitt's administration derived incredible strength from these two sources of terror; the fear of invasion, and the dread of conspiracies by disaffected persons. Neither did he want skill to profit by them. At the commencement of the war, it had been believed by most persons, and perhaps by government, that it would be of short duration, as the state of anarchy which succeeded the overthrow of the monarchy in France, seemed to render that country an easy prey to the powerful armies by which it was invaded. When any doubt of success was expressed, it was said, that after making trial of the war for a year, we might desist, in case we were unsuccessful. But the original state of affairs was now considerably altered, by the successes of the French at the end of the late campaign. The British government still resolved to persist in the war; which, however, was now becoming less popular, as less likely to be attended with success. On the other hand, the French leaders were greatly irritated by the persevering

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Britain. persevering hostility of the British ministry, and amidst the pride of victory, menaced England with invasion. It is evident, that they had still too much business upon their hands on the continent, to be able to make the slightest attempt to carry their threats into execution: but the British administration, taking advantage of the threat, expressed their fears that it might be successful; and proposed the arming of associations of volunteers, both cavalry and infantry, throughout the island, for the defence of the nation, both against foreign invasion, and also against the efforts of disaffected persons at home. They also encouraged the raising of subscriptions to defray the expence of these armed associations; and although the measure was disapproved by the minority in parliament, as an unconstitutional mode of raising money, it was supported by the majority. An act was passed, authorizing the embodying and training of volunteers, and the measure was carried to a considerable extent throughout the country. In like manner, though the political ferment occasioned by the French revolution had now considerably subsided, and the alarm occasioned by it was gradually passing away, administration, aware of the strength they derived from keeping the country in a state of anxiety upon political subjects, announced to parliament, by a message from the king on the 12th of May, that seditious practices had been carried on by certain societies in London, with a view to overturn the constitution, and introduce the system of anarchy that prevailed in France; that their papers had been seized, and were submitted to the consideration of the house. On the same day, Thomas Hardie, a shoemaker in Piccadilly, who had acted as secretary to the London Corresponding Society, and Daniel Adams the secretary to the Society for Constitutional Information, were apprehended for treasonable practices, upon a warrant from Mr Dundas. Mr Horne Tooke, well known for his ingenious philological writings, as well as for the political part he formerly acted in the turbulent days of John Wilkes, with the reverend Mr Jeremiah Joyce, Holcroft a dramatic writer, Mr Kyd a barrister, and John Thelwall, who had for some time entertained the town in the character of a political lecturer, were in a few days arrested and committed to the Tower on a charge of high treason.

996 Secret committee. A secret committee of the house of commons was chosen by ballot, for the sake of giving solemnity to the inquiries made into this conspiracy. The members of the committee were the friends of the minister. The report of the committee, concerning the alleged conspiracy, amounted to little more than a recital of a number of advertisements from societies, or accounts of their debates, that had previously appeared in the public newspapers. It served, however, as a reason for suspending the operation of the habeas corpus act, and thereby enabling ministers to prevent any political movement, or avowed disapprobation of their measures, from being rashly exhibited out of parliament.

In the mean while, the fear of invasion, added to the political alarm, which, previous to the commencement of the war, had diffused itself through the country, and which was thus artfully maintained, conferred upon ministers a degree of strength, which for a century or two no British administration had possesssed. Almost all men of property were their adherents. Their antagonists sunk into utter discredit, and suffered a very severe degree of persecution in every department of society; so that it became dangerous to a man's prospects in the world, and in ordinary business, to express the slightest doubt of the propriety of any measure approved of by government. Britain.

997 Finance. In the early part of his administration, Mr Pitt had endeavoured to rest his reputation, in a considerable degree, upon the improvement of the finances, and the hope which he held out of paying off the national debt. He now deserted all such views; and taking advantage of the uncontrouled power he possessed at home, and the pliability of parliament, he engaged in a career of unexampled expenditure, in corrupting successive parties in France, or in the management of the war. No opposition was made to a demand of 85,000 men for the maritime service; but the increase of the army to 60,000 men was resisted by opposition, though the majority allowed that number. The whole supply of the year exceeded 20,228,000l. As a loan was negotiated for 11,000,000l.; spirituous liquors, glass, bricks, paper, and other articles were subjected to new duties; and an additional revenue was drawn from attorneys.

998 Prussian politics. From its first rise to eminence as an European power, the Prussian court considered France as its protector against the ambition of Austria. We have remarked, that, at the period of which we are treating, Prussia had entered with reluctance into the ambitious views of Austria and Russia for the partition of Poland and France. Having found it necessary to do so, however, for the sake of sharing in their acquisitions, the Prussian court appears to have conducted itself with singular prudence and dexterity. During the present year, in spite of the resistance of a party in Poland, headed by the brave Kosciusko, that country was partitioned, and Prussia obtained an ample share of its territory. The partition of France was an object from which Prussia had every thing to fear, as it would destroy that power, by which Austria, the inveterate enemy of Prussia, had at all times been kept in awe. When the Prussian monarch found it necessary in conjunction with his new allies to invade France in 1792, he retired upon the first appearance of a tolerably firm opposition, and gave the new republic a respite of another winter, during which to arrange its strength, and call into action its resources. In the year 1793, the Prussians remained extremely inactive till towards the close of the campaign, when, at last, in consequence of repeated remonstrances from their allies, they advanced against Alsace. Being there repulsed, and the republic beginning to exhibit on all sides a respectable military front, the king of Prussia declared, that the expences of the war were more than his finances could sustain, and required the other German states to supply him with money, threatening in case of a refusal entirely to desert the common cause. Upon their declining to comply with his demands, he actually began to withdraw his troops. By this time, however, the British ministry had engaged in the war with a degree of eagerness, which induced them to make every sacrifice to obtain success in their object. On this occasion, therefore, to avoid losing the assistance of Prussia towards the common cause, they offered a subsidy, which was finally adjusted upon the following terms: His

Prussian.

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Britain. Prussian majesty agreed to furnish 62,000 troops, which was 30,000 beyond his contingent; for which his Britannic majesty agreed to pay him 50,000l. a month, 100,000l. a month for forage, 400,000l. to put the army in motion, and 100,000l. on their return; in all for the remaining nine months of the present year, 1,350,000l. The whole year would amount to 1,800,000l. out of which the states general were to pay 400,000l. The forces thus subsidized, were to be commanded by an officer to be named by the king of Prussia.

By this treaty the king of Prussia was enabled to keep his army upon the war establishment with little additional expence to himself, and would have it in his power to claim a share of whatever conquests were made from France; while at the same time, by stipulating that he himself should appoint the general of the subsidized army, he retained a complete command over it, and could prevent his troops from being worn out by active service, and restrain them from doing greater injury to the French republic than he himself might judge prudent.

999 Maritime success of Britain. All Europe looked forward with great anxiety to the approaching campaign, as decisive of the mighty contest in which its whole powers, excepting Russia, Sweden, and Denmark, were actively engaged. At sea, where her strength could be most effectually exerted, Great Britain was eminently successful. An expedition, under Sir Charles Grey and Sir John Jervis, was sent to the West Indies, where Martinique, St Lucia, and other islands were taken. In the Mediterranean, the French were driven from the island of Corsica, and the inhabitants acknowledged the king of Great Britain as their sovereign. But the most signal victory, was that which was gained by Lord Howe, over the French fleet, on the 1st of June, near Brest. During the first years of the revolution, France had suffered much distress from a scarcity of grain; and such was the inveteracy with which the present war was conducted, that the British government had formed a plan of subduing that nation by famine, by preventing their obtaining supplies of provisions from any foreign country. In their distress, the French rulers applied for assistance to the United States of America. The states still owed a considerable debt to France, which they had contracted to the monarchy in the war with Great Britain, by which their own revolution had been accomplished. The French now offered to accept payment of this debt, not in money but in corn, a commodity abounding in America. The Americans, accordingly, delivered the grain in their own ports, and 160 sail of vessels laden with grain set sail for France. Lord Howe was sent out to intercept, if possible, this valuable convoy; while, on the other side, the French admiral, Villaret Joyeuse, sailed from Brest to hazard an engagement with the British fleet, for the sake of preserving the convoy. The force of the hostile fleets was nearly equal, the British having 26, and the French 25 sail of the line; but the French line was broken, and at the end of an obstinate engagement, six of their ships were found to be taken, and two sunk. Their admiral, however, had before the battle, detached a considerable force for the protection of the convoy, which was thus enabled with safety to reach its destined port. This victory produced very great exultation in the British nation, in consequence of the fear of invasion, which had been previously excited, the danger of which, this proof of naval superiority seemed to place at a distance. Britain.

1000 Continental campaign. On the part of the French, however, these colonial and naval losses were greatly overbalanced by the general result of the campaign. The allies still concentrated their principal force against the Netherlands, and with that view, besieged and took Landrecies at the commencement of the campaign; but the fortune of the war was speedily turned. General Pichegru advanced into maritime Flanders, and in a variety of engagements, defeated General Clairfait, an Austrian officer of great activity, who speedily ruined his own army, by daily and sanguinary efforts to drive back a superior enemy. An attempt made by the grand army to cut off the retreat of Pichegru was unsuccessful. He, in return, afterwards made an attempt, on his part, to cut off the communication between the imperialists and their stores at Ghent. He was repulsed; but the obstinate conflict which he maintained, and the steady fire of his troops, during a succession of battles, which lasted from daybreak till the setting of the sun, convinced the allied armies, that the invasion of France had become a hopeless project. At last, the French advanced, under General Jourdan, from the eastward, and at Fleurus gained a victory in which 15,000 of the Austrian troops perished. Mutual disgust, as well as discouragement, now prevailed among the allies. The Austrians retreated, leaving the duke of York, at the head of the British and Hanoverian forces, in considerable peril. He made good his retreat, however, with the assistance of Earl Moira. This nobleman (formerly Lord Rawdon) had distinguished himself in the American war. In the house of lords, he had opposed the present war, but he had been sent by administration with a feeble armament, where the greatest efforts of Britain ought to have been directed, that is, to assist the royalists on the western coast of France. Finding himself too weak to effect any important measure in that quarter, he had brought back his troops. He was afterwards sent with them to defend Ostend. Learning the difficult nature of the duke of York's situation, and perceiving that Ostend could not long be protected, and could indeed be of no value after the rest of Flanders was deserted, he marched across the country, and in the face of much danger, and great hardships, effected a junction with the principal British army, to which this reinforcement afforded seasonable aid.

The French were no less successful upon the upper Rhine, on the frontiers of Italy, and of Spain. At the end of the campaign, an intense frost having set in, they reinforced their armies, and Pichegru invaded Holland. After a variety of engagements, the British and Hanoverians, together with some Austrian auxiliaries, whom Britain had subsidized, were repulsed, and found it necessary to leave Holland to its fate. Many Dutch families sought refuge in Britain. When Utrecht had submitted to the enemy, the stadtholder knowing that Amsterdam would not be defended, left his country, and escaped to England in a fishing-boat. He and his family became immediate objects

1001 Holland conquered.

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Britain.

jects of royal liberality, and were treated with the respect due to their rank and misfortunes.

The Dutch, who had viewed the English with a very unfriendly eye, since the revolution of the year 1787, appeared to be highly pleased with this change in their affairs. They had for some time treated our military countrymen with contempt and illiberality, and were not disposed to alleviate by kindness, or compassion, the sufferings of the wounded, or the distress of the fugitives, who at length effected their retreat to Bremen, after a long and severe exercise of their patience and fortitude.

The united provinces were now revolutionized on the French model. Liberty, equality, and the rights of man, were proclaimed; representatives of the people were chosen, and the regenerated state was named the *Batavian Republic*. But the pretended friends of the Hollanders, in rescuing them from what they termed a disgraceful yoke, did not suffer them to enjoy real freedom or independence.

1002 Russia deserts the allies.

The result of these successes was, that the king of Prussia, now perceiving France restored to more than her ancient energy, and become capable of endeavouring to humble his enemy, and her ancient rival, the house of Austria, deserted the coalition against her, refused to accept of any farther subsidy from Great Britain, and took under his protection, as neutral states, the whole princes of the north-west of Germany; thereby becoming the ostensible head and guardian of a large division of the empire, which was thus enabled to recover its tranquillity, and to become a quiet spectator of the prolonged contest, which the rest of the empire under Austria continued to carry on against France. Spain was under the necessity of imitating the example of Prussia, though upon less favourable terms, being constrained to relinquish, as the price of peace, her half of the island of St Domingo. The duke of Tuscany also deserted a contest, into which he had been constrained to enter.

1003 Trials for treason.

In the mean while, administration at home pursued their system of alarming the friends of internal tranquillity, by the dread of conspiracies, and attempts against the constitution. The persons who, in the month of May, had been imprisoned on a charge of high treason, were brought to trial in the end of October. The first that was tried, was Thomas Hardie. His indictment stated nine overt acts of high treason. 1st, That with others, he had formed an intention of exciting rebellion and insurrection; to carry which into effect, he and they had conspired to subvert the government, and depose the king. 2dly, That he and they had written diverse books, pamphlets, letters, and addresses, recommending delegates to a convention. 3dly, That they consulted on the means of forming such a convention. 4thly, That they agreed to form themselves into a society for the purposes aforesaid. 5thly, That they caused arms to be made to subvert the government, and depose the king. 6thly, That they conspired to levy war within the realm. 7thly, That they conspired to aid the king's enemies. 8thly, That they composed and published certain books, pamphlets, letters, exhortations, and addresses, for the purposes aforesaid. Lastly, That they procured arms, for the purpose of levying war against the king, and to excite rebellion, &c. The written evidence consisted chiefly of advertisements, and addresses, published in the newspapers, many of which were expressed in a very intemperate style, with regard to ministers; and the proceedings of the societies, which were all public, were of a similar nature. With regard to any intended armament of the people by these societies, it appeared to rest upon no solid foundation. The accusation and defence, therefore, rested chiefly upon the question of the intention of the party accused, and his associates. He was ably defended by Mr Thomas Erskine, and Mr Gibbs, and the prosecution was conducted by the attorney and solicitor-general. When the proceedings had continued to the eighth day, the jury after some deliberation, brought in a verdict of not guilty. The next trial was that of Mr Tooke, who endeavoured to prove, that he had merely followed the example of Mr Pitt, in recommending a plan of parliamentary reform. The minister was examined on the occasion, chiefly with regard to the proceedings of the popular party (before the close of the American war) for the attainment of that object; but he evaded most of the questions by alleging a want of recollection. The acquittal of Mr Tooke, being followed by that of Mr Thelwall, a despair of convicting any one of the supposed traitors produced a dereliction of the indictment.

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As the war was becoming unpopular, the acquittal of these persons, which tended to discredit the alarms kept up by the friends of administration, was felt by them as an additional misfortune. Had the indictments been laid only for sedition, the prosecutions would probably have proved successful; but ministers were led to carry matters the length of an accusation of treason, by their success in a similar charge at Edinburgh, in the preceding month of September, against two persons named Robert Watt and David Downie. Watt had been a spy, employed by government to attend political societies, and discover the designs of the leaders. As he was a needy person, and had been unable to communicate intelligence of much importance, he had received little pay. To earn more money, he had thought fit to contrive a plot, which he communicated to Downie, and some others, for seizing the castle and public offices at Edinburgh, with a view no doubt of afterwards holding out his associates to government as criminals. Neither he nor they had any means of carrying such a plan into effect. Watt, however, had procured some pikes, which he deposited in a cellar in his own house. These being accidentally discovered, he was apprehended; and the persons to whom he had communicated his plan, having come forward as witnesses against him and Downie, they were both found guilty of high treason; but Downie, who had done little more than appear to approve of Watt's plan, was recommended to mercy, and afterwards pardoned; but Watt was executed.

1004 Trial of Watt and Downie.

1005 Pop-gun plot.

Another cause of encouragement to administration to proceed with measures of severity, arose at the same time from a plot brought to light by some informers, which by way of ridicule was afterwards termed the *pop-gun plot*. The persons implicated in this charge, were John Peter Le Maitre, a native of Jersey, and apprentice to a watch-case-maker in Denmark-street, St Giles's; William Higgins, apprentice to a chemist in Fleet-market; and a man of the name of Smith, who kept a book stall in the neighbourhood of Lincoln's-inn.

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Britain.

coln's-inn. Their accuser was one Upton an apprentice or journeyman to a watch-maker. Le Maitre, Higgins, and Smith, were apprehended on Saturday the 27th of September, by a warrant from the duke of Portland, as secretary of state, and were examined on Sunday the 28th before the privy-council, the lords of which were summoned again to attend on Tuesday on the same important business. The charge supported by the testimony of Upton, was to the following effect: An instrument was to have been constructed by the informer Upton in the form of a walking stick, in which was to have been inserted a brass tube of two feet long; through this tube a poisoned dart or arrow was to have been blown by the breath of the conspirator Le Maitre at his majesty, either on the terrace at Windsor, or in the playhouse. The poison was to have been of so subtle a nature, that if the point but glanced upon the king, it was to have produced instantaneous death. Nothing short of the most consummate ignorance of the state of human science could on any ordinary occasion have procured attention to such a ridiculous story as this. Such, however, is the well-known credulity of the English nation, with regard to political dangers, that administration and their friends appear to have regarded this plot as an affair of some importance, as tending to keep men's minds in a state of anxiety.

1006 Meeting of parliament.

Parliament assembled on the 30th of December. In the speech from the throne, his majesty urged the necessity of persisting in the war, however unfortunate it had been, and noticed the rapid decay of the resources of the enemy. The Dutch had, he observed, from a sense of present difficulties, entered into a negotiation for peace with the prevailing party in France; but no established government could derive security from such a negotiation. The most effectual means had therefore been employed for the farther augmentation of the forces; on whose valour, as well as on the public spirit of the people, his majesty professed he had the utmost reliance. The speech ended with mentioning the accession of the sovereignty of Corsica to the British dominions; a treaty of amity and commerce with America; the conclusion of a treaty of marriage between the prince of Wales and the princess Caroline of Brunswick, in making suitable provisions for whom his majesty doubted not of the concurrence and support of both houses.

When an address to his majesty in the same terms with the speech was moved in common form, very animated debates took place in both houses of parliament. The war was attacked and defended upon the usual topics, with this additional circumstance, that the events of the late campaign gave considerable countenance to the assertions of opposition, that all hope of ultimate success was irrational. Administration, however, were no less powerful than formerly. On the last day of the preceding session, they had received into official situations some of those supporters of the war, who in former years had opposed their measure. Earl Fitzwilliam had been appointed president of the council. The duke of Portland became one of the secretaries of state. Earl Spencer was declared keeper of the privy seal, and Mr Windham secretary at war. Notwithstanding these official changes, Mr Pitt with the aid of his personal friend Mr Dundas, and his relation

1007 Changes in the cabinet.

Lord Grenville, was understood to retain the efficient power of the state. Mr Dundas had still retained the management of the war with France; and as a kind of third secretary of state, he performed a considerable part of the business which would otherwise have devolved upon the duke of Portland, while at the same time he continued as president of the board of control to superintend the affairs of India, and to hold the office of treasurer of the navy. Earl Fitzwilliam was soon got quit of, without any disadvantage to administration. He was sent to Ireland as lord-lieutenant, under an agreement, as he alleged, that he was to have full power to promote the recal of the penal statutes against the Catholics, and to concede certain privileges which had been withheld in 1793. Afterwards, however, ministers in England having altered their sentiments about some of these points, prohibited him to proceed, and as he insisted upon the terms on which he accepted his situation, he was recalled and dismissed from office. By joining ministers for a time, he was prevented from acting along with opposition in reprobating the war, and thus he was left insulated and separated from both parties.

1008 Mr Grey's motion for negotiation.

Among the debates of the present session, one of the most remarkable was that which occurred upon the motion of Mr Grey in the house of commons on the 26th of January 1795, "That the existence of the present government of France ought not to be considered as precluding at this time a negotiation for peace." He said, that after two years of war, which had drained this country of its blood and treasures, we did not appear to be one point nearer to the object for which it was undertaken. From certain words of the minister on a former occasion, Mr Grey inferred, that this was a war *usque ad internecionem*, or a mortal strife to be carried on till one of the parties should be destroyed. He wished, by the present motion, to put the question to issue, whether this opinion was countenanced by the house of commons. He said that the public at large, and even the enemy with whom we were contending, had a right to know the length to which the contest was to be carried, and the terms upon which peace was to be obtained. He endeavoured to show that there existed no prospect or chance of success in overturning by force of arms the republican government of France, and that a war persisted in with that view must necessarily be absurd. He contended, that the people of France were too firmly attached to their new arrangements to be likely to give them up, however they might change their leaders. A dependance upon a decay of their finances was, he alleged, equally ill founded. Both in the American war, and the present, the affairs of the British nation were unfortunately entrusted to persons unable to distinguish between the fallacy of imperfect calculations, and the energy of a people struggling for independence. He said that the French government were admitted to possess a landed estate far exceeding in value the most exaggerated account of their debts. With this, was to be considered the addition of the money of Holland, the population of France, which was equal to that of one-sixth of the whole of Europe, and the distracted and impoverished state of our allies. Our own resources were, he doubted not, equal to every thing to which they ought to be applied, but not equal to the conquest of France,

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or to a war of aggression. For the exhausted state of the emperor's finances, he appealed to a memorial he had recently addressed to the circles of the Upper Rhine. Was it then from him, from the Italian states, the kings of Sardinia, Naples, and Spain, or from our disgraceful alliance with the empress of Russia, that we expected assistance? Or was it from our good German ally, who had taken 1,200,000l. of our money, who had not brought into the field the 62,000 men for which he stipulated, who had denied our right to command any of the Prussian troops, and contended that they ought not to march against the French, but to remain to defend Germany. The strongest reason which a great nation could have for war, was the defence of its honour; this, he contended, we had so fully vindicated, as to secure us from future insult. The decree of the convention, November 19. 1792, was now no bar to a negotiation, as that declaration had been repealed, and followed by a contrary declaration. It had been stated, that there had been periods at which a negotiation could commence. It was a proper period at the time the misunderstanding commenced with this country; and at several times when we had been successful since, negotiation might have been begun. This, Mr Grey remarked, had been repeatedly advised from his side of the house; and thus much misery might have been prevented. While we possessed great power and great resources was the time for negotiation. Should the French proceed in their rapid career of conquest, it would not be easy. Were even the house willing to trust ministers with the prosecution of the war, would the minister declare he could trust the allies? This, therefore, was a time for negotiation; and should our attempts of that nature prove fruitless, the house and the people would cheerfully concur in a vigorous prosecution of the war; and we should then resemble France in the only point in which she was to be envied, the unanimity of the people with their government. As additional reasons, Mr Grey noticed the capture of Holland, and the debates in the diet at Ratisbon, in which all parties agreed for overtures to the enemy, except the elector of Hanover, and the landgrave of Hesse.

1009 r Pitt's iendment Mr ey's mo n.

Mr Pitt, in reply, asserted, that the motion was utterly inconsistent with the sentiments formerly expressed by his majesty and by parliament. He therefore proposed an amendment, importing, that "it was the determination of the house to prosecute the war, as the only means of procuring a permanent and secure peace; relying on the intention of his majesty, vigorously to employ the force of this country in support of its interest, and on his desire uniformly manifested of effecting a pacification with France, under any government capable of maintaining the relations of peace and amity." Mr Pitt contended, that no nation at war with another, ought to treat for peace with a government that could not give security. This last he asserted to be the great object by which alone the war could be terminated. "What did we naturally look to in the state of any country, but to the manner in which they performed their engagements; to their stability, their apparent authority, and the reliance that might be placed on their pacific dispositions? Nothing but a series of revolutions had been generated under the system and principles now prevalent in France." He represented the agriculture and commerce of France as in the most disastrous situation, and justice as almost unknown. With respect to their religion, he demanded, whether the house would willingly treat with a nation of atheists. He would not, however, say, that they might not improve. When they should come into such a state, as would give, with regard to their government, that stability and authority, which afforded a probability that we might treat with security, then we might negotiate: but we ought, in prudence, to wait the return of such circumstances as would afford a chance of treating with success. He considered the French as having begun the war, upon the principle, that their own was the only lawful existing government, and that they had a right to destroy all others as usurpations; a principle from which they had not yet ceased to act. In April 1793, the French had enacted the penalty of death, upon any person who should propose peace with any country, which did not acknowledge the French republic one and indivisible, founded on the principles of equality. The admission of these principles amounted to a confession of the usurpation and injustice of every other government. In treating for peace with France, one preparatory step was, the acknowledgment of what the house had hitherto denied. They must acknowledge those principles which condemned the usurpation of all other governments, and denied the very power they were exercising. Were peace to be obtained, he thought the country in the utmost danger from French emissaries; and if a peace should be so insecure as to require us to remain in a state of vigilant jealousy and never-ceasing suspicion, we would be under the necessity of retaining an establishment, which would prove burdensome to peace, and ineffectual to war. With respect to the comparative resources of this country and France, the latter had, as he stated, expended 260,000,000l. sterling, during the last two years. Assignats, he said, were at 15 per cent.; and every thing proclaimed a rapid decay of the French resources. Ministers, he declared, had never looked to the conquest of France. Peace was not obstructed by any form of government, but by the internal circumstances of France. An attempt to treat, instead of accelerating peace, would only be productive of danger; it would encourage the enemy, and sink the spirits of the people of this country.

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Mr Fox accused ministers of tergiversation. He said, he approved of the amendment, so far as it stated, that there existed nothing in the present form of government of France to prevent negotiation; but he complained, that during two successive years, opposition had moved a similar amendment; and for doing so, they had been called the advocates of France, jacobins, republicans, enemies of their king and country, &c. though it was now pretended that all this time they were speaking the sentiments of ministers. He contended, that the minister had, in fact, found it necessary to alter his conduct; and that the impolitic speech he had put into the mouth of his majesty, at the opening of the session, had made a serious impression upon the public, which must be done away. What, he asked, would have been the feelings of

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Britain. Englishmen, if the convention had determined never to treat with them till there was a reform in the English government? We must do away all our arrogant expressions against France, and then, even though we should not obtain peace, yet we should take from them the cause of their enthusiasm, that which roused every national feeling, and had carried them to unparalleled exertions. They would not then feel that they were to fight to extremity, for daring to give to their own country the government they liked. He wished us not to diminish our force; but surely we could fight just as well, if necessary, after declaring we had no intention to reduce a people to slavery. He ridiculed the idea of danger from the influx of French principles, and observed, that the constitution of this country had been endeared to us, from the fatal experiments made in France. He called the recollection of Mr Pitt to the declaration of his father, "that they should die in the last breach before they granted the independence of America;" yet the first act of his political life had been to sign the very independence which his father had deprecated. Necessity dictated that act; and he must now, on the same account, retract his declaration respecting France.

The motion was opposed by Mr Dundas, on the ground that it would fetter the executive government in their negotiations for peace; and he thought we had the utmost reason to expect success from the prosecution of the war: at least, it was a fair presumption, that our situation would not be worse if we continued the war. Mr Grey's motion was negatived by a majority of 188, and Mr Pitt's amendment afterwards adopted, by a majority of 164.

1010 Duke of Bedford's motion for peace.

On the following day, the duke of Bedford brought forward, in the house of lords, a motion, similar to that which Mr Grey had supported in the house of commons. This patriotic nobleman, who enjoyed great popularity, because he expended his princely revenue in promoting and giving countenance to the agriculture of his country, urged the necessity of an explicit declaration of the real object of the war. Ministers said, negotiation was dishonourable, as the French were the aggressors. Admitting this, what scenes of blood must Europe have exhibited, had it been adopted as a general principle, that no party should manifest a wish for peace, which had not been the aggressor in the war. That the French, however, were not the aggressors, his grace contended, from the retraction of the offensive declaration; from the explanation offered by the minister; from different speeches in the convention, and the decree afterwards passed that they would not interfere with the government of other countries. As to a permanent peace, no such thing could be found in the absolute sense of the word. An equitable peace was the only one likely to prove permanent. He contended, that we ought no longer to trust to the efforts of our continental allies. He did not believe the finances of France exhausted; but admitting they were nearly so, could we hope to ruin them? certainly not. While there was property in the country, the government would find means to obtain it; and, while the people were convinced it was a war of extermination or unconditional submission, they would sacrifice their property. Still less was the probability of outnumbering them. Attempts had been made to excite the passions of men, by calling this a war in the cause of humanity and of God. Whatever it might have been during the life of the king, whose death he thought accelerated by our interference, it could no longer be called so. It had, as allowed by ministers, produced the system of terror in France; and could the death of 50,000 British subjects, and of hundreds of thousands of innocent soldiers on all sides, be called a circumstance favourable to humanity? It was admitted, he said, that the present government of France was infinitely milder than what it had been; but, instead of assisting her rulers in the work of reformation, our ministers declared, they should not restore order and justice but by our means, and that we would not be satisfied without carrying war to their frontiers, and famine to their interior. By this course, we should never conquer the armies or the opinions of France, but might regenerate the system of terror. The adoption of his motion would, his grace observed, unite the people of this country, if the war continued, and disunite the people of France. Britain.

Lord Grenville moved an amendment, precisely similar to that which had been introduced by Mr Pitt in the house of commons the preceding evening. He thought the present was not a moment convenient or proper for forwarding a negotiation. It never, he said, had been his opinion, that this country should not make peace with another, merely on account of their form of government; but, in such a negotiation, especial care should be taken to provide for that most important of all concerns, security. His lordship declared his belief, that a majority of the French were favourers of royalty; and the re-establishment of monarchy presented the most probable hopes of peace. Ministers had, he said, never declared that they would not treat with any government capable of maintaining the accustomed relations of peace and amity. He denied, however, that any probability existed of the permanency of the present French government. He entered into a detail of the shocking impieties of the French; and insisted upon the failure of their resources, and the disaffection of a considerable number of the people towards the present ruling party, who had peremptorily refused to the lawful heirs the restoration of that wealth, of which their fathers had been unjustly deprived. He allowed, that, by the new system in France, we were in a situation less remote from that in which we might treat with a rational prospect of security. Till that period, however, arrived, which he thought far distant, he conceived, that a vigorous prosecution of the war was far preferable to any attempt to negotiate.

The bishop of Llandaff urged the importance of an immediate negotiation to promote union at home, and to shew to the French, that, if refused by them, the war was continued in consequence of the ambition and oppression of their rulers. He was aware, that some might object to negotiation, on the ground of evincing an unworthy want of firmness; but, in that respect, firmness was out of the question. When circumstances rendered it prudent to alter a course, to persist was not firmness, but obstinacy. It was a mistaken notion

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Britain. of firmness that lost America. It might be asked, if those who had been guilty of such atrocities ought to go unpunished? To this he would answer, that though the atrocities of the French disgraced human nature, we were not the avengers; they ought to be left to the wisdom and justice of God; or, if any thing more was to be said, let their lordships pray to God for pardon to the guilty. He asserted, that even could we place upon the throne of his ancestors, the son of the last French monarch, he could grant us no indemnity for our past expenditure; his own subjects, and even our own continental allies, would not suffer him to do so. With respect to the charge of atheism against the French, as a reason for continuing the war, his lordship added: "Presumptuous idea! Miserable beings as we are, do we imagine that the arm of flesh is wanting to assist and enforce the will of the Almighty? Not one of the tribe of modern philosophers can affect or injure Christianity. The abuse of religion has been mistaken for religion itself. Hence, France in the eagerness of her enthusiasm for reform of religious abuses, overlooked religion itself, and fell into atheism. But the mist of infidelity will soon be dispersed, and Christianity appear in a purer state."

The duke of Norfolk, the marquis of Lansdowne, the earl of Lauderdale, the duke of Leeds, and the earl of Guildford, farther supported the motion; while the amendment was defended by the earl of Darnley, Lord Hawkesbury, Earl Spencer, Lord Hawke, the marquis of Abercorn, the lord-chancellor, Lord Auckland, and others. On a division, a great majority voted in favour of the amendment. The victories of the French, during the late campaign, and the despair of ultimate success in the war, which now began to be entertained throughout the country, encouraged opposition, to renew the subject, under a variety of forms, and to urge ministers to enter into a negotiation; but, on every occasion, the motions made by them were negatived by a similar superiority of numbers.

1011 rces ed. The number of seamen and marines voted during the present session, amounted to 100,000; while 119,380 men were voted to form the guards and garrisons. To procure the requisite number of seamen, the parliament required the merchants to give up a part of the crews of their shipping, in proportion to the tonnage; and ordered every parish to furnish one man for the service. A loan of 18,000,000l. was found necessary, together with a large issue of exchequer bills, as the supplies voted amounted to no less than 29,307,000l. The new taxes were made payable on wines, spirits, tea, coffee, stamps on deeds, &c. insurance on ships and cargoes, timber, and on persons wearing hair-powder.

1012 ve- de. Mr Wilberforce again brought forward the question of the slave-trade. He was supported by Mr Fox and Mr Pitt; but the proposed abolition of it was rejected in the house of commons, by a majority of 17.

1013 Hast-'s trial led. During the present session, the long trial of Mr Hastings was at length brought to a conclusion. The subject was discussed in a committee of the house of lords. The lord-chancellor, and the earl of Carnarvon, considered Mr Hastings as criminal; but he was defended very elaborately and ably by Lord Thurlow, who was supported by the marquis of Lansdowne, the bishop of Rochester, and others. When every part of the accusation had been disallowed by the committee, Britain. the report was reviewed by the house; and after some debates on the mode of proceeding, it was resolved, that the question should be separately put on 16 points. The greatest number of peers, who voted the defendant guilty in any one respect, did not exceed six. The votes of innocence on some of the charges, were 26; in others 23; in one 19. The lord chancellor then intimated the decision of the court to Mr Hastings, who received it in silence, bowed, and retired from the bar. The war in which we were now engaged, had rendered men more eagerly desirous of the aggrandizement of their country than they were when this trial commenced, and also less scrupulous about the means by which that aggrandizement was promoted. The services of Mr Hastings were now therefore more highly appreciated; and the public regarded, with satisfaction, the acquittal of one, who had so eminently promoted the interest of his employers, secured their authority, and extended and established their dominion.

1014 Debt of the prince of Wales. At this time, the debts of the prince of Wales amounted to 630,000l. It had been adjusted at court, that these debts should be paid, and that the prince should marry his cousin, the daughter of the duke of Brunswick. After some discussion in the house of commons, the prince's establishment was fixed at 125,000l. out of which he was required to pay 65,000l. every year, till his debts should be liquidated. The rents of the duchy of Cornwall, amounting to 13,000l. were also set apart for the extinction of the debts. Farther sums were also voted to defray the expences of the marriage, and the repairs and decorations of Carlton house. Parliament was prorogued on the 27th of June, by a speech from the throne, in which ministers thought it prudent to hold out to the public, some prospect of negotiation. "It is impossible (said his majesty) to contemplate the internal situation of the enemy, with whom we are contending, without indulging a hope, that the present circumstances of France, may, in their effects, hasten the return of such a state of order and regular government, as may be capable of maintaining the accustomed relations of amity and peace with other powers. The issue, however, of these extraordinary transactions, is out of the reach of human foresight."

1015 The war. The incidents of the war, during the year 1795, were less memorable than those of the former years. Lord Bridport, with an inferior force, attacked a French fleet, near Port l'Orient, and took three of their ships. Vice-admiral Hotham pursued to the Genoese coast, a fleet which had sailed from Toulon, to attempt the recovery of Corsica, and which had captured one of his detached ships. He brought the enemy to a partial engagement, and took two sail of the line; but he afterwards lost one of his own ships, in consequence of damage received in the conflict. On their own western coast, the French, with 13 sail of the line and 14 frigates, avoided coming to an engagement with Vice-admiral Cornwallis, who had only eight ships, including frigates. These events occurred early in the summer. Notwithstanding the vigilance of the British navy, the French captured, in the month of July, 30 sail of a valuable convoy returning from the Mediterranean. They also made prize

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Britain. of part of a Jamaica fleet. On the other hand, their own commerce had sunk so low, as to present few objects for our cruizers and privateers.

1016 War with Holland. As the Dutch, though nominally the allies of the French, had, in fact, become subject to them; letters of marque were issued against them by Great Britain, and directions given to seize their colonial territories, under the professed intention, however, of restoring them when the stadtholder's government should be re-established. The Cape of Good Hope was taken, together with Trincomalé and the other Asiatic settlements of the Dutch, excepting Batavia. Their territories in the West Indies were not attacked during the present year, on account of the difficulties which the British experienced in that quarter, in keeping in subjection the islands captured from the French, where various insurrections were incited by their ancient masters. The island of Jamaica was also kept in a state of great alarm, by a small tribe of independent negroes, called *Maroons*, which had long existed in the mountainous parts of the island. These people, in consequence of a quarrel with the white inhabitants, committed many cruel ravages, and were not subdued till Spanish hunters and blood-hounds were procured from the island of Cuba, and employed against them, which induced them at last to submit to deportation from the island.

1017 Expedition to Quiberon. When it was too late, the British ministry resolved to give assistance to the royalists in the western parts of France. An expedition, planned, it was said, by Mr Windham, and guided by French emigrant officers, with troops, many of whom consisted of prisoners of war, relieved from confinement on condition of bearing arms against their country, set sail for the French coast, and landed upon the extremity of the narrow peninsula of Quiberon. Here they fortified themselves; but many of the troops, as might have been expected, proving unfaithful, they were speedily overpowered by the republicans, who, according to their custom, put to death such of their countrymen as they found in arms fighting against them. By this feeble and ill-timed invasion of the French territory, nearly 10,000 men were lost, that is, were killed or taken prisoners.

1018 Campaign in Germany. The continental campaign on the side of Germany was of little importance during this year, and was upon the whole unfavourable to the French. The convention had shaken off the government of that sanguinary faction, which, under Robespierre and his associates, had deluged the interior of France with blood, but which had possessed the merit of calling forth with astonishing energy, the powers of that country for the support of its independence. The present leaders possessed less activity, and affected a milder train of conduct. The military operations languished. The French army remained inactive till autumn, when it crossed the Rhine near Mentz, under General Pichegru, but was speedily repulsed, and an armistice was concluded for the winter. The convention, however, established a new form of government, consisting of an executive directory of five persons, elected by two representative bodies, to which the powers of legislation were intrusted; and it was naturally expected, that if the war should continue, the new executive power would endeavour to distinguish itself by some important operations. Britain

1019 Meeting parliament. The British parliament was again assembled at a very early period, the 29th of October. The state of public affairs bore at this period an unfavourable aspect. The French armies had been inactive during the summer, but they had lost nothing; the new republic retained possession of the territory extending from the Pyrenees to North Holland, and consequently of an immense length of coast opposite to Great Britain. In the meanwhile, a dearth of provisions began to prevail at home. The winter, which had set in with extreme severity at the close of the year 1794, and enabled the French to conquer Holland with little difficulty, was followed by an ungenial summer, during which the crop failed in consequence of almost incessant rains. This state of affairs was productive of discontent in many among the lower orders of the people, and the war was blamed as tending to aggravate the distress which they suffered. Previous to the meeting of parliament, some meetings were held by the London Corresponding Society, for the avowed purpose of petitioning the king in parliament in favour of peace and a parliamentary reform. As the meetings were held in the open fields, they were very numerously attended, but the persons composing them dispersed without disturbance. At the opening of parliament, some riots took place; and though it did not appear, that the persons guilty of these riots belonged to the society above mentioned, yet it seems probable, that its meetings had tended, along with the general state of public affairs, to rouse the attention of the multitude to political subjects.

1020 Riots at the meeting of parliament. His majesty proceeded from the palace to open the session of parliament at the usual hour, between two and three o'clock; and the crowd in St James's park, which is always considerable on these occasions, was certainly greater than usual, though it was thought to have been overrated, when estimated at 150,000 persons. A fine day, and a rumour which had been circulated, with what view it is impossible to ascertain, that a riot was likely to take place, contributed greatly to increase the multitude of the spectators. As the royal carriage passed along the park, the predominant exclamations were "Peace! peace! Give us bread! No Pitt! No famine! No war!" A few voices were heard to exclaim, "Down with George," or words to that effect. In the park, and in the streets adjacent to Westminster hall, some stones and other articles were thrown, nine of which, it is asserted, struck the state-coach! and one of them, which was suspected to have proceeded from a window in Margaret-street, near the abbey, perforated one of the windows by a small circular aperture: and from these circumstances, it was supposed by some to have been a bullet discharged from an air-gun, or from some similar engine of destruction: but no bullet was found; and whatever it was, it neither touched the king nor the noblemen who attended him. As his majesty returned from the house through the park, though the gates of the Horse-guards were shut to exclude the mob, yet even this precaution was not sufficient to prevent a renewal of the outrages, and another stone was thrown at the carriage as it passed opposite to Spring-garden terrace.

After

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Britain.

After the king had alighted at St James's, the populace attacked the state-carriage, and in its way through Pall-mall to the Mews, it was almost demolished.

1021 The king's speech.

The speech from the throne stated his majesty's satisfaction, that the general situation of affairs, notwithstanding many events unfavourable to the common cause, was materially improved. The French had, in Italy, been driven back, and were checked on the side of Germany. Their successes, and the treaties of peace they had entered into, were far from compensating the evils they had suffered from the continuance of war; and the unparalleled embarrassment and distress of their internal situation appeared to have produced an impression that their only relief must result from peace, and a settled government. The crisis in which they now were must probably produce consequences important to the interests of Europe. If this crisis terminated in any thing affording a reasonable expectation of security in any treaty, the appearance of a disposition to treat for peace, on just and suitable terms, would, his majesty added, be met on his part with an earnest desire to give it the speediest effect. The acceleration of this desirable end required, however, that we should prove our ability to prosecute the war till we could conclude it in a peace suited to the justice of our cause, and the situation of the enemy.

In the speeches for and against the usual addresses little novelty occurred; the same subject, that is, the propriety of the war, having been so repeatedly discussed. Administration took advantage of the attack upon his majesty's person, to issue a proclamation connecting the meetings of the Corresponding Society with the insults offered to his majesty, and to bring forward

1022 New penal statutes.

two penal statutes. The first was introduced into the house of lords by Lord Grenville, under the title of "an act for the safety and preservation of his majesty's person and government against treasonable and seditious practices and attempts." One clause ordained the capital punishment of every one who should express, utter, or declare by the publication of writings, or by any overt-act, such imaginations, devices, or intentions, as were calculated to injure the king, impair his authority or that of the parliament, or promote an invasion of his dominions. Another provision was, that all declarations tending to excite hatred or contempt of the king should be considered as high misdemeanours; and it was decreed, that a second offence of this kind might be punished, either in the ordinary mode, or by banishment from the realm, for a term not exceeding seven years. The other bill was introduced by Mr Pitt in the house of commons. It enacted, that no meeting of any description of persons, exceeding the number of 50, except such as might be called by sheriffs, or other officers or magistrates, should be holden for political purposes, unless public notice should have been given by seven housekeepers: that if such a body should assemble without notice, and twelve, or more, individuals should continue, together (even quietly) for one hour after a legal order for their departure, they should be punished as felons, without benefit of clergy: and that the same rigour might be exercised, if any person, after due notice of the meeting, should use seditious language, or propose the irregular alteration of any thing by law established. With regard to the delivery of lectures or discourses, or the exercise of debate, on topics connected with the laws and government of the country, a license was declared to be necessary for such meetings.

Britain.

1023 Petitions for and against the penal statutes.

Very animated discussions upon these bills took place in both houses of parliament. While the discussions were going on, many petitions were presented against the bills. On the other hand, various corporations and public bodies petitioned for their enactment. The result of the whole was useful to ministers; as the disputes which thus arose, tended to revive in the minds of persons of property that political alarm which was now passing away, and to remove a portion of that dislike to the war, which naturally arose from the want of success with which it had been attended. The two bills were enacted into laws by the votes of great majorities. Still, however, administration were sensible that it would become necessary, for the sake of preserving their popularity, to assume an appearance of willingness to put an end to the war. Accordingly, while the two bills were still under discussion, each

1024 Pacific message from the king.

house received a message from the king, in which, alluding to the new constitution, and the directorial government of France, he said, that such an order of things had arisen as would induce him to meet any desire of negotiating on the part of the enemy with a full readiness to give it the speediest effect. When an address of thanks for this communication was moved, Mr Sheridan suggested an amendment, tending to produce an immediate negotiation, and to remove, by a renunciation of the principles on which the war had been conducted, all obstacles to the attainment of peace. Mr Fox also wished, that the first offer should proceed from our court: but Mr Pitt and Mr Dundas thought it adviseable to wait till the enemy should manifest a disposition to negotiate. Similar observations were made in the house of peers. At a future An. 1796.
period, Mr Grey moved, that his majesty should be requested to intimate to the executive government of France, his readiness to enter into a negotiation for the re-establishment of peace on reasonable terms. He said, he was sorry to observe, that the court appeared to be more intent on warlike preparation than eager to promote peace: overtures from this country, he thought, could not be degrading; and he flattered himself with the hope, that they would be successful. Mr Pitt wished that this affair might be left to the discretion of ministry. It was proper, he said, that the allies of Great Britain should be consulted, as a close concert with them would give greater dignity and effect to a negotiation. Steps had been already taken to ascertain the disposition of the enemy; and if there should be a prospect of an honourable peace, the opportunity would be embraced with pleasure. Mr Fox said, that a better season for treating than the present might not occur for a long period; and he hoped, that, as the French had renounced the decree of fraternity, every idea of interference in their interior concerns would, on our part, be disclaimed. This would be a good preparative to negotiation; and a subsequent offer of moderate terms would expedite the accomplishment of the desirable object. Only 50 members supported the motion, while 189 voted against it.

1025 Attempts to negotiate.

On the 8th of March 1796, Mr Wickham, his majesty's minister to the Swiss cantons, transmitted a note to

M.

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Britain.

M. Barthelemi, the French ambassador at Berne, stating, that he himself was not authorized to enter into any negotiation, but requesting information in writing on the part of his court about three points. First, Whether France was disposed to send ministers to a congress to negotiate a general peace with his Britannic majesty and his allies. 2dly, Whether the French government would be willing to state the general grounds upon which they would consent to conclude a treaty; and, 3dly, Whether the French government would think fit to propose any other mode of arriving at a general pacification. M. Barthelemi returned an answer, on the 26th of the same month, stating, that the executive directory doubted the sincerity of these overtures of peace, from the proposal of a general congress, which would lead to endless negotiations, and from Mr Wickham having received no powers to negotiate. He asserted, however, the willingness of France to make peace; but declared, that the executive directory had no power to relinquish any of the territories which the constitutional act had declared to form an integral part of the republic. With regard to other territories occupied by the French armies, these, he said, might become objects of negotiation.—As the Netherlands, and the island of St Domingo, had been declared by the new French constitution, to form a part of the territory of the republic, the British government immediately published a note declaring these pretensions on the part of France totally inadmissible; and that while they were persisted in, nothing was left but to prosecute a war equally just and necessary. This first attempt towards negotiation for peace gave rise to various debates in the British parliament, in all of which administration were supported by their usual majorities.

1026 Finances, &c.

Supplies were voted during this session to the amount of 37,588,000l. and upwards of twenty-five millions and a half were borrowed. As no prospect existed that British armies could be employed on the continent, the guards and garrisons were reduced to 49,000 men. The forces in the colonies were increased to 77,000; the sailors and marines were 110,000. Taxes were imposed on legacies to collateral relations, and on horses, and dogs, and hats. The assessed taxes were increased, and also the duties on wine, tobacco, salt, and sugar. Parliament was dissolved on the 20th of May, and new elections immediately took place.

1027 Campaign on the continent.

An extremely active campaign was now opened by the French upon the continent. Their generals, Moreau and Jourdan, advanced into Germany. They were ultimately repulsed by the archduke Charles, but not till they had reached the vicinity of Ratisbon. The retreat of Moreau, amidst hostile armies, formed one of the most celebrated events of the war. On the side of Italy the French obtained greater ultimate success. Their new general in that quarter, Bonaparte, compelled the king of Sardinia to desert the allies, and to purchase peace at the expence of a considerable portion of his territory. He next descended into the Milanese; obliged the Italian states to surrender their finest paintings, statues, and other curiosities, together with large sums of money, as the price of peace; and after a multitude of sanguinary conflicts, he succeeded in subduing, by famine, Mantua, the only fortress that remained to the Austrians in Italy.

Britain.

1023 Maritime events.

Few maritime events of much importance occurred. The Dutch lost their whole tropical possessions, with the exception of the unhealthy but rich settlement of Batavia in the island of Java; and they also lost a squadron, which they sent out to attempt the re-capture of the Cape of Good Hope, but which was itself made prize of by the British admiral, Sir George Elphinston. On the other hand, the British were under the necessity of abandoning Corsica, in consequence of the conquests of Bonaparte in Italy, and the mutinous spirit of his countrymen, the Corsicans.

1025 Negotiation by Lord Malmesbury.

The result of the campaign was, that the British ministry, to avoid quarrelling with the nation, found it necessary to send Lord Malmesbury to Paris to negotiate a peace. It was afterwards admitted by Mr Pitt, that, at this period, they had no wish to conclude a treaty, and that the measure now mentioned was adopted merely in compliance with the obvious wishes of the public. Accordingly, as the French still refused to relinquish the Netherlands, this was adopted as a sufficient reason for persevering in the war.

The early part of the session of parliament, which met on the 6th of October, passed away with few debates, on account of the intention to attempt an immediate negotiation, which had been announced in the king's speech, and afterwards on account of the expectation of its issue. At the close of the year, the French directory, in consequence of an invitation from a disaffected party in Ireland (see IRELAND), sent to invade that country, an expedition of 17 ships of the line and many smaller vessels, bearing an army of 18,000 men under General Hoche. The violence of the winds prevented the rendezvous of this armament at Bantry bay, in consequence of which no landing was attempted, and the fleet returned home with the loss of two ships of the line and two frigates, which perished in a tempest, and one frigate taken by the English. Shortly thereafter the French disembarked on the coast of Pembrokeshire 1250 criminals, whom they had sent as soldiers upon the Irish expedition, but whom they did not now know how to employ.

1797.

1030 Stoppage of payment by the bank.

At this period the first instance of serious difficulty occurred in the management of the British funding system. The large sums of money sent abroad as subsidies to foreign princes by government, had diminished the quantity of gold and silver in Great Britain. At the same time, administration, through the medium of the bank of England's paper, had issued immense sums for the public expences, and in payment of the additional interest of the national debt. The alarm occasioned by the Irish invasion coming in addition to these circumstances, produced a greater demand than usual upon the bank to exchange its paper for specie. Thus their coffers were soon drained, and to replenish them they were under the necessity of giving for bullion a premium, or high price, which they paid with their paper. This made matters worse, for certain persons secretly melted down the guineas which the bank had procured to be coined, and, for the sake of the premium, sold this gold back to the bank as bullion. A ruinous traffic was thus carried on by the bank, which purchased bullion at a high rate, while they gave out their guineas at the usual price. The directors of the bank were under the necessity of laying their case before the privy council, which issued an

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Britain. an order against the issue of cash by the bank. Considerable alarm was occasioned by this step. Committees of the two houses of parliament were appointed to inquire into the state of the bank's affairs, both of which reported them to be prosperous, yet each recommended a continuation of the late prohibition. An act was therefore passed for confirming the restriction, and to render it less inconvenient, bank-notes for one and two pounds were put into circulation. At the same time private persons were not compelled to accept of the bank of England's notes in their transactions with each other. As the bank of England is the office through which the British government issues all payments, and as these payments are made in the bank's paper, which administration might influence the directors to augment indefinitely, many persons feared and predicted, that this paper would speedily sink in value when compared with gold and silver, as the French assignats and the American paper currency had done, when rendered not convertible at pleasure, into specie. The stability, however, of the British funding system speedily displayed itself. The credit of the bank of England's paper remained unshaken, because government received it in payment of all taxes, and these taxes fully equalled the interest of the whole sums borrowed by the public.

1031 applies. During the preceding year the emperor had received a subsidy, under the appellation of a loan, from the British government, and a new subsidy was now given him under a similar appellation. To supply this and the rest of the national expences, early in the session 27,647,000l. were voted, and afterwards above 15 millions additional were thought necessary, and voted. Two loans were negotiated by government, one for 16 millions and a half in the usual way, from money-brokers, and another of 18 millions, called the *loyalty loan*, from the nobility and gentry being requested to fill it up, which they did with eagerness. The troops voted consisted of 120,000 seamen; 60,765 soldiers for guards and garrisons, that is, for European service, and above 64,000 for the dependencies of Great Britain. As the fear of invasion was now revived, a large supplementary body of militia was levied, together with a considerable force consisting of cavalry. The interest of the two loans was provided for by taxes upon houses, stage-coaches, horses, auctions, stamps on agreements and newspapers, ornamental plate, spirits, tea, coffee, &c. Towards the close of the session, opposition unsuccessfully brought forward motions to address the king to dismiss his ministers, resume the negotiation with France, and to repeal the two acts introduced in the preceding session, by Lord Grenville and Mr Pitt, for extending the treason laws, and imposing restrictions upon popular meetings for political purposes. They were encouraged in some measure to these motions by a variety of addresses which at this time were presented from different parts of the country, to his majesty, advising him to dismiss the present ministry.

1032 Loyalty loan, &c.

1033 War with Spain. The French had now acquired such an ascendency over the Spanish monarchy, as to induce the government of that country to declare war against Britain. Their fleet, amounting to 27 sail of the line, attempted to join a French armament; but were attacked by Sir John Jervis, on the 14th of February, near Cape St Vincent, with only 15 sail of the line; and four of their ships, from 74 to 112 guns, were made prizes by the British fleet. The island of Trinidad was also taken from them; and there also they lost four ships of the line and a frigate. Britain.

1034 Mutiny in the fleet. At the commencement of the summer an event occurred, which, had the French been prepared to attempt an invasion of this country, might have been productive of serious evils. This was a mutiny in the fleet. It appears that very gross impositions had for some time been practised upon the seamen with regard to their provisions, both as to the quantity and quality allowed them. They made an anonymous application for redress to Earl Howe, by a letter. The application was disregarded, because the strictness of discipline prevented the open avowal or public appearance of discontent, which his lordship, therefore, inconsiderately supposed did not exist, and that the letter must be an imposition. The seamen resolved to enforce redress. When orders were given to prepare for putting to sea, the crew of the Queen Charlotte, and other ships lying at Spithead, refused to act; and treating with contempt the remonstrances of the officers, made choice of delegates, who, after a formal consultation, drew up petitions to the board of admiralty, and the house of commons. Earl Spencer, the naval minister, that is, the first lord of the admiralty, dreading a dangerous mutiny, and not thinking the demands unreasonable, promised compliance; and the king readily offered full pardon to all who should immediately return to their duty. The seamen, however, would not declare their satisfaction before the parliament had confirmed the promises of the lords of the admiralty; and, as some delay was thus produced, the irritation of their minds led to a contest with Vice-admiral Colpoys, in which some lives were lost. An act was passed for the gratification of the seamen both in point of pay and provisions; and subordination was restored at Spithead and Plymouth.

The grant of these claims encouraged the seamen at the Nore to insist on a more punctual discharge of arrears, a more equal distribution of prize-money, and a general abatement of the severity of discipline. A council of delegates was elected, at the head of whom was a seaman named Richard Parker, who took the command of the fleet. He prevailed upon the men to reject repeated offers of pardon. He robbed two merchant-ships of provisions, and obstructed trade by the detention of others; and he fired on some ships of war that refused to accede to the mutinous combination. An act of parliament was passed in the beginning of June, denouncing capital punishment against all who should hold intercourse with the rebellious ships, or voluntarily continue on board. As the public strongly disapproved of this last mutiny, for which no excuse could be offered, the seamen gradually returned to their duty. Parker was apprehended, and with several other mutineers was punished with death. A considerable number were condemned after trial, but the greater number were pardoned.

1035 Maritime operations. During the summer the port of Cadiz was blocked up by the British fleet under Earl St Vincent (formerly Sir John Jervis). An attempt was made against the Spanish

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Britain. Spanish island of Teneriffe, but without success. In the meanwhile another fleet, under Admiral Duncan, lay before the Texel. When he retired for a short time, the Dutch admiral De Winter sailed out. Intelligence of this event was immediately brought to Admiral Duncan at Yarmouth, who instantly put to sea, encountered the Dutch fleet near their own coast; and out of 21 vessels of different descriptions, captured seven sail of the line and two frigates. This event excited, as usual in such cases, the most lively joy in the British nation, from its tendency to put an end to all fears of invasion.

1036 Duncan's victory.

1037 The emperor forced to make peace.

While their allies, or rather subjects, were suffering these disasters by sea, the French armies triumphed on the continent. Bonaparte advanced from Italy against the centre of the Austrian dominions. After several sanguinary conflicts, he crossed the Alps, where they approach the frontiers of Hungary, and forced the emperor to conclude a preliminary treaty on the 18th of April, at Leoben. This was followed by a definitive treaty, signed at Campo Formio, near Udine, in Italy, on the 17th of October. The emperor acquired the city of Venice; but he relinquished the Milanese and the Netherlands, and, by secret articles, consented that the Rhine should be the boundary of France.

1038 Britain negotiates.

Britain was now left alone in that contest into which she had originally entered as a sort of auxiliary to Austria and Prussia. The British government, therefore, again entered into a negotiation towards the close of the summer. Both the French and British nations now eagerly wished for a termination to this sanguinary contest, and it is probable, that administration at last seriously wished to conclude a treaty; but by this time a violent party, headed by the director Barras, had gained the ascendency in France, and resolved to continue the war. A demand was therefore insolently made, that Britain should renounce every conquest as a preliminary to farther negotiation, while France reserved a right to make demands. On a refusal of compliance, the British ambassador, Lord Malmesbury, was dismissed from Lisle, where the negotiations had been held.

1039 Meeting of parliament.

Parliament assembled on the 2d of November. In the speech from the throne, his majesty expressed his concern, that his endeavours to restore peace had been rendered ineffectual. But he expressed the fullest reliance in the magnanimity and courage of a free people contending for their best interests, in a war in which they were compelled, by necessity, to persevere. During this session of parliament, few or none of the members of opposition attended. At the close of the preceding session the members of opposition had declared this to be their intention, and they justified their conduct in the following terms: "In times when every man who censures the conduct of administration is regarded as in league with the enemy, for what end should we incur so black a censure? If we declare our sentiments, we are proclaimed as the enemies of our king; if we tacitly acquiesce in the measures of the minister, we voluntarily take upon us a share of the responsibility. We have done our utmost to prevent the war; we have urged repeatedly the necessity of bringing it to a speedy termination: we have not persuaded our opponents. Events must now take their natural course: we cannot aid with counsel; it shall not be said, that we embarrass by opposition." This retirement of opposition, however, was much resented, and spoken of with great bitterness, by the friends of administration, as it had a tendency to suggest to the nation, the idea that government was conducted by the power of the crown alone, unchecked by the discussion of its measures by men of talents in the two legislative assemblies.

1040 Retreat of opposition.

The inability of the bank of England to pay upon demand its notes in specie, according to ancient custom, and to the terms of the obligation contained in these notes, appears now to have suggested to Mr Pitt some fear with regard to the funding system, and an apprehension, that from the immense sums annually borrowed, and the corresponding quantity of paper-money necessarily issued to pay the interest of the loans, the system might be carried too far, so as to discredit this paper-money issued in the name of the bank of England. This apprehension was strengthened by a fact, of which all persons were daily becoming sensible, that the money price of all kinds of property in Great Britain had rapidly risen during the war; and this rise of price was very justly ascribed to a gradual sinking in the value of money, (that is, of paper, the only money used in Britain) in consequence of its too great abundance. Mr Pitt therefore proposed, instead of borrowing the whole sum necessary to defray the expence of the war, and imposing no more taxes than were requisite to pay the interest of the loan, that heavier taxes should be imposed, to defray, by means of them, a portion of the extraordinary expenditure. Accordingly an act was passed with the view of raising seven millions within the year. This was to be done by augmenting, in a threefold proportion, and, in some cases, by raising to five times their former amount, the assessed taxes, that is, the taxes on houses, windows, male-servants, horses, and carriages; but so as not to compel any individual to pay more than one-tenth of his income. The leading members of opposition attended to oppose this extraordinary measure, but without effect.

As the French were now disencumbered from all other hostility, it was naturally expected that they would turn their arms in a more direct manner than formerly against the British empire. The result of the late combination of the states of Europe, for the partition of France, had been extremely disastrous, and had left the new republic in possession of an extent of territory which the ablest and most ambitious of the ancient French monarchs had in vain aspired to possess. The command which they had now obtained of Holland rendered France more dangerous than formerly, by the superior means of invasion which an additional extent of coast, and the possession of a large quantity of shipping, might afford; and had the French navy been less weak, or the French rulers possessed of greater ability, a dangerous crisis in the history of Great Britain might at this period have occurred.

It never was the interest of any British administration to conceal from the public at large, the possibility of a foreign invasion. As the French government at this time boasted of their intention to make such an attempt, and ordered a considerable army to advance to

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itain. to the sea coast, it seemed in some measure the duty of ministers in Great Britain, to make preparations to resist any such effort. Accordingly they readily came forward in parliament, to propose measures of defence; and the danger into which the nation considered itself as brought, obliged all men, in some measure, still to adhere to an administration, which, in other respects, might have lost all their popularity from the ill success of their late measures.

798. 044 nce On the 8th of February 1798, Mr Dundas moved in the house of commons for the introduction of a bill, to enable the king to incorporate in the regular militia a portion of the supplementary militia. The bill was passed with little debate. On the 27th of March, the same minister moved for leave to bring in a bill, to enable his majesty to take measures for the more effectual security and defence of these realms, and to indemnify persons who might suffer injury in their property by the operation of such measures. He stated, that the bill had several objects. Already some counties had expressed a wish to adopt measures in their nature similar; for instance, Dorsetshire. Propositions were made by the men of property, which induced the sheriff to hold several meetings; but, as from the nature of his office, he could only call out the *posse comitatus*, in cases limited by circumstances of mere local exigency, these meetings had no other effect, than that of giving a collected expression to the patriotism of that county. In other counties, the lord-lieutenants had done more; but it was doubtful whether they could go beyond certain bounds. It was, he said, the object of this bill to provide for every possible emergency, by giving a power to his majesty to discover who were the persons prepared to appear in arms to embody for their own defence. Another provision of the bill was to see what number of the inhabitants of certain districts would be able to act as pioneers, or in other laborious situations. Mr Dundas also remarked, that, in the crisis of real danger, some persons might be influenced by motives of personal safety, or the natural wish of preserving their property, which might lead individuals to withdraw from their country; the present bill, however, would provide, that should the property of individuals be destroyed by a marching army, or fall into the enemy's hands, or be taken for the service of the country, indemnification should be rendered according to its value. The other provisions were, that in the event of its being necessary to employ persons as pioneers to remove stock, or assist in facilitating the carriage of military stores, proper compensation would be made. The bill, he observed, was intended to give a power of embodying also a portion of the regular militia, and employing them in the defence of the country. Upon these broad principles of justice, he was confident, the spirit of the country could be exerted; and he believed that there was nothing that could better infuse confidence into a people, and make them feel that their security depended on the measures taken for their defence, than to enable them to unite to defend themselves.

The bill was enacted into a law after some unimportant debates. The principal members of opposition not usually attending, the persons who chiefly now appeared to oppose the measures of administration, were Mr Tierney, Mr Nichols, Sir William Pulteney, General Tarleton, and others, who had formerly been considered as occupying a less important place in the discussions of the legislature. Britain.

As it was supposed, that the war, on the part of Britain, would occasion greater expence than when all Europe had been engaged in it along with her, the supplies were augmented to 35,000,000l.; and, with a view to draw supplies from distant parts of the country, instead of raising large loans for the public service, which were negotiated in London alone, Mr Pitt brought forward a scheme, by which proprietors of land were enabled to redeem the land-tax; in other words, that the owner of land, and failing him, that any other person, should be permitted to purchase this tax, by a transfer of stock, which produced a dividend greater than the amount of the impost. The measure was enacted into a law, but produced little immediate effect. 1045 Redemption of the land-tax act.

1046 Navy-bill. On the 25th of May, Mr Pitt brought forward a bill in the house of commons, intended to increase the navy, with a view to resist, with greater success, the threatened invasion. On this occasion, an event occurred, which seemed to indicate, that by the long possession of power, and the uncommon support he had received from the nation, Mr Pitt had suffered to grow upon him a certain haughtiness of manner and impatience of contradiction, which, in former times, would have proved extremely inconvenient to a British minister. On the subject of his proposed bill, he said, that the object he had in view, was to suspend, for a limited time, the protections which various descriptions of persons enjoyed, to prevent them from being impressed into the service of the navy. It was his wish, he said, that the bill should this day pass through its different stages, with a suitable pause at each, if required, and that it should be sent to the lords for their concurrence. Mr Pitt concluded, by moving for leave to bring in a bill for the more speedy and effectual manning of the navy.

Mr Tierney said, the very extraordinary manner in which the right honourable gentleman called upon the house to adopt this measure, could not fail to create great alarm. He had imagined, that the augmentation of the navy was to be provided for in the usual way; or, if any very uncommon mode was to be resorted to for the attainment of that object, notice should have been given to the house. For his part, he had heard no arguments that proved its propriety; and even if he had, some time ought to have been allowed him to weigh the force of such arguments, before he proceeded to give three or four votes on a measure, of which no notice of any kind had been given. If the honourable gentleman persisted in hurrying the bill through the house in the manner proposed, he must give it his decided negative. Indeed, from what he had already seen, he must view all the measures of the ministers as hostile to the liberties of the subjects of this country.

The chancellor of the exchequer replied, that if every measure adopted against the designs of France was to be considered as hostile to the liberty of this country, then indeed his idea of liberty differed widely from that of the honourable gentleman. He observed, that he had given notice before of the present motion; and that, were it not passed in a day, those whom it concerned might elude its effects. But if

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Switzerland consists of a vast
precipitous mountains, situated in
divide the most important coun
each other. On one side, these
upon the fertile country of Ital
command the very centre of G
west they are bounded by Fra
have been inhabited by a virtuous
people, divided into petty comm
ed themselves with maintaining
dence; and though, as individua
the military service of the neigh
as a people, they had long ceased
the wars of Europe. For some
pendence of Switzerland proved t
independence of the neighbourin
ties respected and avoided any di
in a war against whom much
nothing could be won. Accordin
attacked the Austrians, and wh
tacked the French, the assailing
necessity of sending its armies to
the centre of its own power. It
homewards was long and difficu
ferably successful, the attack was
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was made in a remote quarter. F
the French generals, Moreau an
through Swabia and Franconia
the length of their march afforde
of attacking them with success
country had full leisure to call fo
ces against them. The result was,
was defeated, the retreat of the
almost impracticable; and hence
reputation acquired by Moreau, in
complishing it with success. Had
period, occupied Switzerland, the
would have been attended with no
by retiring into that rugged coun
have made a stand against a very
a considerable time, till he could re
from home. For the future, ther
cing a war of invasion against A
frontiers of France, but at the easte
Swiss mountains, the French, if suc
the gates of Vienna in a few wee
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stance from each other, had hitherto
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ld, at all times, set bounds t
rance; and, at the same time, a d
stility against the independence
ates.

In the meanwhile, the weakness
rendered it impossible for them
rious attack against the European
spire. The French government,
uble view of attacking the rich
in had acquired in Asia, and of re
litary officer, whose ambition was

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ous, formed a scheme of sending Bonaparte, Britain.
n army, to seize and colonize Egypt. To ac-
ıh the scheme with the greater safety, the threats 1052
ding England were loudly renewed. The troops French ex-
ıe coast were denominated the *army of England*, pedition to Egypt.
ırte was appointed their commander, and visit-
n in person: But he suddenly departed, and
ed at Toulon with a great army, before his in- 1053
ı were suspected in Great Britain. Malta was Sea fight at
ered to him on his passage. Departing thence, the Nile.
ed in safety in the vicinity of Alexandria, and
as master of all Egypt. Here, however, his
es terminated. He was closely pursued by a Bri-
t, under Admiral Nelson; and the French ad-
instead of putting to sea, having injudiciously
d at anchor near the shore, gave an opportu-
some of the British ships of war to run between
f his vessels and the coast, while others attack-
same vessels from the sea; and thus, by put-
n in succession between two fires, captured or
ed the whole, excepting two ships of the line,
ut to sea and escaped.

the time of the battle of Actium, by which 1054
reignty of the Roman empire was decided, no Its effects.
lctory was ever attended with consequences so
ıtely and obviously important as this. The
directory had concealed their intended enter-
ım the Ottoman Porte, which lays claim to the
nty of Egypt, but has never been able to make
fully effectual. The Grand Signior, however,
ed the present attempt as an act of hostility
himself; and the maritime victory above men-
encouraged him to declare war, in the name of
ıssulmans, against that host of infidels which had
d the land, from which the sacred territory of
is supplied with bread. In Europe, similar
uences took place. The irresistible career of Bo-
e had compelled Austria to submit to peace up-
ns which left France in a state of most danger-
grandizement. But the terrible Bonaparte, with
ıt part of his victorious army, was now held un-
ckade by the British fleet in a distant country.
pes of Austria began to revive, and there seem-
son to expect, that by renewing the contest, her
rank in Europe might be recovered. The
Naples entered into these views with great ea-
ı, and rashly went to war with France, without
patience to wait, and to follow the movements
greater powers.

empress of Russia was now dead, and was suc- 1055
by her son Paul. She had never contributed Russia joins
han her good wishes towards the war, which a new com-
ır powers of Europe had waged against France. bination against France.
son, a man of a furious and passionate charac-
unable to follow the same cautious policy, or
in a quiet spectator of the issue of a contest
the French republic, in which he considered
es as deeply interested. He was encouraged
aval victory gained at the mouth of the Nile,
emed to insure the absence of Bonaparte and
, to declare his willingness, so far as his fi-
would permit, to join in a new combination
France.

by the victory at the Nile, Great Britain

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the Turks and Russians. We
tual distrusts exceeded those of
reditary, it was implanted in the
ened by their education. The
of the Russians had uniformly
that Constantinople was to be
tance. It was with this view
son of the present emperor Cons
from a coalition of this sort, t
hopes of vigorous operations aga
were in earnest, why did we not
ern powers coming forward and
As to the Grand Signior, w
Porte? Turkey was the most h
upon earth, incapable not only
but of domestic defence, and in
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Lord Holland supported the
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The late glorious victory ought
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either in point of glory, in point of
of the popularity of the two govern
contest first began, the parties sta
upon equal terms; at present, ho
which could constitute advantage

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Britain. in view. We now were told of the vigour manifested by Russia and the Porte, a monstrous alliance between the Turks and Russians. We all knew, that their mutual distrusts exceeded those of other nations: it was hereditary, it was implanted in their nature, and strengthened by their education. The family upon the throne of the Russians had uniformly, cherished the notion that Constantinople was to be a part of their inheritance. It was with this view they named the second son of the present emperor Constantine II.; and it was from a coalition of this sort, that we were to derive hopes of vigorous operations against France. If Russia were in earnest, why did we not hear of the other northern powers coming forward and joining in the league. As to the Grand Signior, what was the Ottoman Porte? Turkey was the most helpless of all countries upon earth, incapable not only of external operations, but of domestic defence, and in a state of universal insubordination. Defeated in more than 30 attacks upon one rebellious pacha, unable to resist the rebellion of a subject, was it from such a country that we were to expect a vigorous co-operation; upon such a league that we could place our confidence? His lordship, therefore, urged the propriety of assuming the moment of victory, as the proper period, in which, without humiliation, we might safely testify a wish for peace.

Lord Holland supported the same sentiment. He said, that the speech from the throne held forth the probable success of a powerful confederacy against France. We had heard such language before; but we had only seen, in consequence of these confederacies, devastation extended over the surface of the globe, with less and less prospect of procuring tranquillity. The former confederacy of princes was the chief cause of the calamities produced by the French revolution. Experience might teach us, that it was impossible to derive any advantage to this country from them. We might recollect, that we never had an alliance with any of them, who had not deserted us. Austria, the most considerable, was only a drain upon us, and a temptation for the conquests of the enemy.

The late glorious victory ought to induce us to show a disposition for peace. It would not be humiliation, but magnanimity; nor would the people of this country fancy it was a degradation, if his majesty's ministers, in their name, would evince a pacific spirit. The people of England had no wishes inconsistent with the glory of their country; and he heartily regretted, that they had not their due weight in the government. Of the diminution of expence he saw but little probability; having observed, that in the years when we had the strongest assurances of retrenchment, our expenditure had increased the more.

On the contrary, Lord Mulgrave was surprised, that any Englishman should think that this was a moment for proposing peace, especially to such an enemy as we had to contend with. Reference to the fate of the former attempts, had little to do with the present. He demanded, whether the relative situation of the two countries were the same as at the beginning of the war either in point of glory, in point of finance, or in point of the popularity of the two governments. When the contest first began, the parties started as great rivals upon equal terms; at present, however, every thing which could constitute advantage was in our favour. In such a position of things, would it be wise to trust the moderation which the noble lord had so highly extolled? Ought we to rest our security upon the pacific disposition of the present rulers of France? Was it sound policy, at a moment when a prospect had arisen of securing the independence of Europe, to throw away our advantages, and seek, by crouching at the feet of France, a precarious, hollow, and fallacious peace, without endeavouring to turn the glory we had earned into a universal benefit to the world? Britain.

In support of the same sentiments, Lord Grenville stated, that the powers of the continent were at present willing to embrace a train of conduct suited to the protection of their independency; and was this a moment for England to show, that she was guided by little selfish politics? Instead of leaving Europe to its fate, and abandoning the victims of French dominion to their misery, it ought to be the business of Great Britain to animate their efforts, and contribute to their deliverance. It was the duty of ministers to promulgate this glorious purpose, to conciliate differences, to allay jealousies, and not, by reviving them, to prevent that co-operation which was so necessary to the general safety, and connected with the true interests of the country.

1060 New measures of finance.

As a prospect was now opened of reviving, upon a most extensive scale, the continental war against France, it became necessary to provide great pecuniary resources to subsidize the armies which were to be brought forward, especially by the Russians, the poverty of whose country could ill afford to sustain the expence of supporting armies in Italy or the banks of the Rhine. The same difficulties, however, or rather doubts concerning the prudence of carrying to its utmost length the British practice of borrowing money to defray the extraordinary expence incurred during each year of war, which had led to an augmentation of what are called the *assessed taxes*, still induced the minister to attempt to raise a proportion of the extraordinary or war expenditure within the year, not by a loan, but by taxes to the requisite amount. With this view, what was accounted a very bold measure was brought forward. This was a proposal for imposing a general tax upon the income of every individual throughout the nation. Mr Pitt stated, in the house of commons, his plan to be, that no one whose income was less than 60l. per annum should be obliged to contribute more than the taxes he already paid; but that every one who had an income of, or beyond, that amount, should be additionally burthened, some in the proportion of ten per cent. others at a lower rate. All who had 200l. a year, would be required to sign a declaration of their willingness to pay a certain sum, not less than a tenth part of their income, without particularizing the modes in which it accrued; and a scale of easy computation would be adjusted for the rest. If doubts of the fairness of a statement should arise, the commissioners might summon an individual before them, and demand upon oath a minute specification of income; and if, on a continuance of suspicion, full proof of accuracy should not be adduced, they might fix the amount of contribution. If they should require more than a tenth, no relief would be allowed, unless the books of the tradesmen, or the ordinary accounts kept by others, should be submitted to inspection. 1061 Income tax.

Having

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Britain. Having stated the outlines of his plan, Mr Pitt mentioned the data upon which he formed an estimate of its produce. He was of opinion, that the annual rent of all the land in England and Wales, amounted to twenty-five millions of pounds sterling; a sum which, by the allowance of a fifth part for the exceptions under 60l. and the modifications under 200l. a year, would be reduced to twenty millions. Six millions he thought might be assumed as the clear income of the land to tenants, the tithes might be valued at four millions, the produce of mines, canals, &c. at three, the rent of houses at five, and the profits of the liberal professions at two: on all these heads, it might be sufficient to allow an eighth part for Scotland, which would be five millions. Income drawn from possessions beyond seas might be stated at five; annuities from the public funds, at twelve; those of internal trade, mechanical skill, and industry, at twenty-eight millions. These calculations formed an aggregate of an hundred and two millions; and from this source about ten millions of supply were expected to arise.

1062 Defects of the income tax. The whole of this measure was opposed, without success, by Mr Tierney, Sir John Sinclair, Mr Pulteney, and others. Its chief defects were two: it was unequal in its principle, and, when carried into practice, occasioned much falsehood, with a view to evade it. Its inequality in point of principle is extremely obvious; because, under the tax upon income, a man without capital who earned 200l. per annum, by his industry, paid the same tax to government, with a man living in idleness, and enjoying a revenue of the same amount upon a land estate; though it is obvious that the wealth of two such persons, as well as the degrees in which they deserve public encouragement, are very different. In its collection this tax presented to merchants, and all other persons whose income depends upon their own industry, a powerful temptation to represent its amount as extremely low. It was expected, indeed, that the vanity of appearing wealthy and prosperous, would counteract this tendency; but it was soon found that, in a commercial community, the love of gain is not easily subdued by any other passion: and as a general understanding soon prevailed among men, with regard to each others feelings upon this subject, nobody regarded his neighbour as unprosperous, merely because he had reported his own income, to government, at a low rate.

1063 Union with Ireland proposed. The fear of a French invasion, had in a former age induced the English nation so far to vanquish their own prejudices, as to consent to an incorporating union with Scotland. The late rebellion in Ireland, together with the dread, that by means of French aid, Ireland might be dismembered from the British empire, as the American colonies had been, now produced a sense of the necessity of doing what ought to have been done three centuries before this date, that is, of uniting Ireland to Britain, by incorporating into one the heretofore distinct legislatures of the two islands. The measure was at this period very practicable, because Ireland was, in fact, under the dominion of 40,000 troops, who had been collected to crush the rebellion, and protect the island against the French; and because the friends of government were too much intimidated by the confusion, and the scenes of bloodshed, which had recently occurred there, to venture to oppose vigorously, a measure which promised to preserve for the future the tranquillity of the country inviolate. Britain.

On the 31st of January, Mr Pitt proposed the measure in the British house of commons. He said, that a permanent connexion between Britain and Ireland, was essential to the true interests of both countries; and that unless the existing connexion should be improved, there was great risk of a separation, he had strong reasons to believe. The settlement of the year 1782, he said, was so imperfect, that it substituted nothing for that system which it demolished, and it was not considered as final even by the ministers of the time. It left the two realms with independent legislatures, connected only by the identity of the executive power, a very insufficient tie, either in time of peace or of war, inadequate to the consolidation of strength, or the mutual participation of political and commercial benefits. The case of the regency exhibited a striking instance of the weakness of the connexion; and if the two parliaments had differed on the subject of the war, the danger of a disjunction would have been seriously alarming. The entire dissociation of the kingdom was one of the greatest aims of our enemies; and, as their eventual success on Ireland would expose Britain to extreme peril, the establishment of an incorporative union, by which their views might be effectually baffled, was a necessary act of policy. Great Britain had always felt a common interest in the safety of Ireland; but that interest was never so obvious and urgent, as when the enemy attacked the former realm through the medium of the latter. The French had shown by their conduct, that they deemed Ireland the most vulnerable part of the empire: and this consideration alone ought to enforce the adoption of a measure, which would tend to strengthen and secure that country. It ought to be noticed, that the hostile divisions of its sects, the animosities existing between the posterity of the original inhabitants and the descendants of the colonists, the rudeness and ignorance of the people, and the prevalence of jacobinical principles among them, had produced a state of distress, for which there was no cure, but in the formation of a general imperial legislature, free alike from terror and resentment, removed from the danger and agitation, uninfluenced by the prejudices and uninflamed by the passions, of that distracted country.

Among the advantages which would accrue to Ireland, from an incorporation with Britain, he mentioned the protection which she would secure to herself in the hour of danger; the most effectual means of increasing her commerce, and improving her agriculture; the command of English capital, the infusion of English manners, and English industry, necessarily tending to meliorate her condition: adding, that she would see the avenue to honours, to distinctions, and exalted situations in the general seat of empire, opened to all those whose abilities and talents enable them to indulge an honourable and laudable ambition. He farther remarked, that the question was not what Ireland would gain, but what she would preserve; not merely how she might best improve her situation, but how she might avert

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less negotiation, on the 11th of February a British army, under General Harris, invaded the territory of the Mysore, which they found in a bad state of preparation for war. After some slight engagements, the British army, on the 6th of April, encamped before Seringapatam. It was not till the 2d of May, however, that the besieging batteries began to make a breach. On the 4th, during the heat of the day, the place was stormed, and Tippoo himself perished fighting at one of the gates of the fort. His dominions were seized by the British, who bestowed a portion of them upon the Mahrattas, and the nizam their ally. A part was reserved under the direct sovereignty of the East India Company; and the remainder was nominally bestowed upon a prince of that family which had lost its power by Hyder's usurpation. The substantial authority, however, over this last-mentioned portion of Tippoo's dominions, was in truth retained by the British government. As the nizam himself soon became entirely dependent upon the British power, the whole peninsula of Indostan might now be considered, by the death of Tippoo, as brought under our government, with the single exception of the territory of the Mahrattas, which evidently could not long remain unsubdued. Britain.

1065 Continental war.

In Europe the present campaign was extremely eventful. The French directory had been more anxious to establish its own power at home, than careful to preserve the army upon the frontiers, and in the conquered countries, in a proper state of force and discipline. A French army, under General Jourdan, advanced into Swabia, in the month of March; but was encountered and beaten by a superior force, under the archduke Charles. The importance of the possession of Switzerland instantly displayed itself. The vanquished French army crossed the Rhine into Switzerland, and in that mountainous country, contrived to make a stand during the greater part of the summer. The Austrians advanced the length of Zurich, of which they obtained possession; but before they could proceed farther, the French armies were reinforced towards the end of the season, and were enabled in their turn to act offensively.

1066 Suwarrow's campaign.

In Italy the French acted unskilfully at the opening of the campaign. Instead of concentrating their forces, they attempted to retain possession of the whole of that country, and were thus in various engagements beaten in all quarters. The combined armies of Austrians and Russians were commanded by the Russian general Suwarrow, who pressed upon the French with incredible activity, carrying on a multiplicity of sieges at the same instant, bringing his troops together with wonderful celerity, when his enemy attempted to take advantage of the manner in which his forces were scattered. The result of the whole was, that before the campaign terminated, he had driven the French out of the whole of Italy, with the exception of Savoy and the Genoese territory. But this was not accomplished without a great loss of men in sieges and sanguinary conflicts. In these last the hardy warriors of the north suffered very severely. Their leaders depended more for success upon the intrepidity of their troops, and the promptitude with which they rushed into action, than upon the skilful dispositions with which they arranged their force, or harassed their enemy.

Hence,

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Britain. Hence, it happened that amidst all Suwarrow's victories, no instance occurred of any column of French troops being compelled to surrender without fighting, nor was any advantage gained but by the efforts of superior force exerted in open battle. Such a warfare, carried on against a single enemy by combined armies, could not be long successful. The Austrian officers complained loudly of their northern allies as men destitute of military skill, who wasted armies without a proportioned return of conquest; while, on the other hand, the Russians censured their associates as destitute of proper spirit, and as protracting the war by an ill-timed caution.

1067 Attempt to drive the French from Switzerland. The advantage derived by the French from the possession of Switzerland, had by this time begun to be understood. A resolution was therefore adopted of closing the campaign, not by sending Suwarrow from Italy into the south of France, but by directing him to turn his arms northward against the Alps. The archduke Charles had spent the summer in pressing upon the French in that quarter, but had been unable to advance beyond Zurich; he now departed with a division of his army towards Manheim and Philipsburgh, leaving considerable bodies of Austrians and Russians at Zurich. To assume the command of these troops Suwarrow advanced from Italy at the head of 18,000 men. His views however were anticipated by the French general Massena, who finding the archduke Charles and Suwarrow at the distance of more than a day's march on his left and right, instantly attacked the

1068 The Russians defeated. troops stationed near Zurich. The Austrians perceived the hazardous nature of their own situation, and retreated out of Switzerland with only a moderate degree of loss. But the Russians, from an ill-judged contempt of their enemy, from their own ignorance of the country, and want of skill in the art of conducting war in it, maintained their ground till they were hemmed in on all sides. They attempted to resist the French, as they had often resisted the Turks, by forming a hollow square of great strength; but neither this nor their own courage afforded any safety against the flying artillery of their enemy, in the face of which an iron front of bayonets was in vain presented. Their order was at last broken, and their retreat was extremely disastrous; Suwarrow was in the same instant advancing rapidly to their relief; but a victorious enemy turned quickly upon him, and attempted to encompass him on all sides. By great activity he effected his escape with about 5000 of his troops, in want of every thing, and retaining only the musquets in their hands.

Thus terminated on the eastern side of France this very active campaign. The allies remained masters of Italy; but France was still enabled to menace that country, as well as Germany, by retaining possession of

1069 Invasion of Holland by the British. Switzerland. In the meanwhile, the British attempted with the aid of Russian auxiliaries to drive the French out of Holland. On the 27th of August, a landing was effected under Sir Ralph Abercromby at the mouth of the Texel. The Zuyder sea was immediately entered by a British fleet, under Admiral Mitchell. The Dutch admiral, Story, surrendered the fleet under his command, alleging that his men refused to fight. The ships were 12 in number, and eight of them mounted from 54 to 74 guns. Here, however, the effectual success of the expedition terminated. The duke of York afterwards assumed the command, and forces amounting to 35,000 men were sent over. But it was soon discovered that the invasion had been ill concerted. To have afforded a prospect of success, the invading army ought to have landed in the vicinity of Rotterdam, which is full of Scotchmen, and where the supporters of the stadtholder were numerous; and to have advanced rapidly into the centre of the country, to encourage the numerous enemies of the French to stand forward in their favour. Instead of this, the army was set ashore at the extremity of a long and narrow neck of land, having the sea on both sides, where the French and Dutch found it no difficult matter to obstruct their progress with a handful of troops during a great length of time. Their difficulties were increased by the unusual wetness of the season, which greatly injured the roads. The British commander was at length under the necessity of withdrawing his troops to the point at which they originally landed; and a convention was entered into, by which it was stipulated on the one hand, that he should not injure the country, and that a number of French prisoners in England should be released; while on the other hand, it was agreed that the duke of York should be permitted to retreat unmolested. Britain.

1070 Usurpation of Bonaparte. At the end of this campaign, the French government underwent a new change at home. Bonaparte after the conquest of Egypt, had invaded Syria; but found his career stopt at Acre by the Turkish governer of that town, assisted by the British under Sir Sidney Smith. Having returned into Egypt, and destroyed a Turkish army, Bonaparte ventured upon a step which is without example in the history of modern Europe. He had heard of the great reverses which the French armies had suffered in the early part of the campaign, and of the general discontent which prevailed throughout the nation in consequence of these misfortunes, and he resolved to try his fortune amidst the present troubled state of public affairs. With this view, along with a party of select friends, he secretly stole away from his army in a small vessel, leaving his troops blockaded by a British fleet in a barbarous country. The unexpected arrival in France of an officer who had never fought in Europe without success, was welcomed by the public at large as a most happy event; and in the first moment of joy, little inquiry was made about the manner in which he had forsaken his army, which in any other circumstances would have been regarded by a military people as one of the greatest of crimes. Finding a party willing to second his views, Bonaparte took advantage of the satisfaction occasioned by his arrival, together with the discontents arising from the corruption and mismanagement of the directorial administration, to usurp the government, and to dissolve the representative legislature.

1071 Parliament assembles. The British parliament was assembled so early as the 24th of September, for the sake of providing for the expences and augmentation of force, thought necessary to give effect to the invasion of Holland, of the success of which sanguine hopes were at that time entertained. The speech from the throne began with recommending the propriety of permitting to a very considerable

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Britain. considerable extent, the acceptance of the voluntary service of the militia to augment our force abroad. It stated that our prospects under providence had been improved beyond the most sanguine expectation; the deliverance of Italy might now be considered as secured by a campaign, equal in splendour and success to the most brilliant recorded in history.

The kingdom of Naples had been rescued from the French yoke, and restored to the dominion of its lawful sovereign.

The French expedition to Egypt had been productive of calamity and disgrace, whilst its ultimate views against our eastern possessions had been utterly confounded; the desperate attempts which our enemies had made to extricate themselves, had been defeated by the courage of the Turkish forces, directed by the skill, and animated by the heroism, of a British officer; and the overthrow of that restless and perfidious power had placed the British interests in a state of permanent security.

There was every reason to expect that our present efforts for the deliverance of the United Provinces would prove successful. We had rescued already the principal port and naval arsenal of the Dutch republic from the enemy; and might hope that the skill of our generals, and the intrepidity of our troops, would soon with the assistance of our allies surmount every obstacle, and that the fleet destined under the usurped dominion of France to invade these islands, would, under its ancient standard, restore the religion, liberty, and independence of provinces so long in alliance with this country.

To our good and faithful ally the emperor of Russia, whose wisdom and magnanimity directed the force of his extensive empire to so many quarters of Europe, we were in a great measure indebted for the favourable change in the general posture of affairs. In pursuance of the recommendation of the British parliament, his majesty had communicated their sentiments to both houses of parliament in Ireland, respecting an union with that kingdom, which would add so much to the security and happiness of his Irish subjects, and consolidate the strength and prosperity of the empire.

In consequence of the recommendation from the throne, an act was passed, authorising his majesty to receive into the army volunteers from the militia regiments; and some measures of finance were adopted: but government having received intelligence of the failure of the expedition against Holland, parliament was suddenly adjourned for some time. In the mean while, affairs on the continent began to assume an unpropitious aspect. The emperor of Russia, from his extreme vehemence of character, was led to entertain a very violent degree of discontent, on account of the defeats sustained by his troops in all quarters towards the close of the campaign. He became dissatisfied with his allies, and there was reason to dread that his irascible and unreasonable temper might lead him not merely to desert but to quarrel with them. In the mean while, Bonaparte, under the title he had assumed of *Chief* or *First Consul of the French republic*, resolved to signalize his acquisition of power, by what was now become a very popular measure in France, an attempt to procure peace. He thought fit, with this view, to address a letter, signed by himself, to the king of Great Britain. In this letter he announced his own appointment to the office of first magistrate of the republic. He asked, "Is the war which for eight years has ravaged the four quarters of the world to be eternal? Are there no means of coming to an understanding? How can the most enlightened nations of Europe, powerful and strong beyond what their safety and independence require, sacrifice to ideas of vain grandeur, commerce, prosperity, and peace? How is it that they do not feel that peace is of the first importance, as well as the highest glory?

Britain.

1072 Letter from Bonaparte to the king.

"These sentiments cannot be foreign to the heart of your majesty, who reigns over a free nation, with the sole view of rendering it happy. Your majesty will see in this overture my sincere wish to contribute efficaciously for the second time to a general pacification, by a step speedy, entirely of confidence, and disengaged from those forms which, perhaps necessary to disguise the dependence of weak states, prove in those that are strong only the desire of deceiving each other.

"France and England, by the abuse of their strength, may still for a long time, for the misfortune of all nations, retard the period of their being exhausted; but, I will venture to say, the fate of all civilized nations is attached to the termination of a war which involves the whole world." This letter was transmitted through the medium of an agent of the French government, who resided at London for the sake of managing the exchanges and other affairs relative to prisoners of war. Lord Grenville, as secretary of state for the foreign department, informed the agent who had transmitted Bonaparte's letter, that his majesty could not depart from the usual forms of transacting business, and therefore, that the only answer to be returned, would be an official note from himself. In this note, his lordship stated, that the king wished for nothing more than to restore tranquillity to Europe; that he had only made war in defence of his people, against an unprovoked attack; but that it would be in vain to negotiate while the same system continued to prevail in France which had ravaged Holland, Switzerland, Germany, and Italy. "While such a system therefore prevails, (continued his lordship); and while the blood and treasures of a powerful nation can be lavished in its support, experience has shewn, that no defence but that of open and steady hostility can be availing. The most solemn treaties have only prepared the way to fresh aggression; and it is by determined resistance alone, that whatever remains in Europe of stability, for property, for personal safety, for social order, or the exercise of religion, can be preserved. For the security, therefore, of these essential objects, his majesty cannot place reliance on the mere renewal of general professions of pacific dispositions. Such professions have been repeatedly held out by all who have successively directed the resources of France to the destruction of Europe, and whom the present rulers have declared all to have been incapable of maintaining the relations of amity. Greatly will his majesty rejoice whenever it shall appear, that the danger to which his own dominions and those of his allies have been so long exposed, has really ceased; whenever he shall be satisfied that the necessity of resistance shall be at an end, and after so many years of crimes and miseries, better principles have prevailed, and the gigantic projects of ambition, endangering the very

1073 Lord Grenville's answer.

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Britain. be admitted into the state of the negotiating prince, that she might then undermine his throne by corrupting the principles of his subjects. The duke of Tuscany was among the early sufferers by a treaty. He strove to conform his conduct in every respect to the views of France; but at the moment when she pledged her honour for the security of his state, he saw the troops of his ally enter his capital, the governor of that city imprisoned, his subjects in a state of rebellion, and himself about to be exiled from his dominions. It was to this prince, however, that the republic repeated her assurances of attachment. That very republic, which sought not conquest, which declared she would not interfere with the government of other states, deposed the sovereign and gave democracy to the Florentines. A similar conduct had been observed towards the king of Sardinia, the king of Naples, and the republics of Venice, Genoa, and Switzerland. He repeated the assertion, in which he had always persevered, that France had been the original aggressor in the war. His lordship next proceeded to investigate the character of the present ruler of the French nation.

He remarked, that General Bonaparte, in the third year of the republic, imposed upon the French, by the mouth of the cannon, that very constitution which he had now destroyed by the point of the bayonet. If a treaty was concluded and broken with Sardinia, it was concluded and broken by Bonaparte; if peace was established and violated with Tuscany, it was established and violated by Bonaparte; if armistices were ratified and annulled with Modena, and the other petty states of Italy, they were ratified and annulled by Bonaparte; if that ancient republic, Venice, was first drawn into a war, and compelled afterwards to conclude a treaty, it was that Bonaparte might more easily overthrow her constitution, and annihilate the political system by which she had existed with glory and security for ages past; if the government of Rome was subverted, it was subverted by Bonaparte; if Genoa was reduced to the same humiliating situation, her wealth and independence were sacrificed to Bonaparte; if Switzerland, deluded by offers of peace, was induced to surrender up her rights and liberties, she was deprived of them by Bonaparte. But to examine that part of his conduct which is diplomatic, and passing over his rapacities, and the cruel massacres which were perpetrated by his orders, let us review his professions to the Porte: he solemnly declared, that he had no intention of taking possession of Egypt; whilst he declared to his own generals that this was his intention, and to the people of Egypt that it was with the consent of the Porte. He had multiplied violations of all moral and religious ties; he had repeated acts of perfidy; his hypocrisies were innumerable, and in that country where he had affirmed the French to be true Musulmans, he had given us a correct idea of his sincerity and his principles.

Being thus provided with so many unquestionable pledges of his future integrity, was it illiberal or impolitic to suspect a man, who, having overturned the government of his own country, as he had done that of others, now came forward with offers of pacification. If the interest of Bonaparte were deeply concerned he might be sincere, and there was no doubt but it was his interest to consolidate his power; but it ought not to be forgotten, that whenever any acts of atrocity were to be accomplished by the French, they had been usually effected by a suspension of arms. The proposed negotiation would relieve her from the present pressure of alarming difficulties, and could not relieve England from any; the ports of France, which were now blockaded by our fleet and cruisers, would be thrown open to introduce naval stores, and a variety of necessary articles, of which the country was in want; fleets would be sent to bring back the troops which were now deprived of all intercourse with the republic, and which might then be employed in augmenting the numbers of the French armies. To us a suspension of arms could not be productive of any benefit whatever; our ports were not blocked up, our commerce was not interrupted; and it also should be considered, that there would be no security for the maintenance of such a suspension. Was Bonaparte now prepared to sign a general peace? If he were not, he could not be sincere in his offers. It was necessary for him to keep an army of 60,000 men to preserve tranquillity in the interior of France; every act of his government was supported by force; and if he even were sincere, it was hazarding too much to hazard all on his single life. What reliance could be placed on the unanimity of the French people? Were we destitute of hope from the change which had recently taken place in the persons employed in public offices? Men of the blackest characters had been appointed to situations of the greatest trust; men infamous for professed principles of anarchy, had been raised to places of confidence and power; and those who were judges in the sanguinary tribunals of Robespierre, were now exalted to a distinguished rank in the republic: whilst, therefore, the jacobin system prevailed in France, there was no security for England but by a vigorous prosecution of hostilities.

His lordship concluded by disclaiming, on the part of administration, any wish to consider the restoration of the French monarchy as the object of the war; he considered the restoration of monarchy as the best, the surest and speediest, but not as the only means of restoring peace: his majesty, he said, would not hesitate to treat with any form of government capable of preserving the customary relations of amity; but to commence a negotiation which would not be likely to terminate in peace, would be dishonest and fruitless.

The duke of Bedford opposed the secretary's motion for the address. He contended, that all the objections against negotiation might have been urged against the negotiations which the ministers themselves had formerly opened at Lisle. He considered the conduct of the British government, on the present occasion, as unwise; because provoking and unconciliatory. He thought, that, in a correspondence with the present French government, all discussion about the original commencement of the war ought to have been avoided. Whether England or France were the first aggressor, was a question to be reserved to posterity; it was natural for each country to throw the imputation off their own shoulders, and avoid not only the execration of the present age, but the curse of posterity. The wild scheme of restoring the French monarchy, with the *obje gua*

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1077. Debate in the house of commons on the correspondence.

In the house of commons, Mr I
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ritain. he could succeed. What does the note allow him to do. He would find that the restoration of the hereditary line of kings was the only case in which a speedy peace would be admitted as possible; in fact, therefore, this restoration was the *sine qua non*, in which immediate negotiation was admissible with ministers. Now let us examine this condition of peace in two points of view. Was it desirable in itself? Would it remove the objections urged to negotiation? Surely if the ambition of the republic was so formidable, we could not forget this ground of apprehension, when we talked of restoring the house of Bourbon. Had we forgotten their proverbial ambition, and was their restoration the remedy for evils arising from such a source? We had now taken up the principle, so much objected to jacobins, of distinguishing between the people and their government; but what was the conduct of the French? Bonaparte distinctly renounces this principle in the letter to the king, and acknowledges the title and the character of his majesty's government. The note of our ministers was a manifesto to the royalists, and formed for that purpose. It spoke of the miseries of France; but the miseries of France were not the causes of the war: they might interest our humanity, but were not to be urged as motives in diplomatic papers. As little had we to do with the internal miseries of the republic, as Talleyrand would have to retaliate, by reproaching us with the test act, the want of parliamentary reform, assessed taxes, or any other of our grievances.

Lord Holland asserted, that the people at large disapproved of the abrupt rejection of Bonaparte's overtures; and if it afterwards should appear, that he was sincere, how would their lordships reconcile it to their consciences, to have prolonged by their sanction the calamities of war, without any motive of honour, interest, or security? He therefore gave his decided support to the amendment.

The earl of Carnarvon said, he would not consider the answer of our ministers as a refusal to treat for peace, or a declaration of eternal war; it was, as the secretary of state had termed it, a call upon the house and the country, to pause before they rashly suffered themselves to enter into a negotiation with an unsettled government. He did not expect any extraordinary faith to be manifested by Bonaparte, more than by any other chief or chiefs: but although he should be best pleased with the restoration of monarchy in France; in all times, in monarchies as well as republics, aristocracies, and every other species of government, good faith in treaties was preserved, and exemplified, only so long as it was the interest of the parties to maintain it. So little integrity had history left on record, that at the very time they were signed, a secret intention was often indulged to violate them at a particular period. The address, as moved by Lord Grenville, was carried by a majority of 79 against 6.

1077 bate in house ommons the cor- pond- e.

In the house of commons, Mr Dundas moved a similar address, which gave rise to a similar debate. Mr Dundas said, that the leading feature of the French revolution was a disregard of all treaties, and a contempt for the rights of other powers; in proof of this assertion, he considered it as necessary, merely to recite the names of Spain, Naples, Sardinia, Tuscany, Genoa, Geneva, Modena, Austria, Prussia, England, and Egypt, with Denmark and Sweden, [illegible] at all times neutral states. He conceived, that Britain had not at this time any reasonable cause to suppose that a change of principles had taken place. The jacobinical form of government was at an end indeed; but, in substance and essence, all the qualities of the revolutionary government were in as full force at this moment as they were in the days of Robespierre. All power was now consolidated and concentered in the hands of Bonaparte; and the nation stood with a military despot at its head, invested with unlimited authority to revive the practice of forced loans and requisitions, to wield the force of the state as he pleased, and resort to all the resources of the revolutionary government.

Under these circumstances, overtures are made for peace. This proposition ministers have thought proper to reject, assigning as the cause, that, as all the former attempts had proved abortive, or, if successful, were followed by violation, nothing yet presented itself which ascertained security. In the first place, we were not assured of the sincerity of the offer, and in the second, of its permanency. There were certain circumstances which inspired confidence in states, as the character of the king of a country, the conduct of his ministers, the general laws of the government; but was there one of these criteria to be found in the present case? If there were none of them to be found, it rested solely on the assertion of the party himself declaring he was of a pacific disposition, accredited by his minister Talleyrand; for to him he had referred to vouch for his character. It was not, however, the business of this country, to judge the private character of Bonaparte; at the same time, he must confess, that he had an old prejudice hanging about him, so as to induce him to regard the blasphemer of his God, as not the person with whom he would wish to treat. But, waving these objections, he was to be considered in the character in which he forced himself upon the house, namely, as professing a pacific disposition, and proposing a negotiation with us. Here Mr Dundas particularized, with much severity, the conduct of Bonaparte, in the various kingdoms and states which he had before named; and concluded with observing, there was not a single one with which he had not violated his faith; and affirmed these to be strong reasons for withholding confidence, and rejecting treaty. Mr Dundas contended, that a negotiation at this period would be equivalent to a desertion of our allies, and would surrender the continent of Europe to France; that we should uphold the usurpation of Bonaparte, while at the same time, we could have so little confidence in his good faith, that even, were the negotiation to terminate successfully, Great Britain could not venture to disarm.

Mr Whitbread asserted, that, had it not been for the interference and ambition of the other powers of Europe, the French revolution would have assumed a very different character from that which it now possessed. He remarked, that other powers had treated neutral states no less unjustly than had been done by the French; Lord Harvey and Lord Hood had ordered the French ministers to be dismissed from Florence, and by threats we had compelled Genoa to dismiss her French inhabitants.

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tants. He compared Bonaparte with Suwarrow, and the invasion of Egypt by France, with that of Poland by Austria, Russia, and Prussia, whose friendship we had frequently courted.

Mr Thomas Erskine entered at great length into the question, upon which he himself had previously published a pamphlet, whether France or Great Britain had been guilty of the original aggression in the war. He contended that the British government had unnecessarily engaged in it, and persisted without necessity; and strenuously resisted the propriety of giving any approbation to the part which administration had acted in the late correspondence.

Mr Pitt on the other hand asserted, that the French leaders had themselves begun the war, on the principle that it was necessary to consolidate the revolution. With regard to the proposal to negotiate with their present leader, he said that it was impossible to discuss fairly its propriety, without taking into consideration his personal character and conduct. Some gentlemen indeed had represented this as irritating and invidious; but no minister could discharge his duty, without stating the principles and dispositions of the person with whom we were to treat, since the stability of the treaty must depend on these circumstances. Mr Pitt here expatiated on the conduct of Bonaparte at Campoformio, in the Milanese, Genoa, Modena, Tuscany, Rome, Venice, Switzerland, and Egypt: his arts of perfidy, he said, were commensurate with his number of treaties; and if we traced the history of the men in this revolution whose conduct had been marked by the most atrocious cruelty, the name of Bonaparte would be found allied to more of them than that of any other within these ten eventful and disastrous years.

From those facts the house might judge what reliance might reasonably be placed on this conqueror, and what degree of credit might be given to his professions. It had been observed, indeed, that whatever had been his character, he had now an interest in making and preserving peace. This was to him a doubtful proposition; that it was his interest to negotiate he readily would acknowledge, and to negotiate with this country separately, in order to dissolve the whole system of the confederacy on the continent; to palsy at once the arms of Russia, of Austria, or of any other country which might look to us for support; and then either to break off his separate treaty; or if he should have concluded it, to apply the lesson taught in his school of policy in Egypt, and to revive at his pleasure those claims of indemnification, which may have been reserved to some happier period.

Under all these circumstances of his personal character, and his newly acquired power, what security had he for retaining that power but the sword? His hold upon France was the sword, and he had no other. Was he connected with the soil or with the habits, the affections or the prejudices of the country? No: he was a stranger, a foreigner, and a usurper. He united in his own person every thing that a pure republican must detest; every thing which an enraged jacobin had abjured; every thing which a faithful royalist must feel an insult. If he was opposed in his career, he appealed to his army. Placing then his whole dependence on military support, could he afford to permit his military renown to pass away, his laurels to wither, and his trophies to sink in obscurity? Was it certain that with his army confined within France, and restrained from inroads upon her neighbours, he could maintain at his devotion a force sufficiently numerous to uphold his power? Having no object but dominion, no passion but glory, was it probable that he could feel such an interest in permanent peace as would justify our laying down our arms, reducing our expence, and relinquishing our means of security, on the faith of his engagements?

But was the inference to be drawn from these considerations, that we ought in no case to treat with Bonaparte? No: but we ought to wait for the evidence of facts. If there should be an appearance that France was governed by other maxims of policy from those which had hitherto prevailed; when there were signs of a stable government, which were not now to be traced; if the danger of the contest should increase, whilst the hope of ultimate success should be diminished, all these would have their due weight: but at present there was nothing from which we could presage a favourable disposition to change in the French consul. There was the greatest reason to rely on powerful co-operation from our allies; the strongest marks in the interior of France of a disposition to resist this new tyranny; and every reason to believe, that if we were disappointed of complete success, the continuance of the contest, instead of making our situation comparatively worse, would have made it comparatively better.

It might be necessary, Mr Pitt remarked, to take notice of the negotiation at Lisle in 1797, to which allusion had been frequently made by the opponents of administration. The jacobin system of prodigality and bloodshed, by which the efforts of France had been supported, had at that period driven us to exertions which had exhausted the ordinary means of defraying our immense expenditure, and led many who were convinced of the necessity of the war to doubt the possibility of persisting in it. There seemed too much reason to believe, that without some new measure to check the accumulation of debt, we could no longer trust to the funding system, by which the nation had supported the different wars in which we had been engaged during the present century. The general and decided concurrence of public opinion was necessary in order to prosecute our plans with vigour. Under this impression we negotiated, not from the sanguine hope that its result would be permanent security; but from the persuasion, that the danger arising from peace in these circumstances would be less than the continuance of war with inadequate means. Those negotiations have fully proved, that the enemy would be satisfied with nothing less than the sacrifice of the honour of our country; and from this conviction a spirit and enthusiasm was excited in the nation which produced the subsequent happy change in our situation.

Mr Fox asserted, that France undoubtedly at the commencement of the war was the defending party: the aggressions of Austria and Prussia could not be denied by any impartial person; nothing could be more decidedly hostile than their proceedings; they scrupled not to declare to France, that it was her internal concerns, not her outward actions, which provoked them to confederate against her: they did not pretend

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Britain. pretend to fear her ambition, her conquests, her troubling her neighbours; but they accused her of new-modelling her own government. In all this he was not seeking to justify the French, either in their internal or external policy; on the contrary, he thought their successive rulers had been as execrable, in various instances, as any of the most despotic and unprincipled governments which the world had ever seen; and it was impossible that it should have been otherwise: men bred in the school of the house of Bourbon, once engaged in foreign wars, would naturally endeavour to spread destruction, and form plans of aggrandisement on every side; they could not have lived so long under their ancient masters, without imbibing the insatiable ambition and restless spirit, the perfidy and the despotism, inherent in the race; they had imitated their great prototype; and through their whole career of crimes, had done no more than trace the steps of their own Louis XIV. Are we for ever, continued Mr Fox, to deprive ourselves of the benefits of peace, because France has perpetrated acts of injustice? With the knowledge of these acts, we had treated with them twice; and ought not now to refuse to do so; much less ought we to regard any improper language which the French leaders have used. Bonaparte had declared the two governments of Great Britain and France could not exist together, and deputed Berthier and Monge to make known this sentiment to the directory after the treaty at Campoformio. And had not Mr Pitt declared the same thing in that house. If we were to bring up all the idle speeches of the French, and they were to repeat ours, there would be no end to these reciprocations of animosity. Much, Mr Fox remarked, had been said of the short-lived nature of military despotism; yet such was the government erected by Augustus Cæsar, which endured 600 years. Indeed it was too likely to be durable wherever it was established. Nor was it true that it depended on the life of the first usurper; half of the Roman emperors were murdered, yet the tyranny continued; and this, it was to be feared, would be the case in France. Neither would it make any difference in our relation with that country if Bonaparte were removed, because the purchasers of confiscated property, amounting, it was said, to one million and a half of persons, must prove an insurmountable obstacle to the restoration of the ancient monarchy and the nobility. Mr Fox concluded by remarking, that if administration wished to include the allies of Britain in the proposed negotiation, they should have said so to Bonaparte, and not have insisted upon keeping him some time longer at war, as a state of probation; but the fact appeared to be, that contrary to the wishes of administration, the people of England were friends to peace, and hence ministers were apprehensive that Bonaparte might agree to their proposal, and thereby deprive them of all pretext for the continuance of hostilities. The address was carried upon a division of 260 against 64.

1078 on with and ed.

The great measure of a legislative union with Ireland was carried into effect during the present session of parliament. Administration had found it necessary to delay this interesting affair, in consequence of the strength of the opposition to it in the Irish parliament; but during the recess they had obtained a more ample majority. The British parliament, upon Mr Pitt's motion, had passed resolutions in favour of the union. The business was formally introduced to the Irish parliament on the 5th of February 1800, by a message from the lord-lieutenant, in which his excellency stated, that he had it in command from his majesty, to lay before the houses of legislature, the resolutions of the British parliament; and to express his majesty's wish, that they would take the same into their most serious consideration, &c. After a long and spirited debate, the ministry prevailed, by a majority of 43, for taking his majesty's message into consideration on the Wednesday following. The distinguished abilities of Mr Grattan, which had been voluntarily cast into obscurity, were once more brought before the public on this interesting occasion. In a debate, which took place on the 17th of February, on proposing the first article of the union, he opposed the measure with such a degree of vehemence, that the chancellor of the exchequer accused him of associating with traitors, and of disaffection to the government. The reply of Mr Grattan was so pointed and severe, that the chancellor conceived himself under the necessity of resenting it by a challenge: five shots were exchanged, and the chancellor (Mr Corry) was wounded in the arm. The question, however, was carried by a majority of 161 against 115, and as the discussion proceeded, the numbers of opposition appeared to diminish. The last struggle, as it may be deemed, was made on the 13th of March, when Sir John Parnell moved to petition his majesty to call a new parliament, in order that the sense of their constituents might be more fully ascertained; but this motion was overruled by a majority of 46. In the mean time, the business proceeded with little opposition in the house of lords, and on the 24th of March that house adopted the whole of the articles of union with a few alterations. On the Friday following both houses waited on his excellency with a joint address to that effect, which was afterwards transmitted to Great Britain; and no time was lost by the ministers in submitting the measure anew to the British parliament.

1079 Debate in Ireland about their union.

On the 2d of April, a message from his majesty was presented to each of the houses of the British parliament, communicating the resolutions of the Irish parliament in favour of an entire union between the two kingdoms, and recommending the speedy execution of a work so interesting to the security and prosperity of the British empire.

1080 Debates in Britain on the Irish union.

In the house of lords the measure was opposed by Lord Holland, chiefly for this reason, that an union at the present period was not the spontaneous offer of the parliament of Ireland, uninfluenced by corruption or menace. The whole articles of the union were afterwards moved, and carried, in a committee of the house, after some debates of no great importance.

In the house of commons similar debates occurred. Mr Pitt stated, that the principal article in the treaty, that of the share of representation which Ireland was to have in the united parliament, was founded upon a comparative statement of the population of both kingdoms, as well as the revenue of both. The number of members, fixed for the counties and two principal cities, was 68; and those for the most considerable

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Britain. considerable cities, towns, and boroughs, were regulated at 31, who would be selected without partiality. Having adverted to the article respecting the number of representatives for the commons of Ireland, on the ground that they could afford no cause of suspicion as to any increase of the influence of the crown, he next adverted to the arrangements respecting the house of peers, and the members to be returned; and said, as the members for the commons of Ireland were nearly double in number to those of Scotland, the same rules would be observed with the peerage, which therefore was to consist of 32 members. It was also understood, that such peers of Ireland as might not be among the 28 temporal peers, should be allowed to sit in the united parliament until elected. Such a measure, in his opinion, could not be thought unconstitutional. He remarked, that the only article, consisting of minute details, related to apportioning the shares of the revenue of each country respectively. He said, it was a circumstance much to be wished, that the finances of both countries were so nearly alike, that the system of both could be identified; but, as from the different proportions of debt, and the different stages of civilization and commerce, and the different wealth of the countries, that desirable object was rendered impracticable, he contended, however, that the advantage of an union ought not to be deferred, because it could not at once be carried to its full extent.

Mr Grey opposed the union in the present state of affairs. He said, that it had been asserted, in a speech of the lord-lieutenant to the Irish parliament, that five-sevenths of the country, and all the principal commercial towns, except Dublin, had petitioned in favour of the union. He said, this only meant, that 19 counties had presented petitions, and that these counties constitute five-sevenths of the surface of Ireland. He admitted the petitions in favour of the union; but by what means were they obtained? The lord-lieutenant who, besides being the chief civil magistrate, is commander of a disciplined army of 170,000 men, who is able to proclaim martial law when he pleases, and to establish the military trial of a court-martial, in his progress through the kingdom, procured these petitions, which, he said, were signed by few names, and those by no means the most respectable. Fortunately, said Mr Grey, there were many petitions on the other side, which were not obtained by solicitation and at illegal meetings, but at public assemblies, of which legal notice had been given. Twenty-seven counties had petitioned against the measure. The petition from the county of Doune was signed by 17,000 respectable independent men; and all others were in a similar proportion. Upon this Mr Grey spoke at some length, and begged the attention of the committee, while he adverted to some of the favourite arguments of unionists. Their grand source of argument, he said, was the experience of the benefits derived from the union with Scotland. He had attended to that point, and he could see, after the most mature deliberation, no analogy between the circumstances of the Scotch union and those which called for an union with Ireland, nor could he apprehend that the same consequences would follow from them. In the union between Scotland and England, there was no physical impediment; the relative situation of the two countries was such, that the king himself could administer the executive government in both: there was no occasion for a separate establishment being kept up such. The great difference, said Mr Grey, between Scotland and England, was not between people and people, but between parliament and parliament. The Scots had prohibited the importation of English goods into Scotland; they had established a trading company, which interfered with the colonial arrangements of England, and nearly embroiled her with Spain; they had refused to limit the succession of the crown, and even enacted, that it should not descend to the same person with the crown of England. An act was about to have been brought into the English parliament, to render all Scotsmen aliens, and another to fit out a fleet to attack all Scots vessels they should fall in with. Here, Mr Grey observed, there was no alternative but union or war. If the union should, in this case, be carried into effect notwithstanding the general disapprobation of the people, he wished that it might tend to strengthen the connection between the two countries, as much as he believed in his conscience, that it threatened the only solid bond of connection, that of affection and kindness, and that it must prove injurious to the real power of the state. Mr Grey concluded, by moving an address to his majesty, requesting a suspension of all proceedings relative to the union, till the sentiments of the people of Ireland could be ascertained.

Mr Sheridan represented the measure as an act of tyranny towards the people of Ireland, which must become the fatal source of new discontents and future rebellions. Mr Grey's motion was rejected, on a division of 236 against 30.

Early in the present session of parliament, mention had been made by opposition of the unfortunate invasion of Holland by the British forces; but ministers declined entering upon the subject, as the whole expedition had been carried on under the superintendence of Mr Secretary Dundas; and that gentleman, speedily after the meeting of parliament, had gone down to Scotland in the depth of winter, without any ostensible business; a circumstance which gave rise to suspicions, that some dissatisfactions existed at court, on account of the result of the Dutch invasion, or the manner in which the duke of York had been supported in it by administration at home.

1581

Debate on the Dutch

On the 10th of February, the subject was introduced into the house of commons, by Mr Sheridan, who moved for an inquiry into the causes of its failure. He treated the capture of the Dutch navy as of little value, or rather as pernicious, on account of the example of mutiny, which it exhibited on the part of the seamen, whom we had received into our service. He admitted, that the restoration of the stadtholder was, in some measure, a justifiable motive for our interference; but contended, that Britain had treated the people of Holland ill, by obliging them to enter into the present war, and by avoiding to promise a restoration of their colonies, in case of a successful invasion. In these circumstances, he thought the British government had acted imprudently in expecting any assistance from Dutchmen. He asserted, that the expedition itself was ill arranged, as the army, after its landing, had no means of moving forward, on account of the want of necessaries. The result was, that instead

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ain. of delivering the Dutch, the British army was under the necessity of entering into capitulation for its escape, and of holding out as an inducement to enter into this capitulation, a threat, in case of its being refused by the enemy, to destroy for ever the means of commerce of that very people whom we embarked to save. He contended, that to vindicate the honour of the British army it was necessary to inquire into the cause of its misfortunes upon this occasion.

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Mr Dundas defended the expedition against Holland with great ability. He stated its object to be threefold: 1st, To rescue the United Provinces from the tyranny of the French; 2dly, To add to the efficient force of this country, and diminish that of the enemy, by gaining possession of the Dutch fleet; and, lastly, By hostile operations in Holland, to oblige the French to weaken their armies in other quarters. Mr Dundas contended, that at the commencement of the expedition, a great probability existed of the success of all these objects; two of them did actually succeed, and only one failed.

Mr Dundas remarked, that it was a maxim adopted by the wisest politicians, from the earliest period of our connexion with Holland, to protect its independence both against France and Spain. Queen Elizabeth gave them assistance for this purpose. King William followed the same policy, and it had been uniformly observed under the house of Brunswick. It could not surely be more criminal in us to attempt to rescue the same provinces from the French republic, which we had protected against the house of Bourbon.

With regard to the capture of the fleet, Mr Dundas declared himself astonished, that a doubt should exist about the value of such an acquisition. That fleet had been absolutely destined for the invasion of our dominions; along with it we took nearly 7000 seamen, all of whom were liable to be employed in the French fleet, and 40,000 tons of shipping, which might have annoyed our commerce.

By the invasion of Holland, Mr Dundas asserted, that the French were compelled to weaken their other armies, which gave success to Suwarrow, in driving them from Italy, and to the archduke on the upper Rhine and Switzerland. They had indeed succeeded in defending Holland; but, as the price of this success, they had been severely pressed in every other quarter. Had the French followed the plan formerly adopted by them, they could not have prevented our recovering Holland. At the moment our enterprise was undertaken, it was a doubt whether they would place their reinforcements there, or in other parts of the continent. They poured their prodigious reinforcements into Holland, by which means we were unable to rescue it from their yoke; but another part of the result was, that they lost every other point which they contested, in the whole campaign, in every other place. Mr Dundas asserted, that administration were highly justifiable in undertaking the expedition, in consequence of their knowledge of the inclinations of the people of Holland; but he declined making known upon this subject the secrets of government. Never, said he, was a commencement more prosperous than that of the late expedition. Sir Ralph Abercromby sailed for the Helder the 13th of August, and every thing promised the most rapid success. On the 14th came on the most extraordinary hurricane that ever blew from the heavens; it was impossible to land a single soldier on any part of the coast of Holland; and this continued till the 27th: the consequence was, that the enemy knew where our fleet must land, and the troops came in shoals to oppose us; 7000 men were collected; and as they were superior in number, Sir Ralph could not land his men to advantage. The ardour of the soldiers and the gallantry of the commander were never excelled on any occasion. Without any thing but their muskets and bayonets, (for they had not the power of bringing with them a single field-piece) against cavalry and artillery, they made their landing good, and by it they secured the Dutch fleet. He stated these things, to show how easy it was to censure both soldiers and their generals unjustly upon an event depending on the temper of the elements. It was alleged, that the troops had no means to draw their waggons; but they had no waggons, and could not possibly have landed them had they been there. Instantly on their landing they could not want them; for all they immediately had to do, was to secure a landing place, and a post of communication. Sir Ralph had to consider what position he should take till the 1st of September, when reinforcements should arrive. He judged wisely for the dispositions of the army; and the delay arose from causes which no human wisdom could foresee, and therefore could not prevent. Had he been able to land when he expected, he would according to all probability have commanded complete success to all the objects of his expedition. The same wind prevented the Russian troops from arriving to reinforce ours; they did not come till the 18th. The duke of York offered the Russian general, D'Hermann, to delay the attack, if he thought his men were not sufficiently recovered from the fatigues of the voyage; but the general requested that the attack should be made, with a promptitude and alacrity which reflected the highest honour upon him. But this ardour led him to the field full two hours sooner than the time appointed. The army, however, was gloriously successful till a late hour in the day. General D'Hermann and his troops were in possession of the village of Berghen, and crowned with victory, till his zeal led him beyond a given point and turned the fate of it. When the attack was made, the French amounted to 7000, and the Dutch to 12,000 men; yet, notwithstanding this superiority of force, our troops fought and conquered them with a spirit which immortalized the battle; but the French continually pouring in reinforcements, the duke was advised by General Abercromby, and all the other officers, to accede to the terms of an armistice, which was by that time mutually wished. The duke yielded to this advice, and, by so doing, consulted the dictates of reason and humanity.

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Mr Dundas contended, that our army returned with as much honour as they entered Holland. The duke of York, indeed, agreed to give up 8000 French prisoners on condition that his retreat should be unmolested; but he could not be wrong in doing so, because our prisons were overloaded with them, and he did not recede from any one article in which national dignity was concerned: he resisted with firmness and indignation every proposition for restoring the fleet. An attempt had been made to magnify the loss of lives, and the expence attending the expedition: the

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Britain. one had been stated as equivalent to the income tax; six or seven millions: the other at the loss of 19,000 men. There was no occasion to leave this point to conjecture; the expenditure actually amounted to 1,142,000l. and computing by Dr. and Cr. there would in commercial consideration be no objection to it. We had a right to consider the ships which were taken, and to state the reduction for the maintenance of a fleet in the north seas to check a Dutch fleet: If we calculated the value of the former, the decrease of expence in the latter, and the saving in the pay of 10,000 seamen voted less the last year, the balance was greatly in our favour. We gave up the 8000 prisoners, who were annually fed at a great expence, and gained 6000 Dutch seamen to man our fleets. The objects gained by the expedition were the ships, the reduction of the expence, and the great diversion in the French forces which facilitated the victories of the combined armies. Without making it a topic of eloquence, he believed he felt as much as any man for the brave soldiers who composed our army; but in war no important objects would be obtained without the loss of many dear and valuable connexions: those calamities arose inevitably from the situation of a great nation fighting for great objects; for an independent empire, and for existence itself. To remove the impression of our having lost 10,000 men, he would state in detail the returns made during the whole of the campaign.

Sick and wounded admitted into the hospitals,	4080
Sent home out of these hospitals,	2993
The amount of those who died,	185
And the whole of those who were slain,	846

Mr Tierney supported the proposal for an inquiry; he disputed the advantages said to result from it by weakening the French forces in other quarters, as they had actually been everywhere successful at the close of the campaign. He contended, that at least to a secret committee, or in some other form, ministers ought to account for their conduct, and exonerate themselves from suspicions too strong to be removed without proof, by producing the documents (if any such exist) on which this ill-fated expedition had been planned. It was unconstitutional, it was an insult on the house, to say this could not be done consistently with the preservation of secrecy. General Abercromby landed on the 22d of August with 10,000 men; he got possession of the Helder; he was reinforced by General Don on the 27th: Was it not strange, that 15,000, headed by an able general, and going by invitation, should think it imprudent to advance? Had the Dutch been well affected, why did they not declare themselves? No French troops were then in Holland to keep them in awe. Why did not the duke of York sail at the same time with General Don? Why were all our forces sent to one place, and 43,000 men cooped up in a narrow peninsula where but few could act at a time? It was strange that ministers, who were so fond of making diversions, did not think of making a diversion in some other quarter. This was a point which only military men could determine; and the house was bound to examine officers, that the truth might be known. Whether his royal highness concluded the capitulation from instructions, or from his own judgment, he should (in his opinion) have demanded an inquiry; and this was the only way the disgrace could be transferred from himself and the gallant officers who served under him. He had no reason to apologize for the liberties he used with the name of his royal highness, although he might one day become his sovereign; for he would not think the worse of that Englishman who was most solicitous for the honours of the British army. We gave up 8000 seamen, who it seems were mere lumber: had his royal highness been of the same opinion, he would not have hesitated in complying with this requisition of General Brune, but instantly have made the surrender of the prisoners. The capitulation had infixed an indelible blot on the national character: A king's son, commanding 40,000 men, capitulated to a French general who had only 35,000. Britain

Mr Addington observed, that having maturely and dispassionately considered the nature of the proposed inquiry, it appeared to him to rest upon two grounds: first, the propriety of judging any measure by its event; and, secondly, that in consequence of a failure, there should be a necessity for investigation. It ought to be recollected, that the worst concerted plans had often produced the most brilliant success, and the best terminated in disaster. No human being could command success, and no existing government controul the elements. He concluded with an eulogy on the skill of our generals, and the intrepidity of our army. The proposed inquiry was rejected by a majority of 216 against 45.

1013 Revenue. The supplies during the present year were estimated at 39 millions and a half, to which a million and a half was afterwards added: loans were negotiated to the amount of 20 millions and a half, and the income tax was mortgaged to a considerable amount.

1014 Treaty of El Arish. During the present year the war was extremely eventful. The army which Bonaparte had left in Egypt under General Kleber could not fail to be disgusted by the desertion of the first leader of the expedition. Accordingly a negotiation was entered into by Kleber with the Turkish grand vizier, and Sir Sidney Smith; the result of which was, that the French agreed to abandon the whole of Egypt, on condition of being permitted to return unmolested to France. The agreement was concluded on the 24th of January, and the return home of this discontented army might have proved dangerous, if not fatal, to the newly established power of the first consul: but here the fortune of Bonaparte interposed. The British government, suspecting that some proposals of this kind might be made, sent secret orders to Vice-admiral Lord Keith not to consent to any proposals which might leave such an army at liberty to act in Europe, or which should not include the surrender of all the ships in the port of Alexandria. The consequence was, that Lord Keith refused to fulfil the treaty called the *treaty of El Arish*, which Sir Sidney Smith and the Turkish grand vizier had concluded, and detained as prisoners General Dessaix, and a number of troops that had been sent from Egypt. The French general, Kleber, immediately intimated to the Turks a determination to resume hostilities. He attacked and totally routed their army consisting of 40,000 men, in the neighbourhood of Grand Cairo: multitudes perished in the desert and by slaughter, and the French remained masters of the country.

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On the side of Germany, the French under Moreau exerted equal dexterity. They passed the Rhine with some troops in the neighbourhood of Strasburg, where they were opposed by the Austrians: but this was only a feigned attack. They speedily retreated, and the main body of their army at the same instant descended from the mountains of Switzerland, and crossed the Rhine in the rear of the Austrian army near Schauffhausen. After a desperate engagement, the Austrians were defeated with the loss of 10,000 men, of whom 4000 were made prisoners. As the mode of attack had been unforeseen, and was consequently unprovided for, the loss of magazines and baggage was immense. In another, and harder fought battle, at Moskirch, the Austrians lost upwards of 8000 men. Other battles with a similar issue were fought at Biberach, Augsburg, and Hochstet; the result of which was, that the Austrians were under the necessity of crossing the Danube, leaving the French masters of the electorate of Bavaria, and enabled to invest Ulm. A general suspension of hostilities was immediately agreed to, by which both parties retained possession of their present positions. A negotiation for peace was entered into between the French and Austrians, which produced an attempt to negotiate on the part of Great Britain; but as the French demanded a naval armistice, which could have no other tendency than to enable them to accumulate naval stores, the negotiation was dropt. After considerable delays, during which the Austrian minister at Paris concluded a treaty, which his court afterwards disowned, preparations were made for opening the campaign anew. But the French consented to renew the armistice with the Austrians, on receiving delivery of the important fortresses of Ulm, Ingoldstadt, and Phillipsburg. These armistices and unsuccessful negotiations were of great service to the French. The consent to a truce in the midst of an unexampled career of victory, gave an appearance of moderation to the new consular government; the conclusion of a treaty at Paris, to which the Austrian government afterwards refused to adhere, induced neutral nations to consider Bonaparte as extremely anxious for the attainment of peace. Hence the wonderful success which attended his arms, during the early part of the campaign, was so far from rousing the jealousy of the other states of Europe, that he was considered as a well-meaning and by no means dangerous neighbour, and that the Austrians had imposed upon his credulity. The northern nations eagerly courted his alliance; the emperor Paul of Russia, led by the natural instability of his temper, and his admiration of military success, entered into a close alliance with Bonaparte, and seized the British vessels in his ports; while the Danes, Swedes, and Prussians, began to form a confederacy for the purpose of enabling each other to evade the right, claimed in war by maritime states, of preventing their enemy from being supplied with naval stores by means of neutral vessels. The present weakness of the French at sea rendered such a combination directly hostile to Great Britain, and favourable to them.

1087 Continental truce.

1088 Scarcity in Britain.

In the meanwhile, Great Britain was greatly distressed at home by a scarcity of provisions; riots broke out in London and some provincial towns. On this account parliament assembled on the 11th of November,

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Britain.

vember, and the principal discussions which occurred, in it related to the severe dearth which prevailed throughout the country, and which involved in very great difficulties the middle and lower classes of society. The members of opposition asserted, that the war and the scarcity were closely connected; whereas Mr Pitt and his colleagues contended, that a more obvious cause might be found in the deficiency of the two preceding crops, in consequence of cold rainy seasons. A royal proclamation was issued in the beginning of December, which exhorted all masters of families to reduce the consumption of bread by at least one-third of the quantity consumed in ordinary times; and in no case to suffer the same to exceed one quartern loaf for each person in each week; to abstain from the use of flour in pastry: and restrict the consumption of oats and other grain by horses. Acts of parliament were at the same time passed, prohibiting the exportation, and offering bounties upon the importation of grain. After all, it was thought by many, that these measures operated doubtfully. By increasing the alarm of scarcity to the highest possible pitch, they induced wealthy persons to buy up grain, and to withhold it from the markets, unless tempted by very exorbitant prices. The prohibition of exportation of provisions was unnecessary, when a better price could be obtained in Britain than anywhere else; and the same high prices afforded a sufficient bounty for importation, though, perhaps, as an exception to this last rule, it was necessary to offer a bounty for grain imported from America, or other distant quarters of the world, to afford the merchant a certainty of profit notwithstanding a change of price before the arrival of his grain.

1089 War with the northern powers.

At the commencement of the succeeding year government imposed an embargo on all Russian, Danish, and Swedish ships in British ports, so that Great Britain was now at war with the greatest part of Europe. Our ally, Austria, ventured indeed to renew the war; but the French general, Moreau, speedily gained a signal victory at Hohenlinden, and drove back the Austrian army upon their capital, while at the same time great defeats were sustained by them in Italy and Franconia. From the necessity of their affairs the Austrians were thus suddenly compelled to sue for peace, which was concluded at Luneville. The Netherlands and the Milanese were resigned. The emperor consented, that France should extend its limits to the Rhine; that Tuscany should be relinquished by the grand duke; but that he should receive an indemnification in Germany: while, on the other hand, the city of Venice and a portion of its ancient territory were relinquished to Austria. The German princes who suffered by the treaty, were to receive an indemnification out of the ecclesiastical states of the empire; thereby weakening still farther the influence of the house of Austria, which had always been the head of the Catholic interest in Germany. This treaty left the French masters of Europe to the southward of the Rhine and of the Adige.

1090 Treaty of Luneville.

1091 Change of ministry.

The commencement of the year 1801 was marked in Great Britain by a most important event, the termination of Mr Pitt's administration. When this event was announced to the public, it created no small degree of astonishment in the minds of men. Since Mr Pitt had come into office, a new generation had sprung up, and a succession of the most extraordinary public transactions had occurred, amidst all which, he and his kinsman Lord Grenville, and his friend Mr Dundas, had remained firmly established in power. The authority and influence of these men had in some measure interwoven itself, in the opinion of most people, with the very existence of the British constitution. They were surrounded by an immense train of powerful dependents and adherents, raised by their patronage; while, at the same time, Mr Pitt himself retained such a degree of popularity, that his dismission appeared a very bold measure in the present difficult state of public affairs.

The ostensible cause assigned for Mr Pitt's dismission, obtained little credit. He was represented, as having promised to the Irish Catholics, a full equalization of their privileges with those of their fellow subjects, on condition that they should acquiesce in the treaty of union; but that his majesty had been persuaded to oppose the measure, as contrary to his own coronation oath. In this state of affairs, it was said that the ministry could no longer honourably remain in office.

Concerning the true cause of this change, little is publicly known. It does not seem necessary, however, to search for a secret history of such a transaction, as it may be sufficiently accounted for from those principles which, in the constitution of our nature, generally regulate the conduct of men. The influence acquired by Lord North, in consequence of the patronage he enjoyed during the expensive period of the American war, enabled him, by combining with others, to establish a formidable interest in the legislature. But the power enjoyed by Lord North was trifling when compared with that which Mr Pitt and his friends possessed. The war which Mr Pitt had conducted, had been expensive in a degree altogether unexampled in preceding times. The circumstances under which it was commenced had united, as a party under him, almost all the persons of property in the kingdom. During his long administration, also, the crown possessed, in a more direct manner than formerly, the increasing patronage of India. In every respect, therefore, the leading members of this administration must have been regarded, as having attained to a degree of power and influence, which might not easily be shaken; and which, therefore, might prove inconvenient, when held by any combination of subjects in a free country. In such circumstances, it was natural for an experienced prince to wish for a change. Mr Pitt had been originally received into office, as the agent of the crown in the house of commons, and to support the royal prerogative there, against a combination of powerful and accomplished men. He had enjoyed great popularity, and was considered as the man best qualified to conduct the dangerous war of the French revolution. He must have felt the important rank which he held in the public estimation: and it is not improbable, that, as in his dispute with Mr Tierney, he treated the house of commons with little deference, so in the cabinet he may have presumed upon the indispensable importance of his own services; and accounting himself absolutely necessary to the administration of the empire, he may have assumed a considerable degree of independence. Such a

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Britain. a sentiment might at least be readily imputed to the minister and his friends; and the result of it would be, that the period when they would no longer be wanted, would begin to be expected with some eagerness. This period occurred as soon as the success of the French arms became such, that it was no longer possible to overturn their new government by war. Accordingly there appears reason to suppose, that, on dismissing this administration, a resolution was at the same time adopted by the British court, seriously and earnestly to endeavour to obtain peace upon any tolerable terms.

1093 Remarks on Mr Pitt's administration.

With regard to the general merits of this administration, it must be left to remoter times, to form a correct judgment, as we are probably still too much involved in the passions and prejudices occasioned by late occurrences, to be able to appretiate them with sufficient candour and intelligence. Mr Pitt derived great advantage from the copious and splendid eloquence which he at all times displayed in the house of commons; and certainly no man ever possessed so completely the art of managing the people of England, and of retaining their affections in an astonishing degree, while at the same time he continued to possess the confidence of his sovereign. When it is considered that he obtained the government of the British empire when a very young man, the prudence of his conduct, as well as the magnitude of many of his plans, entitle him to a great share of estimation. His sinking fund, though not contrived by himself, was a great and important measure, which he brought forward with ability, and carried into effect with a degree of perseverance, which has undoubtedly rendered it one of the firmest pillars of that great political experiment, the funding system. His commercial treaty with France was a measure recommended by the soundest wisdom. Had it been permitted to continue in force during a few years longer, it would in all probability have connected so closely, by the ties of reciprocal interest, the British and French nations, that it would even have prevented the sanguinary contest by which it was dissolved.

The most ambiguous circumstances in Mr Pitt's public conduct, were those which related to parliamentary reform, to the trial of Mr Hastings, and to the slave trade, in which he adopted the popular side in the debates of the house of commons, while the court was considered as hostile to his avowed sentiments; and these sentiments were never successful. Those who admire the dexterous and skilful management of the humours and passions of men, and those who admire disinterested magnanimity of conduct, will perhaps judge differently upon these points. To persons of candour, it may be sufficient to remark, that the passion of ambition was fostered at a very early period of life in the mind of this minister, that it is the most powerful of all human passions, and has been considered as affording an excuse for many efforts towards its gratification.

The most difficult question, with regard to the merits of Mr Pitt's administration, relates undoubtedly to the war with France. Though, by the forms of the British constitution, Mr Pitt was responsible for engaging in this war, and for continuing in it; yet, as he was not actually the head of the state, it is possible that the interference of Britain in it might not originate with him, and that he had only the alternative of engaging in the war, or of relinquishing his power. If the war is to be considered as advised and conducted by him, he will be responsible for the greatest misfortune which during several centuries Europe has encountered, that of the enormous aggrandisement of France, and the subjugation of the weaker states. Had Britain originally stood aloof, or rather, had she negotiated in favour of the independence of France, brought into hazard as it was by the combination of the great military powers; France would have continued to be confined within her ancient boundary. Italy, Switzerland, and Holland, would have retained their independence; and the strength of Austria would have continued unbroken. Or had Britain withdrawn her force with the earliest opportunity, and avoided urging and subsidizing the continental powers till they were successively vanquished, the same result might have occurred. Britain.

On the other hand, if the war is to be considered as undertaken to overturn the principles of the French, it was undoubtedly successful to a certain extent, as it compelled them to abandon these principles, and to have recourse to a military usurpation; but it ought to be remembered, that to Britain, as a nation, the political principles of the French were of no importance whatever; whereas, their permanent aggrandisement may bring into hazard our very existence as a people.

Mr Pitt and his friends called forth the resources of the country for the support of the war in an astonishing degree. Immense treasures were lavished away upon it in supporting our allies, and on the increase of our navy. By this last measure, if the French acquired the continent of Europe, Britain might be said to have acquired all the rest of the world, as no communication between distant regions could exist without her permission. It is to be remarked, however, that the acquiescance of the public in the war was preserved, by keeping the minds of men in a state of constant alarm, from the fear of danger to the constitution, in consequence of the alleged disaffection of a body of the people. In this manner, a constant spirit of persecution was maintained throughout the country, which thus seemed to be ruled rather by a jealous faction than by a legitimate government. The concluding great measure of Mr Pitt's administration, the union with Ireland, is entitled to much praise. It was suggested by the course of events, and tended to remedy a great defect in the constitution of the British empire, the want of consolidation into one united political body.

Of the associates of Mr Pitt, his relation Lord Grenville, who acted as minister in the house of lords, was the chief in England, and Mr Dundas in Scotland, and perhaps also in the rest of the empire. This last gentleman possessed the greatest share of power ever intrusted to any Scotsman since the union, excepting for a short time to Lord Bute. During a considerable length of time he appears to have conducted almost the whole of the public business of that vast assemblage of nations, in all climates of the globe, which constitutes the British empire. Under his patronage, and that of his friend Mr Pitt, a numerous train of dependents rose to the possession of opulence; while they themselves, engrossed by other pursuits, were understood to have made only a very trifling provision for their future distinction.

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Britain. stinction or independence, upon a retreat from the emoluments of office.

In doing justice to the merits of these men, the next generation, and even future historians, ought to be upon their guard, not to trust rashly to the unfavourable representations of their actions and intentions, which will be extremely apt to pass down to posterity, in consequence of one part of their conduct. During the last ten years of their administration, they gave great offence to men of letters, at least at a distance from the capital, by their disregard of literary talents in exercising the patronage of the crown, and by placing persons of little reputation or ability in situations in which distinguished learning and liberal accomplishments are expected to be found. It is dangerous to offend those who possess the power of dispensing renown, or of fixing permanent reproach upon a name; and men of letters, an irritable race, are extremely apt to regard their own quarrel as that of mankind. Any errors of the kind alluded to, which were committed by Mr Pitt's administration, in their nomination to offices, may in a great measure be ascribed to the tempestuous spirit of the times, which compelled, or at least induced, administration, to countenance an ardent political zeal, and to consider fidelity to their party as superior to every other endowment. It was only when a man of talents accidentally possessed this merit, that he could expect to meet with any countenance, or that the servants of the crown did not otherwise account themselves at liberty to acknowledge his worth. Mr Pitt and Mr Dundas carried into retirement so much of the public regret, that considerable sums of money were contributed to erect statues to their memory.

1094 Royal indisposition. At the time when the change of ministry was made, the king became affected with a severe illness, supposed to result from the anxiety and agitation of mind which accompanied that important measure. In making choice of a new prime minister, he avoided admitting into power the party that had opposed the war; and selected Mr Addington, whom we have mentioned as originally patronized by Mr Pitt, and who, in the station of speaker of the house of commons, had gained the approbation of all parties by his good temper, prudence, industry, and conciliating manners. This gentleman appears to have obtained from his predecessors in office a promise of support in parliament; and he was industriously represented throughout the country as nothing more than a nominal minister, holding a temporal situation, which, with the first opportunity, he was to relinquish in favour of Mr Pitt and his friends. This account of the state of affairs derived plausibility from the actual support in the parliamentary debates which the new minister received from these gentlemen, and from the influence which they evidently retained in the nomination of all inferior offices. Mr Addington's appointment as first lord of the treasury and chancellor of the exchequer, was followed by the nomination of Lord Eldon to the office of lord high chancellor, Lord St Vincent to that of first lord of the admiralty, Lord Hawkesbury as secretary of state for the foreign—Lord Pelham for the home department, and Colonel Yorke as secretary at war. Lord Eldon was succeeded by Sir Michael Pepper Arden, who was created Lord Alvanley, as chief justice of the common pleas; and Mr Addington by Sir John Miltford, as speaker of the house of commons. Sir William Grant was made master of the rolls, and Mr Law and Mr Percival attorney and solicitor general.

On the 2d of February, the parliament of Great Britain and Ireland was opened; but, as the king's illness immediately succeeded that event, the new administration could not receive formal possession of their offices till the month of March, and during that time the old ministers continued to hold their former rank. At the opening of the imperial parliament, as it was now called, the speech from the throne expressed his majesty's great satisfaction in being now able to avail himself of the advice of the united parliament of Great Britain and Ireland. This memorable era, distinguished by a measure calculated to consolidate the strength of the empire, he hoped would be equally marked by that energy and firmness which our present situation so peculiarly required. The court of Petersburg had treated our representations of the outrages committed against our ships and property, and against Englishmen, with the utmost disrespect; indeed acts of injustice and violence had aggravated the first aggressions.

Under these circumstances, a convention had been concluded between Petersburg, Copenhagen, and Stockholm, the avowed object of which was to renew their former engagements, for establishing a new code of maritime law, inconsistent with the rights, and hostile to the interests of this country.

The earliest measures had been taken to repel this confederacy, and to support those principles essential to the maintenance of our naval strength; in which firm determination there was no doubt of the vigorous assistance of the united parliament.

The speech concluded with recommending an inquiry into the high price of provisions, and promises of terminating the present contest whenever it could be done consistently with security and honour.

When the usual address was moved, some debate occurred in both houses, with regard to the present state of affairs, more particularly as connected with the combination of the northern powers against Britain. In the house of commons, Mr Grey deplored the prospect of a war with all Europe. Russia, he said, had evidently been guilty of the grossest violence and injustice towards this country, in the confiscation of the property of our merchants, and the treatment of our sailors; but the emperor accused the British government of violating a convention by which he was to receive the island of Malta, as the reward of his co-operation against France; and the truth of this assertion ought to be investigated. Concerning the northern confederacy, Mr Grey remarked, that the principles on which it was founded were of no recent origin. The king of Prussia, in 1740, disputed the pretensions of this country, and contended strenuously for the principle, that free vessels make free goods. In 1762, the Dutch resisted the claim of a right to search ships under convoy. In the year 1780, the assertion of the rights of neutral states assumed a greater degree of consistency and concert; the subscribers, that is, all the powers of Europe entered into the armed confederacy, officially announced its principles, and claimed the rights enumerated in that celebrated document, as agreeable to the law of nations. Hence, Mr Grey contended, that to avoid encountering the inveterate animosity

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Britain. mosity of other states, the subject ought to be cautiously investigated; and, unless it appeared absolutely necessary to our safety, Britain ought from prudence to relinquish her claim. In his opinion, France, while without seamen or skill, would derive little benefit from the importation of naval stores in neutral vessels.

Mr Pitt, who still acted as chancellor of the exchequer, asserted, that with every one of the three northern powers, independent of the law of nations, we had on our side the strict letter of engagements, by which they were bound to us. In the convention signed between Great Britain and Russia, the latter bound herself to use her efforts to prevent neutral powers from protecting the commerce of France on the seas, or in the ports of France. Denmark and Sweden had expressed their readiness to agree on that very point, which they were now disposed to contend. We did not indeed know the precise terms of their new convention; but as its existence and general object were acknowledged, we must necessarily act upon the supposition of their hostility. Mr Pitt asserted the question now to be, Ought we to permit the navy of our enemy to be supplied and recruited; to suffer blockaded forts to be furnished with warlike stores and provisions; and permit neutral nations, by hoisting a flag on a fishing boat, to convey the treasures of America to the harbours of Spain, and the naval stores of the Baltic to Brest and Toulon? If the commerce of France had not been destroyed, if the fraudulent system of neutrals had not been prevented, her navy would have been now in a very different situation.

In the month of March, a debate occurred in the house of commons, which is worthy of notice on account of the recapitulation which it produced of some important circumstances connected with the state of the nation, and the history of the war. Mr Grey moved for an inquiry into the state of the nation. He said, that we were now in the ninth year of a war with France, and threatened with a war against all the maritime states of Europe, if not actually involved in it; we had added 270,000,000l. to the capital of our national debt, and above 17,000,000l. to our annual taxes; we found ourselves opposed to France, which was now extended in territory beyond the hopes of her most sanguine friends, increased in population, and supported by all the states of the north. We were opposed to her with diminished means, exhausted strength, and stript of every ally. Was it not then incumbent on the representatives of the people, to enter into a serious inquiry into the means most likely to restore to us security and happiness. Mr Grey represented the conquests we had made during the war, as not compensating our disasters, or the acquisitions made by France. Her frontier now reached to the Rhine, to the Alps, and to the ocean. All these possessions we had consented to abandon as the price of peace; for peace, which our ministers might have made with France confined within her ancient limits, while our own country was prosperous and happy. Thus all our losses were irretrievable, and our triumphs empty. It had been said with truth, that there was no shore, from the Texel to the Adriatic, which had not witnessed the defeat of our forces, and the disgrace of our arms. The unfortunate attempt upon Dunkirk, the shameful retreat through Holland, the evacuation of Toulon, the abandonment of Corsica, and the expedition to Quiberon, all were fatal proofs of ill-concerted schemes. Mr Grey adverted to the late expedition against Holland as more disgraceful than the rest, because it terminated in a capitulation to an inferior force. He asserted, that administration had acted with such imprudence, that our whole allies were converted into enemies. The Swedes and other neutral nations had complained, that their trade was molested, their ships detained, and justice refused them in our courts, or so long delayed that it was useless. These he considered as points which undoubtedly deserved investigation; nor did the internal state of the country less require consideration. The sum already mentioned of 270,000,000l. had been added to the national debt, exclusive of imperial and other loans, and the reduction by the sinking fund; and yet we were assured by the ex-ministers that they left the country in a flourishing condition. And did not every Englishman, from diminished comfort, or from positive distress, feel this declaration to be an insult? Ask the ruined manufacturers of Yorkshire, Manchester, and Birmingham: ask the starving inhabitants of London and Westminster. In some parts of Yorkshire, formerly the most opulent, the poor rates had increased from 522l. to 6000l. a-year, though the whole rack rent of the parish did not exceed 5600l. In Birmingham there were near 11,000 who received parochial relief, where the number of inhabitants is 80,000, and this of a town accounted one of the most flourishing in England. The situation of the sister kingdom was alarming in the extreme. Since the recal of Earl Fitzwilliam, Ireland had been the scene of transactions shocking to humanity. Was it now tranquil? A few days ago a bill passed the house, which, we were told, was necessary for its safety; though rebellion had been crushed in the field, it was said to lurk in secrecy; the mass of population was disaffected; and nothing prevented the separation of Ireland from us but the inability of France to send a force to assist the rebels. Whatever any one might assert, he could not persuade himself, that there was any innate depravity in the Irish nation. He must believe, that, if they were well governed, they would be sober, industrious, and orderly. Hence Mr Grey called for an inquiry into the present state of affairs, and demanded the support of the new administration, as a testimony of their disapprobation of the measures of their predecessors.

1097 Motion on the state of the nation.

Britain.

1093 Mr Dundas defends the conduct of the war.

Mr Dundas defended the management of the war. The principle which he laid down, as one which never ought to be departed from, was that war ought to be directed to the destruction of the commerce and colonial possessions of the enemy; in this he included their maritime power, which must entirely depend upon their commerce. But this was not the only reason: it was hardly possible for England to be long at war with France, without being involved in disputes on the continent, which might deprive us of many of the markets which we had for our goods, and therefore it was peculiarly our interest to gain these colonies, that they might remain open for our commodities. In order then to judge how far this war, conducted on this principle, had been disastrous and disgraceful,

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Britain. graceful, he would state its progress and success. Hostilities commenced against France, in February 1793; in that year Tobago, St Pierre, Miquelon, Pondicherry, part of St Domingo, and the fleet at Toulon, were taken, besides the possessions of the Newfoundland fishery. In the year 1794, we took Martinique, Guadaloupe, St Lucia, the Saints, Corsica, and Mariagalante; in 1795, Trincomalé, and the Cape of Good Hope; in 1796, Amboyna, Berbice, and Demerara,; in 1797, Trinidad, with four ships of the line either taken or destroyed; in 1798, Minorca; in 1799, Surinam; in 1800, Goree, Malta, and Curaçoa. Such had been our successes. Mr Dundas defended the expedition against Holland, upon the same principles as formerly; observing that an expedition could not be regarded as completely unsuccessful, which terminated in the capture of ten sail of the line, and 13 frigates, which would otherways have been now employed in augmenting the force of the northern confederacy.

Concerning the navy, Mr Dundas stated, that without enumerating its triumphs, he would briefly mention, that since the commencement of the present war, we had taken or destroyed 80 sail of the line belonging to the enemy, 181 frigates, 224 smaller ships of war, 743 French privateers, 15 Dutch, and 76 Spanish ships. The losses we had sustained were, three sail of the line, one of which we had retaken; one 50 gun ship, which also we got again; and of the frigates captured by the enemy, only the Ambuscade remained in their possession. One of the great advantages to be derived from the colonial possessions of the enemy, was the procuring markets for our manufactures. In the year 1793, the manufactures sent from this country to the West Indies, amounted to above 1,800,000l. sterling. Before the war, our exports to the East Indies did not exceed one million, and in the last year exceeded 1,600,000l. a proof that we had not lost the markets of Europe, and that his principle had been sound policy, to destroy the commerce of the enemy, and direct all our forces to this end, excepting such a part of them as might be necessary for the defence of Great Britain and Ireland; and when 400,000 men were applied to this purpose, which is actually the case, he left it to the house to judge, whether ministers had paid sufficient attention to the security of the country.

Mr Dundas remarked, that the failure of an expedition was now considered as a decisive proof of misconduct in ministers; but in that glorious seven years war, which was in every body's recollection, there were expeditions attempted which completely failed, though the failure was not considered as a proof of incapacity or neglect in Lord Chatham. The conquests which we then made, were Senegal, Louisburg, St Lucia, Duquesne, Guadaloupe, Martinique, the Havannah, Montreal, Pondicherry, Grenada, Belleisle, besides destroying the fortifications of Cherbourg; we took or destroyed 32 sail of the line, and 58 frigates, besides a proportionable number of smaller vessels. We were now in possession of every place taken in that war, excepting Guadaloupe, the Havannah, and Belleisle; but on the other hand we had gained the Cape of Good Hope, Ceylon, Demerara, Berbice, and all the Dutch possessions in the East and West Indies; added to Minorca and Malta. We had also destroyed the confederacy formed against us in the East Indies, and acquired a great increase of power and territory there. B

Lord Temple expressed concern at being obliged, by a sense of duty, to differ from those with whom he had uniformly acted since he had entered into parliament. He professed the greatest respect for the new chancellor of the exchequer; but he acknowledged, he much wished this gentleman had still continued to fill the chair of the house, which he had done so long with honour to himself and to his country. But he felt it incumbent on him, to support the present motion, because he conceived us to be in a state of difficulty and danger. To such an object, it was worthy the character of the house, to devote the most serious attention; and it was called upon in justice to investigate it. The king, in the exercise of his undoubted prerogative, had appointed a new administration, to direct the affairs of the country, in this important juncture; he meant not to speak harshly of it, though it appeared a thing made up of shreds and patches, of men unknown and inexperienced, in whom he could place no confidence, because he had had no trial; who, whatever might be their talents, whatever their capacity for governing a great nation, had not hitherto been in circumstances to evince them: and this was not a moment to make experiments. But to return to the motion; that suspicion was a sufficient ground for inquiry, he conceived to be an excellent principle for a British house of commons to act upon.

Mr Pitt, after expressing his respect for the new administration, observed, that no point had been more disputed than that of confidence in ministers. By some people it was held, that no person was entitled to it, till he had given proofs of having merited it. Here it never could be carried in substance to the letter; for whoever entered into any employment, must at first be new to it; there could be no experience without trial, but when persons had been tried in one situation, and had acquitted themselves well in it, it was a rule to give them credit when they entered into another, till proof of their incapacity or misconduct appeared. The present ministers were called, indeed, to a new situation, but they were not new to the house and to the public, or to the love and esteem of both.

Mr Pitt then bestowed the most ample praises on the merits of Mr Addington, Lord Hawkesbury, and Earl St Vincent. He asked the gentlemen of the opposition, if they knew any one among themselves superior to Lord Hawkesbury, excepting one (Mr Fox) whose transcendent talents made him an exception to almost any rule, but whose conduct also ought to be an exception, having withdrawn his attendance from the house, and whose counsels, had they been followed, must have been injurious to the country. Of the other individuals composing the new administration, much might be said, but he was unwilling to trespass on their patience. He would only add, therefore, upon this subject, that it showed little reflection or consideration, to affirm that the present ministers were unentitled to confidence, by which he meant, of course, no more than a constitutional confidence; and the house was bound by the best principles of sound policy, to wait

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wait to see the conduct of the servants of the crown, before they withheld it.

099 Pitt's ant of change iniatry.

Upon the subject of the retirement or dismission of the late administration, Mr Pitt contended, that his majesty had a right to part with his servants, and his servants to retire, without any explanations to the public. Concerning the affairs of the Irish Catholics, and their connexion with the dismission of administration, which had given rise to many reports, he said, that a memorandum had been sent, in the name of a noble lord, at the head of the executive government of Ireland, who thought it essential to communicate the grounds of our change of administration, to persons more immediately amongst the Catholics. Mr Pitt said, it had been at his express desire this communication had been made, and the motives explained to them which led to the change, to prevent any misrepresentation of that subject. Emancipation of the Catholics was a term he disclaimed. He never understood the situation of the Catholics was such as to need what deserved to be called *emancipation;* but he thought the few benefits which they had not yet anticipated, might easily have been added to those so bountifully conferred on them in the present reign; not as a matter of right, but of liberality and political expedience, and, in this sense, of wisdom. Had such measures preceded the union, indeed, they would have been rash and destructive; and even now, if any attempt was made to push it so as to endanger the public tranquillity, or to pervert the affections of any of his majesty's subjects, the late ministers would be firm in resisting them. But he hoped the day would come when such a measure might be revived, and carried in the only way he wished to see it carried, which was conformably to the general tranquillity of the empire. He acknowledged, that it had appeared to him of such importance, that being unable to bring it forward as a measure of government, he did not conceive it possible for him, with honour, to remain in the same situation; and, at the same time, he wished it to be understood, that whenever the same obstacles did not exist, he would do every thing in his power to promote its success. He denied, however, that any of those who had retired from office, had so pledged themselves to the Catholics, as to be under the necessity of resigning their offices, because they could not perform their promise; and said, he was authorized to deny, that ever the Catholics supposed they had received such a pledge. An expostulation was natural, but a pledge was never given.

Mr Pitt concluded, that the British government had justice on its side, or rather was supported by the law of nations, in the claims which it now maintained, to search neutral vessels for military stores on their way to the enemy, and to declare particular French or other ports under blockade, to the effect of thereafter having a right to arrest neutral vessels attempting to enter them.

Mr Fox said, that it was undoubtedly a doctrine recognized by the law of nations, that free bottoms did not make free goods; but doubted the propriety of discussing it at this critical juncture. He thought our claims, upon this subject, were extended too far, when they were made to reach to naval stores, as these had not been at former periods considered as contraband. He considered the subject as resolving into three branches: convoys, search, and contraband goods. If one state was to convey the trade of another, it was a new doctrine, and a fit subject for representation, by which it might have been settled. As to *search*, if we were not content with the papers, and had ground of suspicion, we should search and do the same with a convoy, in which we were fully justified. Suppose Spain, which was always at war with the Algerines, should demand the search of every British vessel passing through the strait, merely under pretext of her being at war with Algiers, would we submit to it? surely not; and yet we had demanded it of others. Respecting *contraband goods*, it was curious to talk of ships, and timber and naval stores, not being foreseen as implements of war in 1694. Great maritime powers were then in existence; and it was idle to compare them with the articles of gunpowder, guns, and cannons. Naval stores were not in the number of modern inventions; and if it had been thought proper to have called them contraband of war, they would have been enumerated.

Mr Fox adverted to the successes of the war, which had been enumerated by Mr Dundas. To the navy he gave much praise; and also to the late first lord of the admiralty, assigning his merit as the reason for the constant and brilliant triumphs of the navy; whilst our military expeditions, though our troops were as brave as our seamen, had generally failed. In naval tactics almost every thing depended on the talents of the officers; whereas, in military movements, much depended on the original design. The boasted capture of islands was not the object of the war: our object was to protect Europe against France. How had we succeeded? Which of the two nations had been most aggrandised in the course of it? We are told, that only 160,000,000l. was added to the debt; so 56,000,000l. is cut off, besides that for which the income tax is mortgaged; and a debt to be paid by installments was to be considered as no debt at all. It now cost us 38,000,000l. a-year in taxes, 10,000,000l. for poors rates; and the whole land-rent of the country was but 25,000,000l. A country paying double its land rent was in a state demanding inquiry. The war secretary had talked much about the diversion of war, and shown us its nature on his principles. He had sent his royal highness, and an army of 30,000 men, to the only neck of land perhaps in the world, where a fifth part of their own numbers was equal to cope with them. Of the armistice of Hohenlinden, and the negotiation which followed it, Mr Fox spoke with indignation, reprobating the conduct of the minister, which had so fatally proved that eloquence was distinct from wisdom. Time had now evinced, that all the great objects of the war were defeated, and our allies had deserted: and when no prospect of success remained, we might resort to negotiation. The same men who had rejected the prospoals of Bonaparte with insolence, must approach with respect, suing for favour, to avoid participating in the disgrace.

With regard to the Irish Catholics, Mr Fox said, that, in his opinion, no man ought to be deprived of his rights, because he worshipped God according to the

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dictates of his own conscience; that it was a reflection upon parliament to say, as Mr Pitt had said, that he could not there propose a measure which he approved. Mr Fox declared his belief, that no such difficulty existed; but that the late minister might wish to retire for a season, till overtures of peace were made, which he could not make, without mortification, to the man he had insulted. Mr Fox spoke of the change of administration as a fortunate occurrence. Some indeed might suspect, from the panegyric of Mr Pitt, that the new ministers were the less gaudy puppets, directed by those who had quitted their stations; and if they adopted the system of their predecessors, with the additional blame of being hostile to the Catholic claims, acting in this point from their own motives, they would be unworthy of confidence.

The new chancellor of the exchequer, Mr Addington, said, that the degree of confidence which the house of commons ought to extend to the present ministers, it was not for him to conjecture; they only asked for that portion of it which should be constitutionally reposed in persons duly appointed by his majesty, unless it was precluded by antecedent character and conduct. Of himself he should say no more, than that he should be grieved at its being supposed, that he had been induced, by ambition or interest, to exchange the situation he had filled for 12 years, for the present, in which, in obedience to the king's command, he was placed. A sense of duty and allegiance alone had directed his conduct; and to this he had sacrificed every other consideration. He commented on all the leading points in dispute between us and the northern powers; and after ably stating the grounds of the principle asserted by this country, and referring to the exception made by existing treaties, gave it as his decided opinion, that the right for which we contended was vital and fundamental, and could neither be abandoned nor compromised; and, at the same time, expressing an earnest wish, that it should be asserted temperately and firmly. The naval pre-eminence which it was the object of the present confederacy to subvert, had protected the commerce of Europe, during the present war, from piracy. Respecting Catholic emancipation, he deprecated whatever might have the appearance of intolerance and proscription. No restraint ought to be imposed on any who dissented from the established church, but what was absolutely necessary for its security and permanence; and he anxiously hoped, that the dissenters of all descriptions would feel assured, that they were regarded in no other light by government, than as truly valuable members of the community.

He felt it incumbent on him, lastly, to declare, that it was the determination of his majesty's servants, to take such steps, as appeared to them best calculated for the restoration of peace; that no form of government in France would obstruct negotiation; and if there was a corresponding disposition on the part of the enemy, the grand object would be accomplished. He concluded, with professing, that he occupied no party ground, and wished no confidence that was not constitutional. The motion for inquiry was rejected, by a majority of 291 against 105.

1100 Finance.

Notwithstanding the change of ministry, Mr Pitt brought forward the business of the supplies in the house of commons. Their amount was 35,587,462l.; of which sum, 15,800,000l. was for the navy; 15,902,000l. for the army; and for the ordnance 1,938,000l. The income tax was now stated as amounting only to 6,000,000l. As some deficiencies of former estimates required now to be provided for, Mr Pitt stated, that the whole charge of the two countries, for the service of the year, would amount to 42,197,000l. which would be divided between the two countries thus: Great Britain for its fifteen-seventeenths of the joint expence, and those charges which belonged separately to her, would have to defray, in round numbers, 37,870,000l.; and the charges falling upon Ireland, would be 4,324,000l. The sum of 25,000,000l. was raised by way of loan, and new taxes were imposed upon paper, tea, houses, lead, the post-office, and various other articles. The income tax was also farther mortgaged; so that the debt, for which it was pledged, amounted to 76,000,000l.

As the progress of the funding system of Great Britain will in all probability be regarded, in future times, as a most important fact in the political history of nations, it may be here remarked, that the extent of the national debt was so great, and it arose out of such a variety of transactions and engagements, that British statesmen had begun to differ among themselves about its actual amount. Mr Tierney had of late presented to the house of commons, annually, a statement of the debt and of the expenditure for the current year. His statements of the amount of the debt had been combated by the minister. We shall here insert an abstract of a considerable number of resolutions, which he moved upon the subject, on the 7th of June; together with counter resolutions moved by Mr Addington, on the 22d of the same moth.

Mr Tierney stated, that the total amount of the public funded debt, including the Irish and imperial loans, and deducting the stock purchased by the commissioners, and 16,083,802l. transferred to them on account of the land tax redeemed, was, in February 1801,

L.484,365,464

That the life and short annuities were about 540,000l. per annum, worth at 6½ years purchase,	3,375,000
That the long annuities were 1,007,000l. per annum, worth at 5 per cent.	21,978,132
	509,718,596
Deduct the Irish loans,	19,708,750
Debt remaining, exclusive of the stock redeemed for the land tax,	L.490,009,846

On the contrary, the resolutions which were moved by Mr Addington and carried, stated, that the total amount of the public debt, after deducting the sum of 52,281,656l. redeemed, and the annuities fallen in to the commissioners, and 16,083,802l. transferred to them on account of the land tax redeemed, was, on the 1st of February 1801, together with short annuities to the amount of 545,333l. and long annuities to the amount

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of 1,007,613l. after deducting the annuities provided for by Ireland, L.400,709,832
That the life and short annuities were 545,333l. per annum, worth 3,408,331
That the long annuities were 1,007,613l. per annum, worth at 5 per cent. 21,989,703

Whole debt was L.426,107,866

Both Mr Addington and Mr Tierney concurred in estimating the total sum to be raised in Great Britain in the year 1801, at 68,923,970l.; and they calculated the amount of a future peace establishment, exclusive of sums to be paid on winding up the expences of the war, at 28,979,563l.

1101 Attack upon Copenhagen, &c.

In the mean while, to prevent the active co-operation of Denmark with the designs of Russia, an armament was fitted out in the British ports, consisting of 17 sail of the line, three frigates, and about 20 bomb ketches, gun brigs, &c. under the command of Sir Hyde Parker, and Lord Nelson. This fleet sailed from Yarmouth on the 12th of March, and triumphantly passing the Sound, which was deemed impossible, reached the capital of Denmark. The approaches to Copenhagen were fortified with skill; batteries of cannon and mortars were erected on every part of the shore, where they were likely to be efficacious; the Crown islands, and that of Amak, were strengthened by a variety of works; the mouth of the harbour was protected by a chain, and by a fort built on piles; and a line of shipping added to the strength of the place. The admiral having ordered an attack from the southward, Lord Nelson advanced with 12 sail of the line, four frigates, some sloops, fireships, and bomb vessels; but, from the intricacy of the navigation, two of the largest ships ran aground, and another was obliged to cast anchor far from her intended station. Captain Murray in the Edgar, led the van with great intrepidity. The Monarch sustained the most destructive fire, and her commander (Moss) lost his life with above 50 of his men. Captain Riou was also killed while he was attacking the ships at the entrance of the harbour. The battle raged for four hours with great slaughter on both sides. The number of killed on the part of the English, exceeded 250; on the side of the Danes above 500. Almost 700 men in the ships of the aggressors, and about 1500 of the opposite party, were wounded. Some of our ships were severely damaged, while 17 Danish vessels, floating batteries included, were sunk, burnt, or captured.

After the victory had been decided, Lord Nelson threatened to burn all the floating batteries which he had taken, without saving the troops who were on board, if the enemy should continue the least firing. This menace produced a cessation of hostilities. Lord Nelson landed, and conferred with the prince of Denmark; and a convention was signed for a regular armistice.

On the 19th of April the British fleet appeared off the entrance of Carlscrona, and the admiral acquainted the governor, that the court of Denmark having concluded an armistice by which the unfortunate dispute with the court of St James's had been accommodated, he was directed to require an explicit answer from his Swedish majesty, relative to his intention of adhering to, or abandoning the hostile measures he had taken in conjunction with Russia. An official answer to this demand was communicated from the king of Sweden to Sir Hyde Parker, intimating, that his Swedish majesty would not fail to fulfil the engagements entered into with his allies; but that he would not refuse to listen to equitable proposals made by deputies, furnished with proper authority to regulate the matters in dispute.

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The termination of the contest is, however, not to be attributed, either to the battle of Copenhagen, or to the victorious progress of the British fleet, but to an event which had just before taken place, to the astonishment of Europe, and which produced an almost instantaneous revolution in the politics of the north. On the 23d of March, the emperor Paul, who had performed so versatile and extraordinary a part on the political stage, from the period when he ascended the Russian throne, expired suddenly. His capricious tyranny, which was at last about to be directed against the members of his own family, proved fatal to him. His son and successor, Alexander, immediately disclaimed the hostility against Great Britain, and made reparation for the damage suffered by our merchants, in consequence of the embargo imposed upon our vessels. A convention was adjusted with Russia in the month of June, which put an end to the dispute with the northern states, as Sweden and Denmark could not of themselves hope to resist the power of Great Britain. By the third article of the agreement, it was stipulated, that effects embarked in neutral vessels should be free, with the exception of contraband stores of war, and the property of an enemy; that the latter designation should not include merchandise of the produce, growth, or manufacture of the countries at war, acquired by the subjects of the neutral state, and transported on their account; that the commodities prohibited should be such only as were declared contraband by the treaty of commerce concluded between Great Britain and Russia in 1797; that a port should be considered as under blockade, when the ships of a belligerent power should be so stationed, as to render it evidently dangerous to enter; that the neutral vessels should not be stopped, except upon strong grounds, and that the proceeding should be uniform, prompt, and legal. The next article provided, that the right of searching mercantile ships, sailing under convoy of a ship of war, should only be exercised by the ships of the government, not by those of private adventurers. Thus the chief points in dispute were settled in our favour.

1102 Death of the emperor of Russia.

1103 Convention with Russia.

1104 Naval engagement on the Spanish coast.

The war between France and Great Britain was now in Europe reduced to operations merely maritime, and these were of the most trifling nature. One of the most important of these, was that which occurred upon the coast of Spain, between Sir James Saumarez and a squadron of French and Spanish ships of war. On the morning of the 6th of July, the British admiral stood through the straits of Gibraltar, with the intention of attacking three French line of battle ships and a frigate, which were at anchor off Algesiras. On opening Cabrita Point, he found the ships lay at a considerable distance from the enemy's batteries, and having a leading wind up to them, he conceived he had every reasonable hope of success. He had previously directed Captain Hood in the Venerable to lead the squadron; but, though it was not intended, the captain found

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Britain. found himself under the necessity of casting anchor from the wind failing. Captain Stirling in the Pompee, at the same time, anchored opposite to the inner ships of the enemy, and the action commenced. In the ardour for engaging, the Hannibal unfortunately ran aground. Every effort was made by the admiral to cover her from the enemy; but being only three cables length from one of the batteries on shore, he was obliged to retire, and to leave her in their hands. The loss on board the English squadron was 375. The admiral was scarcely in harbour, before he was apprised, that the French line of battle ships disabled in the action of the 6th, were on the 8th reinforced by a squadron of five Spanish ships of the line, under the command of Don Juan de Mozen, and a French ship of 74 guns. He learned further, that they were all under sail on the morning of the 12th of July, together with his majesty's late ship Hannibal. "I had almost despaired (says Admiral Saumarez) of having a sufficient force in readiness to oppose such numbers." But by great exertion he was able to warp out of the Mole with all the ships under his command, the Pompee excepted, which had not time to get in her masts. The object of the British admiral, was to obstruct the passage of this powerful force to Cadiz. Late in the evening, he observed the enemies ships to have cleared Cabrita Point, and at eight he bore up to stand after them. At eleven the Superb was up with them, and opened her fire on the enemies ships at not more than three cables length. At this critical period a fatal mistake of the enemy decided the battle. The Spanish ships, in the darkness and confusion, fired upon each other; the Real Carlos took fire and blew up, and the Hermenegildo, still mistaking her for an enemy ran on board her, and shared her melancholy fate. The San Antonia of 74 guns and 730 men, commanded by Le Rey chief of division, being thus left unsupported, struck to the Superb. The remaining ships of the enemy now crowded all the sail they could carry, and stood out of the straits. At daybreak, only one French ship appeared in sight, which was standing to the shoals of Cavil. At this juncture the wind failed her, and the Venerable was able to bring her to action, and had nearly silenced her, when the loss of the mainmast obliged the captain of the Venerable to desist, and this ship, which was an 84, escaped along with the rest.

1105 Attack of Boulogne. As the French now resumed their usual threat of invasion, and assumed the appearance of collecting a force in the harbour of Boulogne, an attempt was made by Lord Nelson to obstruct their preparations. He succeeded in doing some damage, which appears to have encouraged him to make a more serious effort. Boats intended for boarding the French vessels, were sent off in the night in four divisions, under the respective conduct of the captains Somerville, Parker, Cotgrave, and Jones; and some boats furnished with howitzers, were detached under Captain Cowan, to join in the enterprise. Parker's division first approached the enemy, and commenced a fierce attack. He made strenuous efforts, with undaunted courage, and with sanguine hopes of success; but an unforeseen obstacle baffled all his exertions. This was a very strong netting traced up to the lower yards of the French vessels, which were also fastened by chains to the ground, and to each other. So effectual was the resistance of the foe, thus guarded, that about two thirds of the crew of the boat in which he acted, were repelled in their attempts to board a large brig, by a furious discharge of cannon and musquetry. Many of the assailants lost their lives, many were wounded and maimed. The captain received a shot which carried off his leg and part of his thigh, and his boat would have been seizrd by the enemy, had not a cutter seasonably towed her off. Somerville in the mean time silenced the fire of a brig near the pier head; but far from being able to bring her off, he found difficulty in securing the retreat of his own boats. Cotgrave, after a spirited attack, was deprived of the services of many of his men by a fire from the flotilla and the shore. Jones felt so strongly the obstructions of the tide, that he could not approach before the break of day, when the other captains were returning; he, therefore, retired without making any hostile attempts. Captain Parker died of his wounds after the return of the fleet to the Downs. The number of British seamen killed and wounded, amounted to 172.

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1106 Egypt. In consequence of the unfortunate refusal of the late administration to ratify the treaty called the capitulation of El Arish, negotiated with General Kleber by Sir Sidney Smith, the French still retained possession of Egypt. To remedy the error, a considerable force had been dispatched from Great Britain, under the conduct of an experienced and gallant officer, Sir Ralph Abercromby. The British forces under Lord Keith and General Abercromby, after unexpected delays on the coast of Asia Minor, arrived off Alexandria on the 1st of March. The following day the fleet made sail for the bay of Aboukir, and anchored there. Till the 8th, the sea ran high, and no disembarkation could be effected; but on that day, the first division made good their landing at ten o'clock in the morning, in the face of a body of French, who were evidently aware of their intention, and were posted in force, with considerable advantage of position. The front of the disembarkation was narrow, and a hill which commanded the whole, appeared almost inaccessible: yet the British troops ascended the hill, under the fire of grape shot, with the most perfect intrepidity, and forced the French to retire, leaving behind them seven pieces of artillery, and a number of horses. The disembarkation was continued during that and the following day. The troops which landed on the 8th advanced three miles the same day; and on the 12th, the whole army moved forward, and came within sight of the French, who were formed advantageously on a ridge, with their left to the canal of Alexandria, and their right towards the sea.

It was determined to commence the attack on the 13th, and, with this view, the British army marched in two lines by the left, with an intention of turning the right flank of the enemy. The attack was in some measure anticipated by the French, and they descended from the heights on which they were formed, and attacked the leading brigades of both lines. The British troops were therefore compelled to change their position, which was done with the greatest precision, and the rest of the army immediately followed their example. After a severe conflict, victory declared in favour of the English, though not without considerable loss.

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in Egypt, Menou, occasion with little vn nearly his whole have enabled him ntly, in all proba- ere less acquainted rs; he thought fit rst of March, with ed before day light on the left of the ldock, in which the ost vigorous efforts ight of the English by every possible at point was begun h infantry, sustain- ho charged in co- y obstinate. The eir cavalry were re- antry, but at length vas passing on the etrate the centre of infantry, who were . A corps of light pported by infantry eft of the English, of the whole line; and the British re- oss on our side was d missing, upwards was calculated in One of the French nerals Lanusse and French regiment, as destroyed in this he hands of a Sco- decided the fate of ommand of the sea, ey speedily became French force. In my was justly con- calamity in the loss t once beloved and e commanded; he liscipline, while, at hment of his troops relfare. Early in the continent. He the action on the the march of the l in the retreat of e following years, nander in chief in the British in the rope, he was invest- eral, and appoint- Ireland. In this nce to protect the rmy, both of which the rulers of that s a man of modest pendent character, blic orders, the in- g the disorder and n introduced into Ireland, by encouraging the licentious insolence of the troops against persons accounted disaffected to the government. He freely informed the army in that country, that they "were become formidable to every one but the enemy." In the expedition to Holland, he displayed great military talents, which excited the admiration at once of his own army and of the hostile generals.

After the death of Sir Ralph Abercromby, the command devolved upon General Hutchinson. He lost no time in proceeding towards Alexandria, where the principal force of the enemy was yet concentrated. In the mean time, the town and castle of Rosetta were taken by a division of the British army under Colonel Spencer, aided by a body of Turks. The French garrison, amounting to 800 men, made but a feeble resistance, and retired to the right bank of the Nile, leaving a few men killed and prisoners.

While such was the state of affairs in the neighbourhood of Alexandria, Admiral Blanket, with a considerable force from the East Indies, effected a landing at Suez. The admiral was separated from the rest of his squadron in the dangerous and difficult passage of the Red sea; but before the end of April was joined by a large reinforcement under the command of General Baird, Colonels Wellesley, Murray, &c.

As the capture of Grand Cairo, next to Alexandria, was an important object with the allies, a force was detached early in May for its reduction. On the 9th of the month General Hutchinson, with 4000 British and an equal number of Turks, attacked the French near Rhamanieh; the French were driven in, and in the night retreated towards Cairo, leaving a small garrison at Rhamanieh, which on the following day surrendered to the victors. The loss of the English on this occasion did not exceed 30 men. About the same time a body of French and Copts, who had moved forward from Cairo to attack the Turks, were defeated by the grand vizier, who was essentially assisted by Colonel Murray, and other British officers. The French are said to have lost 50 men and the Turks about 30 in this action. The whole number of French, &c. engaged was said to amount to 4600, and the Turkish army to 9000.

It was the middle of June before the British army under General Hutchinson reached the vicinity of Cairo. He found the works very much extended, though the garrison did not exceed 4000 or 5000 in number. The captain pacha at the same time invested Gizeh (which may be regarded as a suburb of Cairo) on the left bank of the Nile, and the grand vizier took a position within cannon-shot of the city. Thus invested on every side, the garrison, on the 22d, sent a flag of truce to the English general, offering to treat for the evacuation of Cairo upon certain conditions. After a negotiation of several days, the surrender was finally agreed upon in a convention of 21 articles; the substance of which was, that the French army at Cairo and its dependencies should be conveyed in ships of the allied powers, and at their expence, together with their baggage, arms, ammunition, and other effects, to the nearest French ports in the Mediterranean; and of this convention General Menou was to be at liberty to avail himself.

The port of Alexandria was all that now remained in.

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in possession of the French; it was attacked by sea and land, and at length surrendered by capitulation on the 2d of September. At the time when the news of this event reached England, the views of men were turned to a new state of things. Administration had seriously entered into negotiations for peace. These were conducted by Lord Hawkesbury on the part of Great Britain, and M. Otto, who resided at London as agent for the French prisoners of war, and who was now intrusted, on the part of the French, with this important business. The whole was managed with such secrecy, that not even the persons who were in official situations, except those immediately concerned, were acquainted with the state of the negotiation; and the lord-mayor of London was the first person out of the cabinet to whom the result was communicated. Thus no unfair advantage could be taken; and this treaty stands almost singular on our records, since, at a period when the practice of gambling in the public funds was from the wide extension of public credit more predominant than at any previous crisis, not a single instance occurred of any sinister practice.

1109 Alexandria surrenders.

1110 Negotiation.

1111 Preliminaries of peace.

By the preliminary articles, which were signed at London on the 1st of October, by M. Otto on the part of the French republic, and Lord Hawkesbury on the part of his Britannic majesty, Great Britain agreed to the restoration of all her conquests, the island of Trinidad and the Dutch possessions of Ceylon excepted. The Cape of Good Hope was to remain a free port to all the contracting parties, who were to enjoy the same advantages. The island of Malta was to be evacuated by the British troops, and restored to the order of St John of Jerusalem. Egypt was restored to the Ottoman Porte. The territory of Portugal was to be maintained in its integrity; and the French troops were to evacuate the territory of Rome and Naples. The republic of the Seven Islands was recognised by France. The fishery at Newfoundland was established on its former footing; and, finally, plenipotentiaries were to be named by the contracting parties, to repair to Amiens, to proceed with the formation of a definitive treaty, in concert with the allies of the contracting parties.

During the war negotiations for peace had so repeatedly proved unsuccessful, that a general incredulity had come to prevail with regard to the possibility of such an event; accordingly all merchants conducted their speculations upon the supposition, that there existed no probability of an immediate termination to the war. The state of the present negotiation had been so carefully concealed, that, when the official intelligence of its issue was transmitted throughout the country, it everywhere excited the utmost astonishment. It produced, however, almost instantaneously, the most unbounded expressions of joy among all orders of persons. The zealous adherents, indeed, of the late administration were upon the whole rather dissatisfied; but their voice was overwhelmed in the general acclamations which took place, and which far surpassed the expressions of joy which had occurred at the termination of any former war. As an abundant harvest was reaped at the same time, the prospect of plenty greatly added to the public joy.

1112 Rejoicings for the peace.

1113 Meeting of parliament.

Parliament assembled on the 29th of October. By this time the new administration had obtained, by the mildness of their conduct, and by their successful negotiations for peace, a powerful hold over the affections of the public. When they first came into office, they appeared to have obtained a promise of support from their predecessors; but as might naturally have been expected, this kind of gratuitous support could not be very consistent or uniform. Mr Pitt himself continued to give countenance to the minister; but others of his friends avowed their dissatisfaction on account of the treaty with France.

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1114 King's speech.

The speech from the throne announced the favourable conclusion of the negotiations begun in the last session of parliament. It expressed much satisfaction, that the differences with the northern powers had been adjusted by a convention with the emperor of Russia, to which the kings of Denmark and Sweden had made known their readiness to accede.

That the preliminaries of peace had been ratified between us and the French republic; and while this arrangement manifested the justice and moderation of our views, it would also be found conducive to the interests of this country and the honour of the British character. As the provision for defraying the expences which must unavoidably be continued for some time, and maintaining an adequate peace establishment, could not be made without large additional supplies, all possible attention should be paid to such economical arrangements as might be consistent with the great object of security to his majesty's dominions.

The speech concluded with applauding the naval and military operations of the last campaign, and the glorious issue of our expedition to Egypt; and with a fervent prayer that the people might experience the reward they so well merited in a full enjoyment of the blessings of peace; and above all, in the undisturbed possession of their religion, their liberties, and laws.

In the house of lords, the motion for the usual address passed unanimously. In the house of commons, both Mr Fox and Mr Pitt declared, that they joined in the general joy which the peace had produced, and gave it their approbation. On the other hand, Mr Windham had the misfortune, he said, to differ on the cause of the general joy and exultation; he did not approve of the preliminaries of peace signed with France, nor could he approve the address, if it implied approbation of them; but as he did not consider the support of the one as inseparably connected with the other, he should not withhold his vote.

1115 The two opposed Mr Windham.

It behoved him to give his reasons for dissenting so materially in a material point. To stand as a solitary mourner in the midst of public rejoicings, to wear a countenance clouded with sadness, whilst all others were lighted up with pleasure, appeared ungracious. But were the circumstances of this peace such as justified our exultations on former occasions? To him they appeared in a quite contrary view; and when he was desired to illuminate, he should first endeavour to learn whether it was to light him to a feast or a sepulchre. It was his firm persuasion, that in signing this peace his honourable friends had put their signatures to the death-warrant of the country. He knew the inconsistency of human affairs, nor was he profane enough to set bounds to the dispensations of providence; but neither could he foresee what changes might be wrought

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Britain. wrought in the disposition of the people of England by intrigues from without or convulsions from within; but upon no rational view could he see his way out of the evils it would entail upon this country.

The only thing which was necessary to enable France to divide with us the empire of the seas was a participation of our commerce. This she would effectually secure by the present peace; while, by the surrender of our conquests, we had thrown out of our hands the only means to prevent it, the extension of our colonial system.

The motives which induced ministers to conclude these preliminaries, Mr Windham said, he knew not: some of them he had heard, but was not convinced; on the contrary, they appeared wholly insufficient. If we were forced to accept this peace through inability of resorting to alternatives, their conduct was the more excusable; and we had to thank them, not for what they had acquired, but saved for their country. If they can prove, that, by ceding foreign colonies, they had preserved objects nearer and dearer to us, as Portsmouth, Plymouth, and Ireland, and the soil of England, from ravage and desolation, they were entitled to gratitude instead of censure; and had established, not an apology, but a claim to thanks. Such a plea, however, he did not recognize; and how far they were actuated by necessity, would be a matter for future discussion.

Mr Addington said, that the observations of Mr Windham were premature, as the articles of the treaty were not before the house. Without referring to the terms of the peace (for that he could not do at this time without transgressing order) he would aver, that all we had given up would have afforded us no sort of security against the dangers apprehended by Mr Windham. The best counterpoise to the power of France was in the preservation of our constitution, in our industry and skill, in the right direction of our resources, (and happily much remained of these resources) which he considered, under providence, as the security of the blessings of peace.

Respecting the hint thrown out, that some unknown necessity might have been the cause of ministers having advised his majesty to sign the preliminaries, he totally disclaimed the plea; he did not seek his own justification, nor would any of his colleagues seek it, in such a way. If the enemy had not acceded to the terms agreed upon, we should have continued the contest, and been able to have carried it on, proving to the world, that we still had resources to maintain the honour and secure the liberties of the British empire.

Mr Sheridan said, that notwithstanding the unanimity with which the address was consented to, he believed, that if men sincerely delivered their opinions, there never was a period of less real unanimity. Mr Pitt had spoken of the peace in terms to which he could not agree, calling it glorious and honourable; still more did he dissent from those who maintained it was inexpedient to make peace at all. It was a peace of which every Englishman might be glad, but no one proud; it was a peace, involving a degradation of national dignity, such as the war might lead us to expect, the worst in which this country had ever been engaged; and the peace perhaps as good as any minister could make in the circumstances in which we were placed. Britain.

1116 Debates on the preliminary treaty in the house of lords.

In consequence of a message from his majesty, communicating the preliminary treaty with the French republic, an address of thanks was moved on the 3d of November. Earl Spencer expressed regret, in manifesting a difference of sentiment from the ministers, of all of whom he entertained a very favourable opinion, and with some of whom it was his pride to have coincided in principles, and co-operated in conduct. The great object of Britain, in former wars with France, was the preservation of the balance of power, that the relative strength of France should not exceed that of other countries, and thereby endanger our security. This was the point which had been considered, from King William's confederacy against Louis XIV. to the present age. To ensure this balance, it was not only necessary that Britain should not be left by the peace in a worse political situation than in the beginning of the war, but that her strength, possessions, or acquisitions, should continue in proportion as high as those of France. In the present war, the acquisitions of France had been infinitely beyond all former conception; she had, by her arts or her arms, subdued the Netherlands, Holland, the left bank of the Rhine, and a great part of Italy: her power, compared with that of Great Britain, exceeded what she had been allowed to retain at any former treaty of pacification; nor could we be secure, when such immense acquisitions had been left to France, without any thing like an equivalent left to this country. This general principle his lordship illustrated at some length, and strongly condemned the conditions of the peace now concluded. It was a peace of very great inequality, whether we viewed the relative state of France and the continent, or of France and England. It was also a peace with a republic which was still under the influence of a revolutionary government, with a usurper who could make a rupture whenever his spleen or caprice prompted a violation of the contract, and consequently a peace which could never be considered permanent. France, overgrown and gigantic, would easily be roused to a new war, whenever the first consul could gratify his inordinate ambition. In such a contest there would be great inequality, and thence would arise danger to this country, which, notwithstanding the valour of our arms by sea and land, would have a powerful and terrible enemy to combat.

Lord Pelham took a retrospect of the several negotiations, especially those in which the ex-ministers had been concerned. He said there was very little difference between the present peace, and that under the consideration of the late ministry. He stated the nature and progress of the negotiation after Lord Malmesbury went to France; and insisted that this was as proper a time to conclude it as any. Although nothing was mentioned in the preliminaries of the prince of Orange, he hoped something might be obtained for him by the noble marquis intrusted with the definitive treaty. The terms of peace were the best that could be procured, even in favour of our allies, such as scarcely could have been expected, as already stated in the preliminaries. Portugal was safe, whatever might be asserted

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serted to the contrary, and the Roman and Neapolitan territories had been released from the French yoke. One of the greatest triumphs of the war was the expulsion of the French from Egypt, by which our Ottoman ally had been saved, and the British name raised to the pinnacle of glory. With regard to Malta, of which surrender so many complaints had been made, it was his lordship's opinion, that its retention would have been more injurious than beneficial to England. A powerful garrison would have been requisite for its protection, which would have distracted our fleets and armies, without any object equal to the vigilance and activity of our men. In the East and West Indies, we had been triumphant by sea and land; our possessions in the east, so valuable to this country, had received very important additions, by the conquests we had made there. As to the security of the peace, we surely had every security which could be expected in this critical juncture of affairs. Besides, it was the policy and interest of France to preserve it, and in this view he believed it would be preserved, and consequently voted in favour of the motion.

Lord Grenville contended, that, as Britain was in a prosperous state, we ought to have obtained more honourable terms of peace, because we were in a condition to demand them. He said, it was far from his intention to undervalue the acquisitions of France; on the contrary, he thought them more important than was generally esteemed: she had made the Rhine the boundary of her empire, she had acquired Savoy, &c. and not only extended her territories beyond the ambition of her monarchs, but she had her frontiers protected by dependent republics and tributary kings. On our side, we had triumphs no less brilliant and striking; we had multiplied our colonies, and our navy sailed invincible. We had rescued Egypt, captured Malta, possessed ourselves of Minorca, and shut up the Mediterranean from the ships of France and Spain. The Cape of Good Hope was ours, if not the only, at least an important key of the east. In the East Indies, we had every thing except Batavia, which we might also have possessed, had we thought it worth the cost of an expedition. In the West Indies, we had Martinico, Trinidad, &c. Upon the continent of South America, we had an absolute empire, in extent almost equal to that power to which we restored it. He meant Surinam, Demerara, &c. Such were the colonial possessions acquired by the war. It, indeed, was not undertaken for the purpose of colonial conquests; yet the force of the country had wisely been directed to that object: for whenever we were at war with France, it was essential to cripple her marine, which could never be better done, than by contracting her commerce, and depriving her of her colonial possessions; and these should have been held as pledges of indemnity, and still more as pledges of security. If Europe could not have been restored to her pristine state, these ought to have been retained as a counterpoise to the power of France.

Lord Grenville denied the fairness of comparing the present treaty with that proposed at Lisle. We now gave up Surinam, Malta, and Minorca. At no time, during the contest, was the spirit of the country so depressed, as the negotiation at Lisle. If it were asked, why did we choose such a period to negotiate? the answer was, It was not chosen; but ministers were convinced, that the war could not be carried on, unless the people of England clearly found, that the rulers of France, at that time, would not grant us peace on any terms of moderation. A variety of causes combined to produce that despondency; the stoppage of the bank, the defection of our allies, and, above all, the mutiny in the fleet. If such were our situation, the measure was defensible on necessity; but this was not the case at present. Under all the disadvantages under which the negotiation at Lisle was undertaken, we demanded on that occasion the Cape of Good Hope, and Pondicherry and Cochin in the East Indies. The result was, in his opinion, that we had given to the French the only thing they wanted, the means of creating a navy, and of rivalling us in our commerce; while we had obtained nothing in return.

The earl of Moira said, that though the terms of the treaty were inadequate, they were unavoidable. The noble lord who condemned them, ought to recollect, that he had left the country in jeopardy, with a slender chance of recovery, and it was impossible afterwards to conclude an advantageous peace.—Lord Nelson made some remarks respecting Malta. He said, that when he was sent down the Mediterranean, this island was in the hands of the French; and on his return from Aboukir, it was his first object to blockade, because he deemed it an invaluable service to rescue it out of their possession. In any other view, it was of no consequence, being at too great a distance from Toulon to watch the French fleet from that port; and in time of peace, it would have required a garrison of 7000 men, in war as many more, without being of any real utility to us. The Cape would be equally detrimental if retained by us; and though it certainly ought not to be given up to them, this cession would be better than to keep it. Though the war had been long, he believed his majesty seized the first opportunity of making peace, and he believed it would prove the best that existing circumstances admitted. The address was carried by a great majority.

When the same subject was discussed in the house of commons, Lord Hawkesbury ascribed the origin of the war to the interference of France in the affairs of other nations; but said, that the state of that country was now considerably amended, and that it was impossible to look at the present state of France, without being convinced, that we had at least effected this change. View the manners and opinions of their people in 1793 and 1801! After this comparison he would not hesitate to give his opinion respecting the moral evils of the peace, and that they certainly were less at this moment than at any former period. With regard to the continuance of hostilities, there were two considerations by which we were to be regulated; the first was, Did we possess the power of forming another coalition against France? and the second, If we continued the war, what injury could France do to us, or we to France? The first coalition had failed, the second had equally failed. What encouragement had we to hope that the third would be more fortunate, and to hazard so dangerous an experiment?

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they occupied almost the whole of the northern
to the Levant, which was so strongly felt by u
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converted wholly to their own profit, without pos
a port in the Levant.

Lord Hawkesbury added, that of Trinidad ar
lon he could not say too much, when he called t
two great naval stations of the parts of the w
which they belonged. Ceylon contained ports s
cious and secure, that the whole of the navy ar
merce of Great Britain might ride with ease an
in them. It held out a position to which our
army might retire, if necessary, and defy the atte
the united force of the world. Trinidad was
considerable naval importance, and so healthy a
ductive, as to induce us to select it in prefer
every other possession in that quarter. Thus, c
ing the results of the war, if the term glory be n
into account, we have at least made an hon
peace; we had been engaged in a tremendous
and come out of it, considering the circumstanc
advantage. The situation of Europe and of Gr
tain might appear critical; but, in a sound sy
policy, consisting of firmness and moderation, w
found a counterpoise for every danger, and a
for every evil.

Earl Temple considered those who had sig
peace, as having signed the ruin of their c
Amongst other ill consequences, he lamented
couragement hereby given to republican pri
and one of its effects was to revive the hopes
disaffected. He recapitulated the various ob
objects of the war, not one of which had been
plished. The only adequate plea for such a pea
dire necessity.—Mr Pitt said, that, upon a sub
such importance, it was his misfortune to diff
those with whom it had been his happiness to
habits of strictest friendship.

He remarked, that it was undoubtedly the
government, in negotiations, to obtain the bes
ble terms; but it was difficult to know how
sisting on some lesser points might endanger th
treaty; and, for his own part, he had no hesit
declaring, that he would rather close with an
on any terms, not inconsistent with the honour
country, than continue a war for any particular
sion. When he had the honour of a seat in hi
ty's councils, if it had come to a question o
and if the pacific disposition of the enemy had
sponded with ours, he knew that he himself
have acted on that principle; and knowing
was but candid to apply it to another adminis
He did not pretend to state, that this peace fu
swered all his wishes; but the government had
ed the best terms they could, and the terms fo

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we contended would not have justified ministers for protracting the war.

Our grand object was to give additional vigour to our maritime strength, and security to our colonial possessions. In thus considering the subject, it was necessary to look to the leading quarters of the world in which we were to seek this security. Our acquisitions were all in the Mediterranean, in the East and in the West Indies; and if, on examination of this treaty, it should appear, that in two out of the three quarters mentioned, viz. in the East and West Indies, we had retained such possessions as effectually preserved our ancient territories, we had done much. He meant not to undervalue the conquests in the Mediterranean, especially Malta; but certainly it was of secondary consideration, when compared with the Indies. The Levant trade he accounted unimportant, in comparison with the trade with Ireland, America, and the tropical regions. He accounted it sound policy to place Malta under the protection of a third power, to avoid attracting the jealousy of France. Mr Pitt declared, that he regarded the Cape of Good Hope as far inferior to Ceylon, which, of all places upon the face of the globe, would add most security to our East India possessions; as Trinidad was of the greatest importance in the West, being a post from which we might direct our future operations against Spain in South America. When it came to be a question of terms between England and France, it was necessary for us to retain one of the greatest naval stations in the West Indies, because our chief want in that quarter was a naval post. The four were, Guadaloupe, Martinique, St Lucia, and Trinidad; and of those Trinidad and Martinique were the best, and Trinidad the better of the two.

Mr Pitt justified our conduct towards our allies, who themselves had forsaken us, or requested to be relieved from their engagements towards us. Even were we to take upon ourselves the granting a remuneration to the Prince of Orange, Mr Pitt thought it ought not to stand in the way of a great national arrangement. But it had been affirmed, that we had signed the death-warrant of our country in this peace, and given to France an augmentation of maritime strength, whilst we had gained nothing to balance her power. Now, in the first place, if we had retained all our conquests, it would not have made any difference to us in point of security: not that he meant to imply that he would not have kept them all if he could: but they were not important, except, as they would give us a little more or less of colonial strength, and only tended to promote our security, by increasing our finance. The acquisition of all these islands would not have enabled us to counterbalance the power of France on the continent; they would only have added a little more wealth, which would have been ill purchased by a little more war.

Mr Pitt said, that our resources were greater than the French, or even the English themselves, fully understood: but they ought not to be lavished away; as, by a continuance of the war, we might come to sit down in a worse relative situation than at present. He said, that the former administration had wished to see the restoration of the French monarchy, but did not insist upon that point. If it became impossible to attain this, policy required that we should remain satisfied with the next best.

Mr Fox declared himself satisfied with the terms of the treaty, and asserted, that no perseverance in the war would have enabled us to make peace upon better conditions. There were persons, he said, who lamented the peace as glorious for France. If it were so, and not inglorious to England, it gave him no concern. The opinions of men depended in a great degree upon their conceptions of the causes of the war; if one of its objects was the restoration of the accursed despotism of France, to him it was another recommendation of the peace, that it had been obtained without the accomplishment of such an object. If the coalition to restore the Bourbons had succeeded, the consequences would have been, amongst all the kings of Europe, a perpetual guarantee against all people who might be opposed by any of them, in any part of the world. All countries therefore must be benefited by the failure of such a project, but no one more so than Great Britain. Had the coalition in the reign of Charles I. established such a guarantee, would the liberties of the people have been preserved against the house of Stuart? Had such a guarantee existed in latter times, would the revolution of 1688 have been able to maintain itself?

In the terms and tone of the present treaty, he perfectly coincided. He approved the terms, and thought the noble secretary had wisely tempered firmness of conduct with moderation of tone; but further than this he could not go: he would by no means agree respecting the time in which the treaty was made: it came many, many years too late.

He said, he would put it to the house, whether at the time the opposition was most railed against, for advising pacific measures, we could not have made peace on terms equally advantageous with the present. Would not France, on the breaking out of the war, have acceded to any? Would she not then have relinquished Holland, and perhaps abandoned her designs on the Netherlands? But since that eventful period could we not have negotiated better very often, for instance, after the surrender of Valenciennes? Again, at Lisle, when we only failed from the extravagant pretensions of administration? In January 1800, the chief consul made a direct overture, and we returned answer, that the most effectual mode of facilitating peace would be to restore the Bourbons, not indeed as the only means, but it was left to the French to suggest any other: Did we hint then at the possession of Ceylon or Trinidad? Would not Bonaparte have added these? Yes, and the Cape into the bargain.' We then might have had Egypt by the convention of El Arish. The gallant Abercromby, indeed, would not have fallen covered with laurels in the lap of victory, nor would our brave army have acquired immortal honour; but we should have gained Egypt without the loss of blood or treasure. The chief consul might not perhaps have relinquished the Netherlands, or the left bank of the Rhine; but in Italy he had only the Genoese territory, and we had nothing then to resist to the south-eastward of the Alps, and our allies were victorious to the frontiers of France. At that time, the instability of the government operated with us; but neither its stability nor instability were of any real consequence. None

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of the convulsions and changes of the French revolution produced any material difference in her relation with foreign powers. She had at the beginning made peace with Prussia, and sedulously preserved it during the stormy times succeeding its ratification. We were told by the ministers to pause, and we did pause from January 1800 to October 1801, and added 73 millions to our national debt, since we returned that impertinent answer to the overtures of Bonaparte. This pause cost five times as much as all the duke of Marlborough's campaigns.

1113 Definitive treaty negotiated.

To negotiate the definitive treaty of peace, the marquis Cornwallis went to Paris towards the close of the year, and from thence to Amiens, where the negotiations went on very slowly, and were not concluded till the 27th of March 1802. The chief difficulty occurred with regard to Malta. It was at last agreed that it should be restored to the knights of the order of St John, under the protection and sovereignty of the king of Naples; and that it should be under the guarantee of France, England, Russia, Spain, Austria, and Prussia; that if the order should not have sufficient troops to defend the island, the guaranteeing powers should each contribute an equal portion of troops, the officers to be appointed by the grand master. It was settled that Malta should be a neutral port, that one half of the garrison should be Maltese, and that there should be no French or English body of knights, or tongue as it is called. The king of Naples, however, was to be invited to garrison the island with 2000 men for one year, from the restitution of the knights; which was to take place in three months after the exchange of the ratifications of the treaty. In other respects, the definitive treaty differed little from the preliminaries formerly agreed to.

1119 Suspicious conduct of Bonaparte.

During the dependence of the negotiation, the French first consul, Bonaparte, had taken some steps which indicated little moderation, or rather an arbitrary presumptuousness of character, which demonstrated that it would be extremely difficult to remain upon terms of amity with him, and that the desire of extensive dominion, which at present governed his council, was of too restless a character to allow much hope of tranquillity to the world. Without waiting till a definitive treaty of peace should be concluded, he sent an immense army to St Domingo, which obliged Britain to send to the West Indies a powerful fleet to watch its motions. On the continent his measures were much more arbitrary. A considerable portion of Lombardy, with Milan as its capital, had been erected into what was called the Italian republic, containing some millions of people. This was now united to France, by the form of nominating Bonaparte to the supreme office of president over it. This last measure would at any other period have involved all Europe in war; but at present no state ventured to interpose; and the British ministers finding no power in Europe disposed to resist this step towards the permanent aggrandisement of France, and being themselves truly anxious, as it would seem, to restore peace, did not interrupt the negotiations on this account.

1120 Definitive treaty.

On Thursday the 29th of April, Lord Pelham by his majesty's command, laid before the house of lords, a copy of the definitive treaty of peace between his Britannic majesty and the French republic, his Catholic majesty, and the Batavian republic, signed at Amiens on the 27th of March. Several debates occurred in that house upon the subject; and, at length, on the 15th of May, Lord Grenville moved the order of the day, for the house to take into consideration the definitive treaty. He remarked, that it might be asked of what use was discussion, now that peace was concluded? Was it to abrogate, could it correct the treaty? To this question he was the first to answer that this unfortunate treaty had been ratified by his majesty, and was therefore irrevocable; to its terms, however injurious, we were bound to accede. By evasion we should but add to disaster disgrace, and, with the loss of national honour, fill up the measure of national calamity. He wished not to impede the execution of the treaty, but to demonstrate to that house its dangerous tendency; to ascertain the situation in which it left the country; to point out the perils which impended, and the safety which yet remained. His objections to the preliminary treaty he had already stated; but to the definitive treaty there were objections yet more formidable. His lordship observed, that the two bases of negotiation, the *status ante bellum*, which signified the actual situation of the parties previous to hostilities, and the *uti possidetis*, which referred to their position during the pacification, had both been applied in the most prejudicial manner to this country. With regard to herself, England had adopted the *status ante bellum*; with regard to her rival, the *uti possidetis*. England had ceded her own conquests, and confirmed to France her new acquisitions. France possessed dominion on the continent; we had to oppose that dominion, the colonies of France and Spain. It would have been just that France should purchase our colonial by her continental sacrifices. His lordship contrasted the definitive treaty with that of 1763. It had, he said, been an invariable principle with Lord Chatham, to make the preliminary as much as possible the definitive treaty. Our negotiators had treated with France during a naval armistice. Immediately subsequent to the preliminary treaty, France had sent an armament to the West Indies, and obliged England to destine for the West Indies also, a naval force more than double to any squadrons which had been sent during the war. The necessity of keeping in the West Indies 35 sail of the line was the first fruits of the peace. His lordship contended, that it was incumbent on our negotiators to have insisted that the French fleet should not sail till the preliminary articles were definitively ratified, and till the first consul had afforded proof that he meditated not the accession of power he had since made in Italy. It was obvious, that the definitive treaty contained concessions more important than the preliminary articles; and it was palpably the object of the French government to exclude the commerce of this country from the continent of Europe. With respect to the situation in which Portugal and the prince of Orange were left by the treaty, the house had been told that it was a pity, and that the articles were read with regret. The proposed indemnity to the prince of Orange was evidently at the option of France; for the Cape of Good Hope, no effort had been made to ensure its independence; and Malta, whose independence had been

1121 Debates on the definitive treaty.

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expressly stipulated, with the provision that it should be guaranteed by one of the powers of Europe, competent to its protection, was finally placed under the guarantee of six powers who never could be brought to agree on the subject of it. Its restoration to the order was nominal and futile. He had estimated the whole Maltese revenue at 34,000l. of which, however, 8000l. only came to the knights; he was now competent to state that the expenditure of Malta amounted, on the average of ten years, to 130,000l. per annum. The dominions in France and Spain had been confiscated; the langues of Italy had produced about 20,000l. or 25,000l. from their property in Piedmont, which was also confiscated; the langues of Naples and Portugal, with a revenue of 20,000l. remained to support the establishment of 130,000l. The order of Malta was virtually extinct; it would be subject to the nomination, the influence, and the dominion of France. His lordship objected to the treaty, that certain pecuniary claims, which Britain had for supporting the French prisoners during the war, had been relinquished. He contended that, by the circumstance of this treaty not containing a clause as usual renewing former treaties, and in particular by the non-renewal of the treaty of Utrecht, this country had ceded its claims of equal participation with France in the privileges of commerce in Spanish America. In like manner, we had confirmed the cession of Goree and Senegal, without renewing the clause which stipulated for us the liberty of carrying on the gum trade; whilst France had manifested her hostility to our commerce, by prohibiting the right of trading on that part of the coast of Africa. His lordship proceeded to take a retrospective view of the situation of this country at the commencement of the negotiation. With a colonial territory of an immense extent, we had, in the very conquests achieved by our arms, the means of perpetuating our victories. From the West Indies, the produce of which amounted to two millions annually, a considerable revenue had arisen, which was now lost. By our naval superiority, we had controuled the movement of the French fleet; they were now at liberty to steer for the West Indies, and we were under the necessity of sending fleets to watch them. We were in possession of resources adequate to the prosecution of the war, and held in our hands the means of extorting a just and reasonable peace. Instead of improving these advantages, we had resigned to the French the preponderance of power on the continent, established her sway in Italy, and annexed to her important possessions in India. Even our right of sovereignty in India was no longer recognized. It had been suggested that this right was guaranteed by the silence of the definitive treaty; a mode of argument which appeared equally strange and singular. His lordship affirmed, that the sovereignty of the Cape was necessary to the safety of our territories in India. He instanced the war with Tippoo Sultan, when a corvette had been sent to the Cape, from whence fresh troops were immediately dispatched, who landed, marched, and co-operated at the siege of Seringapatam. By ceding the Cape to Holland, we had ceded it to France. The town and port of Cochin had also been surrendered to Holland, and virtually to France. In the West Indies we had restored to France Martinique and Tobago, and facilitated the recovery of St Domingo. France was also mistress of Louisiana, and in reality of Florida, which could not from its vicinity to Louisiana remain subject to Spain. France possessed the key of Mexico, which she might enter at any period. If we returned to the Mediterranean, his lordship said, it would be impossible to send there a single ship, without the permission of France. We were stripped of Majorca, Minorca, and even of the island of Elba; we were excluded from Leghorn, and deprived of the means of maintaining a fleet in that sea. The king of Sardinia could no longer open to us his ports. His lordship observed, that the victory obtained by Lord Nelson at Aboukir was to be attributed to the assistance rendered by the king of Naples. In return for these services, the British government had stipulated that the French republic should evacuate his dominions, without stipulating that they should not return to them. His lordship added, that whatever the valour of the British navy had won, the incapacity of a British ministry had lost. He would ask whether the advantages of such a peace preponderated over the disadvantages of the war? It had diminished our commerce, and rendered it absolutely necessary, for the sake of safety, to maintain a great naval and military force in constant discipline.

The duke of Norfolk expressed his hope, that now the sword was restored to its scabbard, it would not again be unsheathed for the acquisition of a station in the Mediterranean. Lord Auckland, in reply to Lord Grenville, discussed a point of some importance in the law of nations. He stated, that, from an attentive perusal of the works of the publicists, he had corrected, in his own mind, an error still prevalent; that all treaties between nations are annulled by war, and, to be reinforced, must be specially renewed on the return of peace. It was true, that treaties, in the nature of compacts and concessions, the enjoyment of which has been interrupted by the war, are thereby rendered null: but compacts which were not impeded by the course and effect of hostilities, such as the rights of a fishery on the coasts of either of the belligerent powers, the stipulated right of cutting logwood in a particular district; compacts of this nature were certainly not affected by war. There were also circumstances which might authorize the dissolution of treaties, without any rupture between the two parties. In the late revolution in Holland, the antecedent treaties subsisting between us would have been dissolved, although no hostilities had ensued, by her incapacity to maintain the relations to which those treaties were meant to apply. It had therefore been well observed by Vattel and other writers, that treaties cease whenever an essential alteration in either of the contracting parties takes place. He applied this doctrine to Savoy, Switzerland, and other countries, the temporary victims of the French revolution. His lordship admitted, that the definitive treaty contained not a single provision, direct or indirect, for the renewal of treaties, which had subsisted previous to the war; but it was not true, that by the non-renewal of our treaties with Holland, the vessels of that republic would be exonerated from the ancient practice of striking their flag to British ships of war in the British seas; that

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Britain. that practice had existed independent of the treaty of 1782, or even of the treaty of Breda in 1767, which were only recognitions of a pre-admitted claim. The same remark was applicable to the sixth article of the treaty of 1764, by which the States-general promised not to obstruct the navigation of British subjects in the eastern seas. That article was no new grant, but an acknowledgment of a right, and a notification to merchants that they would not be disturbed in the exercise of that right. With respect to France, his lordship acknowledged, that the commercial treaty of 1786 had expired, but not till it had reached the natural era of decay; nor should he feel solicitude for its resuscitation, unless our negotiator at Amiens could have proved, that the French manufacturers were able, in 1802, to resume the competition to which they were unequal in 1786, under the existing tariff; unless we also would have sacrificed the additional wine duties, which produced above a million sterling. He had the deepest conviction of the importance of commercial treaties; and he appealed to the recollection of the manufacturers of Birmingham, Staffordshire, Lincolnshire, Yorkshire, and Paisley, who, during six years, had experienced the benefits of the commercial treaties. His lordship was ready to admit, that the great and venerable mass of treaties, which had long constituted the title-deeds of nations, was utterly gone; but this event was independent of omission in the definitive articles; it was caused by the fate of war and the tide of revolutions, which had swept away the old order of things in Europe. He thought the French plenipotentiaries right in objecting to the renewal of treaties, irreconcileable with the present state of Europe. With regard to our sovereignty in India, it had been confirmed and extended by various treaties, recognized by all the powers of Europe and India, who had accepted privileges from us; and finally established by the undisturbed possession of 40 years: that France was bound by the law of nations, in India and elsewhere, and by that law was pledged to resume the situation she had maintained previous to the war.

On the contrary, Lord Carnarvon represented the treaty as pregnant with danger to the country. With the highest respect for the virtues of those who composed the present administration, his lordship confessed, that he had never confided in their talents or experience. The moment they had taken the helm, they had pressed into their service a noble lord, beloved indeed, but ill fitted for the invidious task of coping with men old in craft, adepts in duplicity, regardless of principle, and unpractised in virtue. Under negotiators so unequal, some disadvantages were inevitable; yet the preliminary articles, which disappointed even the least sanguine, and which were approved by none, were welcomed by all. It had been hoped, that some articles relative to our allies, and involving our own national honour, would be altered: but the definitive treaty, instead of realizing, had annihilated these hopes; concession was heaped on concession, disgrace added to disgrace. By omitting to renew former treaties, ministers had unadjusted all former adjusted disputes, and without the customary acknowledgment of our rights, had left us to the honour and justice of France. So mysterious, his lordship observed, had been this part of their conduct, that it was difficult to understand whether they sought this omission, or were betrayed into it. The country was entitled to know the truth, and his lordship challenged the ministry to avow it. It was palpable, that a deliberate refusal to renew a treaty, admitted but of one construction, that the treaty was abrogated; if the refusal had come from France, the stability of the peace was on a different footing: all former disputes were let loose.

Lord Ellenborough expressed much surprise, that the non-renewal of treaties should have been urged as a serious objection to the definitive treaty. To what purpose was solemn nonsense to be revived? Were not these treaties replete with articles wholly inapplicable to the present political state of Europe? For himself, he could as well think of the revival of the condition of mankind, in some very remote period, as of the ancient treaties which had become inapplicable and obsolete. Our sovereignty in India, his lordship said, rested on the rights of conquest in legitimate war, upon the repeated recognition of all the powers of Europe, and on the best rights of all, possession. His lordship, in a rapid epitome of our history in India, observed, that the acceptance of the Dewannee was a foolish thing, though he honoured the gallantry and ability of Lord Clive. He approved of the arrangement respecting Malta; and thought the cession of the Cape of Good Hope a subject of felicitation rather than of regret. He stated, that the charge at which it must have been retained was enormous; that England could not send thither a single chaldron of coals, without the expence of 26l. 10s.; and it was notorious, that when the Dutch were remitting to this country, in the season of scarcity, a scanty supply of grain, the English government had to procure rice and other provisions from India; and was even obliged to send home for a supply of biscuit, not for our troops, but for the Dutch themselves. Much had been said of the free navigation of the Indian seas. Had a British ship been stopped in those seas? For the paltry prerogative of lowering the Dutch flag, he thought there was little magnanimity in exacting of the weaker, more than was required of the stronger powers; and he added, that Portugal was grateful for the services rendered her by the definitive treaty.

1122 Debate in the house of commons on the definitive treaty.

The same subject, after being repeatedly alluded to, was finally discussed in the house of commons on the 13th of May. Mr Windham attacked the treaty in several of its prominent parts. With regard to Malta, he contended, that it must ultimately fall into the hands of the French. The little order of Malta, which contained in itself the great characteristic and distinctive qualities which the French revolution had subverted, was now destroyed. The little phial which contained the essence of the old principles, had been diluted by ministers, not even with common water, but with water from the puddle. The German knights had already refused to serve in a body so degraded and debased; the Neapolitan soldiers would form no security for the independence of the island; the state of Malta was a virtual surrender, and our position in the Mediterranean untenable. The Cape of Good Hope was ceded, in full sovereignty, to the Dutch, who were thus at liberty to resign it to France. It had been said, that the Cape was but a tavern; and surely

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ting each man at 60l. the sum of 18 millions would be necessary to provide for the island the ordinary complement of black inhabitants. Was it probable, that France should possess the capital to make this purchase, without which, the island would be of little value? His lordship concluded with recommending a vigorous establishment, adequate to the protection of our rights, independence, and honour.

Mr Addington said, that he desired not that the treaty should be praised. He had never regarded it with sentiments of exultation; never lavished on it panegyric: he was content, that the honour of the country was unsullied by the measure he had adopted. If he were asked, why, after the transactions at Lyons, no remonstrance had been made to France? he must answer, that it was wrong to put questions, which his duty as minister forbade him to resolve. This he would say, that, had the negotiation failed, it was the intention of his majesty's ministers, to have laid every document concerning it before the house. He acknowledged, that the territorial acquisitions of France could not be viewed without regret; but there were events which we could not controul, and dispensations in which we must acquiesce; he should rejoice to see the resources of this country economized by peace. He trusted, that peace would be preserved; or, should the war be renewed, hateful as was that supposition, it would be a satisfaction to every man in that house to reflect, that nothing had been neglected for the preservation of peace. He would even say, that we were pursuing the best course for war, by husbanding our resources, at a period we had the liberty of doing so; or, what was better, of preventing a war, by being prepared to meet it.

Mr Sheridan treated the subject with some gaiety. He said, he supported the peace, because he was convinced that ministers could obtain no better; their predecessors had left them to chuse between an expensive, bloody, fruitless war, and a hollow perilous peace. He attacked the new oppositionists, who had been supporters of the former administration, and demanded for what did we go to war? Why, to prevent French aggrandisement. Have we done that? No. Then we are to rescue Holland: Is that accomplished? No. Brabant is the *sine qua non*: Is it gained? No. Then come security and indemnity. Are they obtained? No. The late minister told us, that the example of a jacobin government in Europe, founded on the ruins of a holy altar, and the tomb of a martyred monarch, was a spectacle so dreadful and infectious to christendom, that we could never be safe while it existed, and could do nothing short of our last effort for its destruction. For these fine words, continued Mr Sheridan, which had at last given way to security and indemnity, we had laid out near 200,000 lives, and nearly 300 millions of money, and had gained Ceylon and Trinidad. But one grand consolation remained. Bonaparte was to be the extirpator of jacobinism; the champion of jacobinism was to become a parricide; the child of sin was to destroy his mother; he had begged pardon of God and man, piously restored bishops with the salaries of curates, and penitently extorted of them a solemn oath to turn spies and informers in his favour. It had been said, that France must have colonies to be afraid of war; that is the way to make Bonaparte love peace. He has had, to be sure, a rough military education; but if you put him behind the counter a little, he will mend exceedingly. When he was reading the treaty, he thought all the names of foreign places, Pondicherry, Chandernagore, Cochin, Martinico, all cessions. No such thing; they are so many traps or holes to catch this silly fellow in, and make a merchant of him. Mr Sheridan said, that at present in Britain, nobody knew who was minister, as the present ministers continued to identify themselves with the former. That when the ex-minister quitted his office, almost all the subordinate ministers kept their places. Of the late minister he said, that none more admired his splendid talents than he did. If ever man was formed to give lustre to his country, he was that man. He had no low, little, mean, petty vices; he had too much good sense, taste, and talents, to set his mind upon ribbands, stars, and titles; he was not of a nature to be the tool and creature of any court: but great as were his talents, he had misapplied them in the politics of this country, he had augmented our national debt, and diminished our population. He had done more to abridge our privileges, to strengthen the crown at the expence of the constitution, than any minister he could mention. Mr Sheridan concluded with moving, as an amendment to Lord Hawkesbury's address, that it was the opinion of that house, that the omission of various opportunities of negotiating peace with advantage to this country, more especially the rejection of the overtures made by the first consul of France in January 1800, appeared to that house to have led to that state of affairs, which rendered peace so necessary, as to justify the painful sacrifices which his majesty had been advised to make for the attainment thereof. The address proposed by Lord Hawkesbury was carried by a very great majority.

During this session of parliament, the most important operation of finance, consisted of the repeal of the tax upon income, which gave great satisfaction. Indeed, in their whole conduct, administration conducted themselves with a degree of moderation and prudence, which greatly conciliated towards them the minds of the public. They defended on all occasions the former ministry, against the attacks of the old opposition; and in return, they were supported by a considerable number of the members of that administration, including Mr Pitt. At the same time, they did not appear unwilling to enter into political connections with the members of the old opposition. Parliament was prorogued on the 28th of June, and dissolved on the following day. The elections which immediately succeeded, exhibited the singular spectacle of an administration, that avoided interfering in the choice of the members of parliament. The members and friends, however, of the old administration, together with their opponents, were abundantly active.

The effect of the change of ministry had by this time been very sensibly felt over the whole island. During the preceding ten years, the minds of men had, in a less or greater degree, been kept in a state of constant alarm from the fear of plots and conspiracies against the government; and from the apprehension, that a most dangerous disaffected party was at all times ready to burst forth into action; and that the British constitution

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constitution was only preserved in consequence of the suspension of the habeas corpus act and other legislative restraints, aided by the extreme vigilance of administration, and of their friends, in repressing disaffected persons. Hence society existed under a sort of general apprehension and distrust; and persons originally unfriendly to the war, suffered, in all departments of business, and in every quarter of the country, a considerable degree of political persecution. All this had now passed away; the new ministers suffered the penal and restraining laws quietly to expire, and the constitution to depend for support upon its own strength and the ancient provisions of the law; they gave themselves no trouble about the general sentiments of the people with regard to speculative subjects, and seemed willing to conciliate the good will of all orders of the state. The consequence was, that all the fears and anxiety which formerly existed about the safety of the constitution, seemed to pass away like a dream, and an universal attachment to the institutions of the country appeared to exist, without any jealousy that danger to their safety was to be apprehended from any quarter; and political animosities, being no longer fed by alarms excited by government, were, as if by a sort of enchantment, appeased and forgotten.

1125 Effects of peace.

With regard to the effects of peace upon the British and French nations, they promised at first to be extremely favourable to the general interests of humanity. The French had successfully defended their own independence, and in their turn had assailed those by whom it had been menaced, with such a persevering energy as secured to them a portion of respect from the British nation; while on the other hand the maritime triumphs of Britain had been so splendid during the whole war, and the valour of her troops in Egypt had been so distinguished, as to secure to this country a high degree of consideration in the eyes of the French. The people of the two countries accordingly seemed eager to unite into habits of great intimacy with each other. Very considerable numbers of Frenchmen came over into Britain; while at the same time multitudes of persons of all ranks hastened from Britain, to visit a country that had of late years excited in so remarkable a degree the attention of all the nations of Europe, and been the scene of such extraordinary transactions. Upon this tendency of the two nations, thus reciprocally to abandon their mutual animosities, a system of commercial intercourse might have been reared, of a nature much more perfect and simple than that created by Mr Pitt's commercial treaty. There is no reason to believe, that any disposition existed on the part of the British government to stand aloof from France, or to avoid, for any political reason, the extension of our commerce into that country. There can be no doubt that such an intercourse would have proved favourable to France in every point of view. It would have enabled her people to derive considerable aid from the great capital of British merchants, which would have been rapidly and liberally advanced towards promoting the culture of their wines and other valuable productions. Even in a political point of view, France would have derived aggrandisement from such a connexion. What she wanted was a navy to enable her to defend her colonies, or even contend with any chance of success against Britain in the event of a future war. This she could only obtain by means of commerce, and commerce could in no way be better encouraged than by engaging continually in trade with the first commercial nation upon earth.

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1126 Conduct of the French government.

But it was now to be demonstrated to mankind, that a man may be qualified to lead armies successfully to battle, to overrun provinces, and to attain the envied title of a conqueror, who at the same time possesses only a very moderate portion of magnanimity, of self-command, or knowledge of the rules of sound policy or the best interests of nations. The French government, instead of seizing the opportunity of encouraging their people to become commercial, and thus gradually acquire wealth, and form a maritime power, by laying open their ports, and holding out to Britain a commercial treaty upon the most liberal principles, shut their own ports more closely than during the most violent period of the war. They vainly fancied, in this way, that they would enable their own manufacturers to rival those of Britain, while in fact they only excluded their wines from the British market; and by thus losing the only sure and ready mode of attracting riches into their country, they prevented the acquisition by enterprising individuals of a large capital gained by trade, without which no manufactures can ever greatly prosper. They idly thought they were in this way limiting the trade of Britain, which having all the rest of the world open to its efforts, could not thus be injured, and thus in truth they only injured themselves.

With similar ill policy, or at least with a restless spirit of ambition, the French government could not abstain from pursuing aggrandisement by those efforts of violence which are only tolerable in the midst of war, but which in peace justly excite the jealousy and indignation of mankind.

1127 French expedition against St Domingo.

One of the first enterprises of Bonaparte, in consequence of the peace, was to reduce under his power the island of St Domingo. That great and fertile island had suffered the most severe calamities in consequence of the revolution. These had terminated in the emancipation of the negroes from slavery; and they had formed themselves into a regular and sufficiently orderly goverument, at the head of which was one of their own race, Toussaint, a man of humanity, and, it is said, of considerable talents. Reports were circulated in Europe, that he wished to render St Domingo independent of France; but of this there is no proof; and it is probable that his chief offence consisted of the general estimation and personal consequence to which he had attained; and that the despotic spirit of Bonaparte could endure no appearance of elevation of character, or of independence, in any part of the French territory. Nor was it unnatural that under a military government force should have been employed in preference to any methods of conciliation. At the end of the year 1801, an army of 25,000 men was sent out to St Domingo; and as single ships and small squadrons continued to sail during the winter, loaded with troops, it is believed that near 40,000 men were employed in what might be called the first division of the expedition. We have very defective accounts of their proceedings, but they appear to have been extremely disgraceful on the part of the French. The negro chiefs having refused unconditional submission, they

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Britain. they were attacked, and having been defeated in several battles, dissension among themselves took place, and Toussaint was at last induced to enter into a negotiation. The terms of the treaty were concealed; but, as he was still at the head of a respectable force, it is believed that the possession not only of his personal freedom, but the undisturbed enjoyment of his property, was secured to him, and his followers were promised a full indemnity. This took place in the beginning of May 1801.

The French general, Le Clerc, the brother-in-law of the chief consul, no sooner perceived the negro chief in his power, and the tranquillity of the colony apparently re-established, than he immediately accomplished one of the basest acts of treachery that ever disgraced a government. The abdicated general was accused of a conspiracy, though it was evident there was not time from his submission to his seizure even to meditate, much less to organize, such a measure. On the 12th of May, Toussaint, with his whole family, was put on board a frigate, and, contrary to the most solemn treaty, shipped off for France. There he soon perished, in consequence of harsh usage in prison. The negroes of St Domingo soon perceived themselves to be betrayed and deceived. An attempt was made to reduce them back into a state of slavery after they had now enjoyed freedom for several years, and they were publicly sold as formerly. The chiefs who had been prevailed with to desert Toussaint, and whose desertion had led to his surrender, now justly learning that they were destined to partake in the miserable fate of their deluded colleague, betook themselves to flight. The whole island revolted. The climate came in aid of these avengers of tyranny and falsehood. The miserable instrument of the first consul's cruelty fell himself the victim of the climate. After a series of horrors and atrocities, even worse than those which blacken the memory of Robespierre, Marat, and Carrier, and which will, to future ages, remain a lasting stain on the French character; the republic had to regret the loss of 60,000 of her best troops, in a vain attempt to subdue a colony, which might, with temper and humanity, have been conciliated.

1128 Conduct of the French in Europe.

In Europe the conduct of the French government was not less arbitrary. The whole fortresses of Piedmont were dismantled, and that country ultimately annexed to France. The same was done with regard to the duchy of Parma and Placentia. The Swiss, in the mean time, whose form of government had been altered in imitation of that of France, wished to restore the ancient constitutions of the cantons, under which their ancestors had prospered during so many ages. Their present leaders, however, who had risen to power by the protection of France, solicited the interference of Bonaparte in their favour. He accordingly sent a numerous army against Switzerland, and in spite of the remonstrances of the British court, placed the sovereignty in the hands of his own dependents or adherents.

1129 Despotism of Bonaparte avowed.

After all their struggles for freedom, the French nation now submitted to a confirmed military despotism. When Bonaparte first assumed the appellation of chief consul, it was under the declaration, that his office would only endure, in terms of the constitution then promulgated, for ten years. But this constitution was now altered, and the assent of the people was demanded to a new constitution, by which Bonaparte was to remain consul for life, and even to possess the power of nominating his own successor. Suffrages to this measure were obtained to the number of 3,577,259. The event was celebrated with the highest magnificence in Paris; and addresses of congratulation were presented from the different courts of the continent of Europe, and even from the emperor of Germany.

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11 Paper between Bonap and th Englis news-paper

These transactions could not fail to be noticed in Britain, and to be the subject of remark in the public newspapers. In these the unprincipled ambition of Bonaparte, and the degraded character and state of the French nation, became topics of frequent discussion. It appears that Bonaparte very early became jealous upon this head. The English had long boasted, in consequence of their political freedom, of their superiority as a people over their enslaved neighbours of France; and the first consul, no doubt, dreaded lest the vanity of his subjects should be wounded by representations coming, from the free press of England, of the state into which they had fallen. A great degree of irritation was thus produced in the French government against England; and the chief consul even went so far as not only to prohibit the importation of English newspapers in France, but to demand from our government, that the best bulwark of British freedom should be done away, by imposing restrictions upon the liberty of the press. He was weak enough, though the medium of the French official journal, to commence a contest of argument and of eloquence against the writers of English newspapers In such a warfare he could not fail to be beaten; because they had nothing else to do but to write, and because the obscurity of their situation, as individuals, enabled them to inflict wounds without fear of reprisals. Such writers also had much to gain by such a contest, as they could wish for nothing more favourable to their employment, than to be enabled, during a dull and monotonous period of peace, to render their lucubrations interesting, and to amuse their readers, by engaging in a paper war with the great Bonaparte. These circumstances, however, added to the restless ambition of this personage, and his obvious want of discernment of the true interests of France, or want of patience to pursue them, left little reason to hope that the peace so recently concluded would be of long duration.

113 Meetin parlia

The new parliament assembled on the 16th of November. Mr Abbot was chosen speaker of the house of commons; and on the 22d of the same month his majesty, in a speech from the throne, congratulated the country on having experienced the bounty of divine providence in the produce of an abundant harvest. He remarked, that the state of the manufactures, commerce, and revenues of the united kingdom was flourishing beyond example; and that the loyalty and attachment which were manifested to the king's person and government, afforded the strongest indication of the just sense that was entertained of the numerous blessings enjoyed under the protection of our happy constitution. "In my intercourse with foreign powers, (continued his majesty), I have been actuated by a sincere disposition for the maintenance of peace. It is nevertheless impossible for me to lose sight of that established and wise system of policy by which the interests

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Britain. ately completed, all ready for the most desperate enterprises; and England with a fleet that made her mistress of the seas, and which he did not think he should be able to equal in less than ten years. Two such countries, by a proper understanding, might govern the world, but by their strifes might overturn it. He said, that if he had not felt the enmity of the British government on every occasion since the treaty of Amiens, there would have been nothing that he would not have done, to prove his desire to conciliate; participation in indemnities as well as in influence on the continent, treaties of commerce, in short, any thing that could have given satisfaction, and have testified his friendship. Nothing had, however, been able to conquer the hatred of the British government, and, therefore, it was now come to the point, whether we should have peace or war? To preserve peace, the treaty of Amiens must be fulfilled; the abuse in the public prints, if not totally suppressed, at least kept within bounds, and confined to the English papers; and the protection so openly given to his bitterest enemies, (alluding to Georges, and persons of that description), must be withdrawn. If war, it was necessary only to say so, and to refuse to fulfil the treaty."

1135 King's message on the danger of hostilities.

The result of this conversation, and of some suspicious circumstances in the conduct of the French, was that on the 8th of March, a message was addressed by the king to the house of commons, acquainting the house, that as very considerable military preparations are carrying on in the ports of France and Holland, he had judged it expedient to adopt additional measures of precaution for the security of his dominions. Upon the motion of Mr Addington, the house voted an address, agreeing unanimously to support the crown in the measures proposed. It speedily appeared, that the preparations which had been alluded to in the king's message were extremely trifling. Bonaparte had obliged the Spaniards to cede to him the sovereignty of Louisiana, in North America, that is to say, the great country to the south-west of the river Mississippi, which lies between the United States and the Spanish province of Mexico; and an armament, with about 4000 troops, was now preparing to leave the ports of of Holland, to take possession of the territory thus acquired. The government of the United States opposed this measure; and the state of Kentucky sent notice to the president, that 10,000 volunteers had enrolled themselves, and were resolved, with or without the aid of the union, to resist the settlement of the French in their neighbourhood. Bonaparte, who probably had no serious intention of effecting such a settlement, sold Louisiana for a sum of money to the United States of North America.

1136 Transference of Louisiana.

In the mean time the negotiations with France proceeded. Bonaparte still insisted upon the literal fulfilment of the treaty of Amiens. He appears to have flattered himself, that the British ministry would not venture to renew the war on account of Malta. Their pacific dispositions were well known: they had suffered him to make great encroachments upon the continent, without engaging in hostilities. But the good temper and forbearance of administration, had the effect of rousing, in a very great degree, the spirit of the British nation, and of inducing a great proportion of the people to wish to engage in a war, against a man whom they now detested as an odious usurper. Thus encouraged, administration rose in their demands of the price to be paid by France for the continuance of peace. On the 12th of May, Lord Whitworth presented the ultimatum of the British government, which was in these terms;

"1. The French government shall engage to make no opposition to the cession of the island of Lampedosa to his majesty, by the king of the two Sicilies.

"2. In consequence of the present state of the island of Lampedosa, his majesty shall remain in possession of the island of Malta, until such arrangements shall be made by him, as may enable his majesty to occupy Lampedosa as a naval station; after which period, the island of Malta shall be given up to the inhabitants, and acknowledged as an independent state.

"3. The territories of the Batavian republic shall be evacuated by the French forces, within one month after the conclusion of a convention founded on the principles of this project.

"4. The king of Etruria, and the Italian and Ligurian republics, shall be acknowledged by his majesty;

"5. Switzerland shall be evacuated by the French forces.

"6. A suitable territorial provision shall be assigned to the king of Sardinia in Italy.

"*Secret article.*—His majesty shall not be required by the French government to evacuate the island of Malta, until after the expiration of ten years.

"Articles 4. 5. 6. may be entirely omitted, or must all be inserted."

War announced

This proposal having been rejected, war was announced on the 16th of May, by a message from the king to the two houses of parliament. On the 21st of May a declaration, justifying this measure, was inserted in the London gazette. It begins with contrasting the liberal and friendly conduct displayed towards the subjects of France, immediately after the peace of Amiens, with the severity and injustice practised towards the English; connected with which is mentioned the circumstance of persons being sent from France to reside in the British and Irish seaports, in the character of consuls, when no commercial treaty existed, and whose conduct gave reason to suspect purposes of a dangerous kind. The manifestations of an encroaching spirit by the French government since the peace were next adverted to; of which examples were given, in the keeping up of a French army in Holland, contrary to the remonstrances of the Batavian government; the violation of the independence of Switzerland; the annexation to France of Piedmont, Parma, Placentia, and the isle of Elba. With regard to Malta, it was contended that the conduct of the governments of France and Spain, in destroying the independence of the order, had been the cause of the non-execution of that article which stipulates the evacuation of Malta by the British. Besides, the French government had themselves given indications of a design to violate those articles which stipulate for the integrity and independence of Turkey and the Ionian isles, and this would justify the retention of Malta. The paper concludes by declaring, that his majesty was still ready to concur in any arrangement by which satisfaction should be given him for the indignities offered to his crown.

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Britain. crown and people, and security against farther encroachments on the part of France.

Mr Tierney, Mr Sheridan, and a part of the usual opposition members, supported the measures of ministers in relation to the renewal of hostilities. Mr Fox, however, was in favour of farther negotiation; and on the 27th May 1803, moved an address to his majesty, advising his acceptance of the proffered mediation of Russia. This motion, after some debate, he consented to withdraw; on a declaration from Lord Hawkesbury, that the government was ready to accept of this mediation, but that they could not suspend the requisite preparations for war. Posterity will probably be inclined to sanction Mr Fox's judgment on this question. There can be no doubt that the conduct of France afforded sufficient grounds to justify a war on our part, if that war held out any reasonable prospect of correcting the evils which gave occasion for it; but the aggressions of France upon other powers which tamely yielded up their independence, did not lay us under an imperative obligation to take up arms against her, unless by so doing we were likely to better the condition of the parties injured: we believe ministers themselves scarcely anticipated this. And there was no national insult of such a kind as to compel us to arm from a feeling of national honour, without calculating the consequences. In a word, we had sufficient reasons for making war, if war promised to be advantageous; but none to force us into it, if it were otherwise. The war thus entered on, if not unnecessarily, at least without any urgent cause, has been productive of greater calamities to the country than all that had preceded it put together. Experience has now shewn us that the transient prosperity which appeared at its commencement was fictitious; that the expenditure it occasioned was drawn out of the very vitals of the country, and has left us in such a state of weakness as to render it doubtful whether the nation will not finally sink under its burdens, or escape destruction only by a dangerous crisis.

1139 para- is for

As it was not doubted that Napoleon, from his inability to assail us in any other way, would attempt an invasion, a bill was passed for raising a new species of force, denominated an army of reserve. It consisted of 50,000 men, who were raised by ballot to serve in the British isles, and in Jersey or Guernsey. A bill was also passed enabling his majesty to call out the population of of the kingdom *en masse*, in case of invasion. And the volunteer associations were revived, and speedily extended over the whole country.

1140 rder of d Kil- den.

The act of union with Ireland had been accomplished by means not very creditable to the British government, and had left much angry feeling in the breasts of the Irish, which broke out into open insurrection in July 1803. A simultaneous rising had been organized in the counties of Wicklow, Wexford, and Kildare, as well as in remoter districts; and it was prevented only by the neglect or misunderstanding of the signals or instructions. In Dublin, however, a number of country people collected from Kildare, furnished with pikes and fire-arms, and after murdering Lord Kilwarden and his nephew Mr Wolfe, whom they met in a carriage, they overpowered a small military post; but being attacked in their turn by a larger party of military, they were soon dispersed; and the insurrection was at once extinguished. Mr Robert Emmet, the leader of the insurrection, a young man of good family, great abilities, and an amiable character, was found guilty of high treason and executed; as were some of the others who had been most active. Bills were passed in parliament for trying rebels by martial law, and for suspending the habeas corpus act. Britain.

1141 Seizure of English subjects in France.

Immediately after the declaration of war by England, the French government seized all the English between the ages of 18 and 60, and subjected them to the same treatment as prisoners of war. This act was done in retaliation for the capture of certain French ships by the English previous to the declaration of hostilities, a practice disgraceful, no doubt, to the British government, but which certainly did not justify this cruel outrage upon peaceable individuals who relied upon experiencing from the French government the treatment which foreigners usually receive in such circumstances. Many of these individuals were ruined by their detention, and not a few sunk into the grave from dejection and melancholy.

The first warlike proceedings of the French were the occupation of Hanover, and of the strong towns in the eastern part of Naples. In the West Indies, however, the last feeble remains of the French force in St Domingo were compelled to yield to the efforts of the Blacks and the British.

1142 Accession of Mr Pitt to the administration.

On the 12th May 1804, the weak administration of Mr Addington was dissolved, and a new one organized under Mr Pitt. As the state of things on which the old party divisions had been founded was greatly changed, it was expected that the leaders of the Whigs would have been included in the cabinet; and considerable disappointment was felt when the new arrangements were announced. Lord Grenville, much to his honour, declined to form a part of the new administration on this account.

The seizure of four large Spanish frigates on the 5th October 1804, having a great quantity of specie on board, by a British naval force, hastened a rupture with Spain, and war was declared by that power about the end of the year. Though it is extremely probable, as was alleged, that the treasure conveyed by the frigates would have gone secretly to France; this can furnish no justification of so flagrant a violation of the principles of national justice.

1143 Impeachment of Lord Melville.

In April 1805, the publication of the tenth report of the commissioners of naval inquiry drew the public attention to certain facts indicating peculation to a great extent on the part of Lord Melville, then first lord of admiralty, and Mr Trotter, the paymaster to the navy. The subject was brought forward in the house of commons by Mr Whitbread, who moved various resolutions accusing Lord Melville of conniving at the peculations of Mr Trotter, and of being a participator therein. On a division, there appeared 216 on each side, and the resolutions were carried by the casting-vote of the speaker. Immediately after Mr Trotter was dismissed, and Lord Melville resigned his office, and was excluded from the privy council. First a criminal prosecution was resolved upon, but afterwards his lordship's friends found reason to prefer an impeachment, and an impeachment was accordingly carried up to the peers on the 26th June. The trial was opened in Westminster hall in April 1806, and was closed by his

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Britain. his lordship's acquittal from all the charges on the 12th June. On four of the charges, however, the majority in his favour was not great.

Napoleon had assumed the title of emperor, in 1804, to which that of king of Italy was added in May 1805. Genoa was at the same time annexed to France; and Holland, to accommodate herself to the new imperial system, received a new constitution, by which a chief magistrate was created with the title of Pensionary. A great parade of preparation for invasion was kept up at Boulogne, where 100,000 troops were at one period collected; but no attempt was actually made.

1144 Treaty of Presburg. A new coalition was in the meantime organized by Mr Pitt, of which Britain and Russia were at first the only members, but after the annexation of Genoa it was joined by Austria. After some fruitless negotiations, Bonaparte rapidly collecting his forces, burst into Bavaria, and by a bold manœuvre nearly annihilated the army of General Mack. He entered Vienna on the 13th November, and on the 2d December completed the humiliation of the Austrian monarchy, by the defeat of the combined army at Austerlitz. This was followed by the peace of Presburg, which stripped Austria of all her possessions in Italy, and of the Tirol and Voralberg.

1145 Victory of Trafalgar. While the French emperor was thus bearing down all resistance on land, he was doomed to experience a mortifying reverse on the ocean. On the 21st October 1805, the combined French and Spanish fleets of 33 sail of the line, were attacked by Lord Nelson with 27 sail, near Cape Trafalgar, and utterly defeated, 19 ships of the line being taken, only four of which, however, could be brought home, owing to the stormy weather. But the death of the great commander damped the triumph of the victors, and was mourned by the country as a great national loss.

1146 Whig administration. On the death of Mr Pitt on the 23d January 1806, a new ministry was formed of the Whigs, with Lord Grenville and Mr Fox at their head, Lord Erskine being raised to the office of high chancellor. Accidental circumstances having made an opening for a negotiation, Lord Lauderdale was sent to Paris, but the demands of the French government were found to be inadmissible, and the British negotiator left Paris without accomplishing any thing.

1147 Defeat of the Prussians at Jena. Prussia, who had received multiplied provocations from France, imprudently ventured to expose herself to a contest with the latter single-handed. Russia was indeed to support her, but before this support could arrive, Napoleon had annihilated the Prussian armies at the battle of Jena, on the 14th October 1806. So entirely ruinous did this single battle prove to Prussia, that nearly the whole kingdom was immediately occupied by the French, and it was held in a state of dependence till 1813. This same year a British force under Sir David Baird reduced the Cape of Good Hope, after experiencing a very feeble opposition. From this conquest a small part of the force proceeded to Buenos Ayres, of which possession was obtained almost by surprise on the 27th June. Shortly after, however, the British were overpowered by an insurrection within the city, aided by a force from the country, and made prisoners.

The death of Mr Fox, on the 7th September, was a severe blow to the new ministry, who were understood not to possess the private favour of the court. A dissolution took place, and a new parliament was called a short time afterwards. The ministers, notwithstanding the dangers that menaced them, brought forward two measures which were believed not to be very acceptable to the sovereign. The first of these, the abolition of the slave-trade, was carried by a majority so triumphant, that men were at a loss to understand by what mysterious power, a measure so popular had been so long withstood. The bill received the royal assent on the 25th March 1807. On the 5th of the same month Lord Howick introduced a bill for securing to all his majesty's subjects the privilege of serving in the army or navy, upon their taking an oath prescribed, and for leaving them as far as practicable the free exercise of their religious opinions. As this was a matter which was believed to touch the conscientious scruples of the king, pains had been taken to explain the nature of the measure to him before it was introduced; and it was understood to be proposed with his entire approbation. In the interval, however, between the first and second reading, some of those secret counsellors who infest the courts of princes, found means to act upon the royal mind; and the ministers soon discovered, that the king had become hostile to the measure, and to them as its authors. A cry of danger to the church, was at the same time raised out of doors, by the exertions of Mr Percival and other members of parliament then in opposition. The result was, that the measure was defeated, and the Whigs dismissed from office. It is remarkable, that their successors, the present ministers, brought in a measure of exactly the same import in 1818, which passed through both houses almost totally unobserved. Nor ought their conduct to be too severely arraigned for this apparent inconsistency; for perhaps no political party ever existed which has not made insincere professions at times to serve its own interest, and which has not at some period cried down measures which it afterwards adopted. The Whigs had behaved but indifferently while in office; but it is certain, that the mode of their dismission, which exhibited them as martyrs to their principles, somewhat raised their character in the estimation of the country. The new ministry was appointed on the 25th March, and in May parliament was again dissolved.

Russia was still in arms against France, engaged in fruitless efforts to support the sinking fortunes of Prussia. The bloody but indecisive battle of Eylau was followed by the loss of Dantzic; and the defeat of Friedland, in June 1807, led to the conclusion of a peace between Russia, Prussia, and France, at Tilsit, on the 7th July. By this peace Prussia was stripped of half her territories, and forced to receive French garrisons into her fortresses. An unsuccessful attempt was made by a British squadron to overawe the Turks in their capital; and a small body of troops under General Fraser occupied Alexandria in Egypt for a short time, but abandoned it on the approach of a large Turkish force. Monte Video, in South America, was taken by storm in January; but an attempt made by General Whitelocke, some months after, on Buenos Ayres, completely failed, and this led to the withdrawing of the British troops altogether from La Plata.

Better

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Britain. Better success attended the British arms in the unexpected attack made on Copenhagen, by which the Danes, then at peace with us, were compelled to give up their fleet of 18 ships of the line and 15 frigates. The act, however, was severely censured by the opposition in parliament, and was loudly exclaimed against by all Europe, as a flagrant violation of justice and good faith.

1150 anish ir.

The year 1808 was rendered memorable by the beginning of the Spanish revolution. Napoleon having allured Charles IV. and his son Ferdinand to Bayonne, compelled them by threats to make a renunciation of the Spanish crown in his favour on the 5th May. The crown was then bestowed on Joseph Bonaparte, who was succeeded as king of Naples by Joachim Murat. Napoleon had previously marched a large body of troops into the country, and he convoked a junta of the Spanish nobles at Bayonne, who accepted the new constitution, and swore obedience to the new king. The mass of the people, however, were roused by the indignity offered to the nation, and flew to arms. A large body of troops under General Dupont were compelled to surrender to the patriots, and this sudden success raised high their hopes. Peace was immediately concluded with Britain, who made instant exertions to support the new cause, and the Portuguese rose in arms at the same time; and their country was soon delivered from the French power by the battle of Vimiera, which was followed by the convention of Cintra.

1151 arges ainst the ce of rk.

Early in 1809 a subject was brought before parliament which excited an extraordinary interest throughout the nation. On the 27th January, Mr Wardle, a colonel of militia, directly charged the duke of York with having suffered himself to be swayed by a mistress named Clarke, who had carried on a traffic in commissions, and with partaking in the corrupt gains made by Mrs Clarke in this traffic. The inquiry, which was conducted in a committee of the whole house, occupied the greatest part of two months. That Mrs Clarke had received money for her interest in obtaining commissions and promotion, was proved beyond a doubt; but the duke's knowledge of her transactions, and participation in her gains, were circumstances, the proof of which depended chiefly on Mrs Clarke herself. Ultimately the duke was acquitted of all personal corruption, or connivance at corruption, by a pretty large majority; but this decision proved so little satisfactory to the country, that, a short time after, it was judged expedient for the duke to resign his office as commander in chief, which, however, he resumed when the inquiry was forgotten.

An investigation conducted by a committee of the house of commons, brought to light many corrupt practices in the disposal of East India appointments. Among others, it was discovered that Lord Castlereagh had endeavoured to procure a seat in parliament for Lord Clancarty, in exchange for a writership which had been given to the former when president of the board of control. Lord Castlereagh's conduct was defended on the ground of the notoriety and universality of such practices; and the resolutions moved against him by Lord A. Hamilton were negatived by a majority of 216 to 167. A similar motion brought forward by Mr Maddocks, charging Mr Percival and Lord Castlereagh on other grounds with corrupt proceedings, in influencing elections, was also negatived. The plea set up in justification of the ministers, was undoubtedly valid and reasonable. To have charged as a special crime against one or two individuals what was commonly practised by a great proportion of those who obtain seats, would have been a piece of hypocritical grimace. Britain.

1152 Hostilities between France and Austria.

After the defeat of Dupont, Bonaparte poured in troops into Spain, and overpowered the regular armies of the Spaniards, though a desultory warfare was still maintained by the Guerillas. The British, under Sir John Moore, made a disastrous retreat to Corunna, where they embarked for England after defeating their enemy. Austria, however, encouraged by the embarrassments occasioned to Napoleon by the Spanish war, once more took up arms. The French, now aided by their vassal allies, advanced through Bavaria, and on the 20th and 22d April 1809, defeated the Austrians in two well-fought actions. The latter retired beyond Vienna. The bloody battle of Aspern seemed to suspend the fate of Austria for a little; but the defeats she sustained at Raab and Wagram, at length compelled her to submit to the conqueror. At the peace, which was concluded on the 15th October, Austria gave up the northern shores of the Adriatic, with various other districts, and acceded to the continental system of Napoleon, by prohibiting the importation of British goods.

1153 Expedition to the Scheldt.

With the view of destroying the naval resources which Bonaparte had been preparing at a great expence in the Scheldt, an expedition, consisting of 40,000 troops, sailed from England on the 28th July 1809, and after a fortnight's bombardment reduced Flushing. But during this period, the French had assembled such a force at Antwerp, and put the town in such a posture of defence, that it was not deemed advisable to attack it. The sickly season too brought disease into the British camp; and after incurring an enormous expence, and losing a vast number of men, this ill-planned expedition returned to England without having accomplished any thing except the demolition of the fortifications of Flushing.

This piece of ill success was followed by dissensions among the ministers. Mr Canning having endeavoured to effect the removal of Lord Castlereagh from his office on the ground of incapacity, the Irish minister hotly resented this impeachment of his abilities, and a duel took place between the parties (22d Sept. 1809), in which Mr Canning was wounded. Both of them having previously resigned their situations, an offer was made to receive the leaders of the Whigs into office along with Mr Percival. On their refusal to join with that individual, the marquis of Wellesley was recalled from Spain and appointed secretary for foreign affairs. The utmost efforts of the ministers could not prevent the house from instituting an inquiry into the Walcheren expedition; but after some investigation the conduct of ministers was approved of by a small majority.

A Mr Gale Jones having made some free remarks on the conduct of the house of commons, in excluding strangers during the Walcheren investigation, was committed to Newgate by warrant of the speaker. Sir Francis Burdett, in a letter addressed to his constituents, animadverted on this proceeding in very strong terms,

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Britain.

surely a tavern, in the middle of a long voyage, was no unimportant accommodation: without it, the troops destined for the East India service must arrive in that country, in a state which would unfit them for active exertion. No other resting port was open to us except the Brazils; and who was to ensure us constant access there in a season of hostilities? Our Indian empire was, Mr Windham observed, our sheet anchor; and whatever was necessary for its preservation, was of the last importance. The disadvantages on our side, Mr Windham contrasted with the advantages in favour of France. By the restitution of Cochin to the Dutch, they had acquired the means of annoying our possessions in the East Indies. In defining the boundaries of French and Portuguese Guiana, ministers appeared to have been puzzled with the Colapanatuba and Asouari, and that the Asouari was the limit assigned: there was in fact little difference between the treaty of Madrid and that of Badajos. France had obtained her object, the navigation of the river Amazon; and the Portuguese settlements were left exposed to the foe. Mr Windham deplored the cession of Louisiana to France, which, considering the indefinite extent of Guiana, was a surrender of a fourth part of the globe: two rivers; the greatest in the world, the Mississippi in the north, the river of Amazons in the south of America. Rivers were the vital parts of countries; without hyperbole, we might be said to have given away a brace of continents. In aggravation of this thoughtless prodigality, ministers had abandoned the whole continent of Europe to France; they had let in a tide, which spread like a torrent in every direction, endangered our safety at Honduras, and menaced our destruction in India. We already knew the French too well, to doubt that they would scruple what means they used to accomplish their ends. Had they not fraudulently obtained the restitution of Porto Ferrajo to the king of Etruria, to secure it to themselves? Regardless of stipulations and treaties, they had seized on the island of Elba; and, to bestow a compensation on the king of Etruria, extorted Piombino from Naples. Mr Windham proceeded to delineate the colossal power of France, which resembled nothing that had existed since the empire of Rome. The French were a new race of Romans; in ten years they had even acquired more than the Romans achieved in fifty-three. On the map of Europe two nations only stood erect; and of those, the one from distance more than strength. Austria was indeed still rich in resources, but destitute of foreign aid. There was no single power which could enter the lists with France. In the first conflict it would be nearly crushed by her tremendous mace: but Mr Windham added, it was by some supposed, that though Europe should be wrecked, we at least might take to our boat and escape. By the spectre of French power, we should still be pursued: In Asia, in America, it would follow close, scaring us with its gorgon aspect. Mr Windham here enumerated the islands ceded to France in the West Indies. He maintained that the establishment of the blacks in St Domingo would be less formidable to this country, than its subjection to France. Admitting that some black emissaries had reached our islands; to private interests such an event might have been more prejudicial, but to political interests less fatal. Mr Windham repeated, that we had given away two continents; and that the object of France obviously was, the attainment of universal empire. He admitted, that the peace must be observed, now that it was entered into; but concluded with a motion for an address, expressive of disapprobation of it.

Lord Hawkesbury said, that from some observations of Mr Windham's, it would seem that whenever any continental power, however unconnected with us, became involved with France, it was our duty to volunteer our interference, and our assistance. That we were deeply interested in the destiny of the continent, he was willing to admit; but he conceived our interference with its commotions to be optional, neither instigated by necessity, nor extorted by honour. At the end of nine years of war, his lordship continued, we had found ourselves deserted by our allies. With the first intimation which his majesty's ministers received of the new constitution of the Italian republic, they had heard of its acceptance by the courts of Vienna, Berlin, and Petersburgh. Under these circumstances, he would submit to the house, whether it was incumbent on us to continue the war on account of the Italian republic. The cession of Louisiana by Spain to France, was another ground of complaint; that province had originally been a French colony, when the Mississippi was the boundary between it and Great Britain; it had been ceded by France to Spain, in a private convention, between the preliminaries and the definitive treaty of 1763; a proof that conventions of this nature, if not right, were at least not new. The value of Louisiana was at present nominal; as a naval station it was allowed to be insignificant; and its vicinity to America was calculated to diminish, rather than augment the attachment of that country to France: he therefore left it to the house to judge whether Louisiana would have justified the renewal of hostilities. Concerning the non-renewal of certain treaties and conventions, his lordship observed, that the principle on which treaties had usually been renewed, appeared not to be understood. The treaty of Westphalia formed a distinct era in the history of Europe; and in order to ascertain the relative situations of the different powers, it had been customary to renew that treaty, together with any particular conventions subsequent to it. In the present instance, it was to be considered, that formerly all preceding treaties had been renewed by all other powers of Europe. In the present war no European power had done so; and consequently, if we renewed former treaties, we only should be bound whilst other nations were free. By renewing former treaties, we should have been forced to sanction all the recent encroachments of France; and by sanctioning the treaty of Luneville we should have been accessary to the dismemberment of the Germanic empire. With regard to commercial treaties, it was impossible to renew them, without renewing stipulations respecting rights of neutrality, and personal privileges, detrimental to our interests. His lordship represented the definitive treaty as coinciding with the preliminary treaty which had previously received the sanction of the house. In regard to the permanence of the peace, he was willing to admit, and to deplore, that, in the present state of the world, any peace was insecure; but the precarious tenure on which this blessing was to be held, was no reason for

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Britain. rodino, on the 17th September, conducted the conqueror to Moscow. His object was now to dictate a peace from the advantageous position he occupied, while the terror inspired by his victories lasted. The voluntary destruction of the city by the Russians, which should have shewn him the fallacy of such an expectation, made no impression on him; and after protracting his residence in Moscow to the 19th October, in the vain hope of operating upon the mind of the Russian emperor, he left the city, and commenced the most dreadful and disastrous retreat recorded in history. To add to the horror of his situation, the winter is said to have set in a fortnight earlier than usual. Famine, cold, and the sword, pursued his footsteps with such destructive fury, that not one seventh part of the fine army that entered Russia returned to Poland. The Prussians, whom terror only had attached to him, now turned their swords against him. His power however was too deep seated to be easily overthrown. He raised within a few months 300,000 men; and with this new force he defeated the Russians and Prussians at Lutzen and at Bautzen in May 1813. An armistice, agreed to under the mediation of Austria, only gave the allied powers a clearer view of the advantage of following up their present successes, and time to arrange their plans of operation. The negotiation terminated, and Austria joined the allies on the 11th August. The vassal powers who formed the confederation of the Rhine, deserted the cause of their master one by one. Victory however seemed to smile once more upon his arms in the battle of Dresden; but this was but the prelude to his fall. The battle of Leipsic, fought on the 16th, 17th, and 18th October 1813, destroyed the great military force on which his hopes rested, and shook the foundations of his power. Terror, confusion, and disorder, attended the flight of his shattered force to the Rhine. The allies prosecuted their advantages with vigour; and, notwithstanding a very able and active opposition on his part, they got possession of Paris on the 31st May 1814, and put an end to the power and the government of the man who had so long held them in terror and subjection.

1157 apture of aris.

The British army in Spain had powerfully co-operated in bringing about this great change. Lord Wellington having received some reinforcements, advanced from Portugal in May 1813, pursued the French who were now withdrawing from Spain altogether, defeated them with immense loss at Vittoria on the 20th of May, and drove them within their own frontier. Some time was spent in reducing St Sebastian, Pampelona, and other strong places. A pause followed during the winter rains; but early in February the British army set forward, forced several strong positions, occupied Bourdeaux on the 12th March, and defeated the French at Toulouse on the 10th April. The day after this last battle intelligence arrived of the deposition of Bonaparte, and put a period to the hostilities.

1158 'ar with nerica.

We must now go back a little to notice the war between Britain and America. The chief subjects of complaint on the part of the United States, were the impressment of their seamen by British commanders, and the seizure of their ships trading to French ports under the orders in council. The right of searching American ships, and seizing those seamen found in them whom the naval officers considered to be British subjects, had been long exercised, and whether right or wrong, was not likely to be abandoned at the moment when our naval superiority left us without a rival on the ocean. The other grievance was maintained to be merely a retaliatory measure on our part, and such as the Americans had no title to complain of, so long as they submitted to the Berlin decrees of France which had given birth to it. Negotiations had long been carried on between the parties, without making the smallest progress towards the adjustment of these differences. At length the repeal of the orders in council, which after a laborious investigation by parliament, were proved unequivocally to have been extremely injurious to our own trade, seemed to have removed the greatest obstacle to an accommodation. This took place on the 18th June 1812, but on the 8th of the same month war had been declared against Britain by the American government. The detail of the events of this war will be found under the article AMERICA. Here we shall only observe, that the Americans were foiled in their great object, the conquest of Canada; and the British on the other hand failed equally in their attempts to make any impression on the northern frontier of the United States. The marauding expedition to Washington, in which we burned bridges, libraries, and other buildings unconnected with the purposes of war, was justly censured as discreditable to the national character, and it was productive of no advantage, as it exasperated the enemy without weakening him. By sea the Americans proved much more formidable enemies than had been anticipated; and though the absolute loss to the British navy was too trifling to be mentioned, the injury to our naval reputation in the eyes of Europe, when our ships were beat by vessels of the same class, and by a naval power yet in its infancy, was by no means of small moment. Peace was concluded on the 24th December 1814; but three weeks after the signature of the treaty, though before it was known in America, the battle of New Orleans, the most considerable action which occurred in the course of the war, was fought, and occasioned a loss of 2,500 men to the British army. Britain.

1159 Battle of Waterloo.

The government of the Bourbons, after their restoration by the allied powers, had produced much dissatisfaction in France. Priests and emigrants had got a decided ascendancy in the administration, and conducted matters with so much violence, that the holders of church lands and confiscated property began to feel alarm. A spirit of hostility to the government spread rapidly; and Napoleon, apprized of the state of the national feeling, quitted his retreat at Elba unperceived with 600 men, and landed in the south of France on the 1st March 1815. Wherever he presented himself the military declared for him; and after a triumphant and pacific procession through two-thirds of the kingdom, he arrived in Paris on the 21st. From this period to the middle of June, he was incessantly employed in organizing his military force. The ever memorable victory of Waterloo, gained by the British and Prussians on the 18th June, hurled him again from the seat of power, and re-established the government of the Bourbons. Great Britain thus, after immense sacrifices and extraordinary perseverance, saw the objects for which she had first taken up arms, fully accomplished; and though it must be admitted that chance, and errors on the part of the enemy, which

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Britain. could not be foreseen, contributed greatly to bring the contest to this fortunate conclusion; yet it cannot be denied that the power of the united empire, the magnitude of its resources, the valour of its troops, and the skill of its commanders, were never before so conspicuously displayed; that the war, though barren of other advantages to Britain herself, has been fertile in glory; and that she never before occupied so commanding a position among the nations of Europe.

From the re-establishment of the Bourbons to the death of George III. on the 29th January 1820, the attention of government has been chiefly occupied with the financial difficulties occasioned by the war, the general distress resulting from the pressure of our enormous load of taxes, and the growing discontent of the people. The country is in fact now suffering from the effects of the exhausting efforts it continued for so long a period; and when its sufferings and distractions are likely to have an end it would be difficult to conjecture. For a fuller detail of the recent events in the history of Britain, the reader is referred to the article GREAT BRITAIN, in the SUPPLEMENT.

BRI

New BRITAIN, a large country of North America, called also *Terra Labrador*, has Hudson's bay and strait on the north and west, Canada and the river St Lawrence on the south, and the Atlantic ocean on the east. It is subject to Great Britain, but yields only skins and furs. The following is the best description of this country that hath yet appeared. It was drawn up by the commander of the Otter sloop, and communicated to the Royal Society, by the honourable Daines Barrington in 1774.

Phil. Trans. vol. lxiv. P 372. "There is no part of the British dominions so little known as the immense country of Labrador. So few have visited the northern parts of this vast country, that almost from the straits of Belleisle until you come to the entrance of Hudson's bay, for more than ten degrees of latitude, no chart which can give any tolerable idea of the coast hath been hitherto formed. The barrenness of the country explains why it has been so seldom frequented. Here avarice has but little to feed on.

"Perhaps, without an immoderate share of vanity, I may venture to presume, that, as far as I have been, which is to the latitude of 59. 10. the draught which I have been able to form is by much the best of any that has hitherto been made.

"Others have gone before me, blest with abilities superior to mine, and to whom I hope to be thought equal only in assiduity. But I had advantages of which they were destitute: with a small vessel, and having an Indian with me, who knew every rock and shoal upon the coast, I was enabled to be accurate in my observations; and these are the reasons why I deem my own sketch preferable to all others.

"As this country is one of the most barren in the whole world, so its sea coast is the most remarkable. Bordered by innumerable islands, and many of them being a considerable distance from the main land, a ship of burden would sail a great way along the coast without being able to form any notion of its true situation.

"Hence it is that all the charts of it have been so extremely erroneous; and hence arose those opinions that some of the inlets extended a vast distance into the country, if not quite into the sea of Hudson's bay.

"Davis's inlet, which has been so much talked of, is not 20 leagues from the entrance of it to its extremity.

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"The navigation here is extremely hazardous. Towards the land, the sea is covered with large bodies and broken pieces of ice; and the farther you go northward, the greater is the quantity you meet with.

"Some of those masses, which the seamen call *islands of ice*, are of a prodigious magnitude; and they are generally supposed to swim two-thirds under water. You will frequently see them more than 100 feet above the surface; and to ships in a storm, or in thick weather, nothing can be more terrible.

"Those prodigious pieces of ice come from the north, and are supposed to be formed by the freezing of cataracts upon the lands about East Greenland and the pole. As soon as the severity of the winter begins to abate, their immense weight breaks them from the shore, and they are driven to the southward. To the miserable inhabitants of Labrador, their appearance upon the coast serves as a token of the approach of summer.

"This vast tract of land is extremely barren, and altogether incapable of cultivation. The surface is everywhere uneven, and covered with large stones, some of which are of amazing dimensions. There are few springs; yet throughout the country there are prodigious chains of lakes or ponds, which are produced by the rains and the melting of the snow. These ponds abound in trout, but they are very small.

"There is no such thing as level land. It is a country formed of frightful mountains, and unfruitful valleys. The mountains are almost devoid of every sort of herbage. A blighted shrub and little moss is sometimes to be seen upon them, but in general the bare rock is all you behold. The valleys are full of crooked low trees, such as the different pines, spruce, birch, and a species of cedar. Up some of the deep bays, and not far from the water, it is said, however, there are a few sticks of no inconsiderable size. In a word, the whole country is nothing more than a prodigious heap of barren rocks.

"The climate is extremely rigorous. There is but little appearance of summer before the middle of July; and in September the approach of winter is very evident. It has been remarked, that the winters within these few years have been less severe than they have been known heretofore. The cause of such an alteration it would be difficult to discover.

"All along the coast there are many rivers that empty

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Britain ‖ Brittany.

empty themselves into the sea, and yet there are few of any consideration; and you must not imagine that the largest are any thing like what is generally understood by a river. Custom has taught us to give them this appellation; but the greatest part of them are nothing more than broad brooks or rivulets. As they are only drains from the ponds, in dry weather they are everywhere fordable; for running upon a solid rock, they become broad without having a bed of any depth below the surface of the banks.

"The superficial appearance of this country is extremely unfavourable. What may be hidden in its bowels, we cannot pretend to suggest: probably it may produce some copper; the rocks in many places being impregnated with an ore of that resemblance. Something of a horny substance, which is extremely transparent, and which will scale out into a number of small sheets, is often found amongst the stones; there are both black and white of this sort, but the black is the most rare. It has been tried in fire, but seems to be nowise affected by heat.

"The species of wood here are not very various: excepting a few shrubs which have as yet received no name from the Europeans, the principal produce of the country are the different sorts of spruce and pine. Of these, even in the more southern parts, there is not abundance; as you advance northwards they gradually diminish; and by the time you arrive at the 60th degree of latitude, the eye is not delighted with any sort of herbage. Here the wretched residents build their miserable habitations with the bones of whales. If ever they cheer their aching limbs with a fire, they gather a few sticks from the sea-shore, which have probably been washed from Norway or Lapland. Here a vast quantity of snow remains upon the land throughout the year.

"Although the winter here is so excessively rigid, in summer the heat is sometimes disagreeable; and in that season the weather is very moderate, and remarkably serene. It is but seldom foggy, speaking comparatively between this and Newfoundland; nor are you so frequently liable to those destructive gales of wind which visit many other parts of the globe.

"It is in general high land, and sometimes you meet with mountains of an astonishing height; you are also frequently presented with prospects that are really awful, and extremely romantic.

"The inhabitants of New Britain are called *Eskimaux*." See GREENLAND and *Hudson's Bay*.

BRITANNICUS, son of the emperor Claudius by Messalina, was excluded from the empire after his father had married Agrippina: who put her son Nero on the throne, and cause Britannicus to be poisoned A. D. 55.

BRITANNICUS, or BRITANNICO, *John*, an eminent Italian scholar of the 15th century, was born in the Brescian territory, of a family originally from Britain. He published notes on Persius, Juvenal, Terence, Statius, and Ovid, with annotations on Pliny's Natural History, which last were published after his death. He died in 1510.

BRITE, or BRIGHT, in *Husbandry*. Wheat, barley, or any other grain, is said to *brite*, when it grows over ripe and shatters.

BRITTANY, or BRETAGNE, a considerable province of France, which is 150 miles in length and 112 in breadth. It is a peninsula, surrounded on all sides by the ocean except on the east, where it joins to Anjou, Maine, Normandy, and Poitou. It is divided into the upper and lower; and therein are large forests. It carries on a great trade, by reason of the many harbours on its coasts. It was united to the crown of France in 1532. Rennes is the capital town. According to the new division of France, Brittany is divided into several departments. Brittany ‖ Britton.

BRITTLENESS, that quality of bodies on account of which they are denominated *brittle*, or which subjects them to be easily broken by pressure or percussion.

Brittle bodies are extremely hard; a very small percussion exerts a force on them equivalent to the greatest pressure, and thus may easily break them. This effect is particularly remarkable in glass suddenly cooled, the brittleness of which is thereby much increased. Tin, though in itself tough, gives a brittleness to all the other metals when mixed therewith. The brittleness of glass has been said to arise from the heterogeneity of the parts whereof it is composed, as salt and sand can never bind sufficiently together: but this cannot be the case; for the pure calces of metals, or any other simple substances, when vitrified, become brittle also. In timbers, brittleness seems to be connected with durability; the more brittle any sort of wood is, the more durable it is found. Thus oak is of very long duration: while beech and birch, as being tough, presently rot, and are of little service in building.

BRITTON, THOMAS, the famous musical small-coal man, was born at Higham-Ferrers in Northamptonshire. He served his time in London, where he set up in a stable, next door to the little gate of St John of Jerusalem, on Clerkenwell-green, which he converted into a house. Here getting acquainted with Dr Garenciers, his near neighbour, he became an excellent chemist, constructing a moveable laboratory which was much admired by all who saw it. His skill in music was nowise inferior to that in chemistry, either in the theory or practice; he had for many years a well-frequented musical club, meeting at his own little cell; and was as well respected as known by persons of the first quality; being, above all, a valuable man in his moral character. In Ward's account of clubs, we are told that "Britton's was first begun, or at least confirmed, by Sir Roger L'Estrange, a very musical gentleman; and that the attachment of Sir Roger and other ingenious gentlemen, lovers of the muses, to Britton, arose from the profound regard he had in general to all manner of literature. It is observable, that this meeting was the first of the kind, and the undoubted parent of some of the most celebrated concerts in London. Ward, who was his contemporary, says, that at the first institution of it, his concert was performed in his own house, which is thus described. "On the ground floor was a repository for small coal: over that was the concert room, which was very long and narrow, and had a ceiling so low, that a tall man could but just stand upright in it. The stairs to this room were on the outside of the house, and could scarce be ascended without crawling. The house itself was very old and low built, and in every respect so mean as to be a fit habitation

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Britton of Brives-la-Gallard.

bitation only for a very poor man." But this mansion, despicable as it was, attracted to it as polite an audience as ever the opera did. At those concerts Dr Pepusch, Mr Handel, Mr Bannister, Mr Henry Needler, and other capital masters, were performers. At the first institution of this club, it is certain Britton would receive no gratuity whatever from his guests, and was offended whenever any was offered him. According to some, however, he departed from this; and the rules were, Britton found the instruments, the subscription was 10s. a-year, and they had coffee at a penny a dish. The singularity of his character, the course of his studies, and the collections he made, induced suspicions that Britton was not the man he seemed to be. Among other groundless conjectures, his musical assembly was thought by some to be only a cover for seditious meetings; by others for magical purposes: and Britton himself was taken for an atheist, a presbyterian, Jesuit, &c. The circumstances of this man's death are not less remarkable than those of his life. There lived at that time one Samuel Honeyman, a blacksmith by trade, who became very famous for a faculty which he possessed of speaking as if his voice proceeded from some distant part of the house where he stood; in short, he was one of those men called *Ventriloqui**, i. e. those who speak from their bellies. One Robe, an acquaintance of Britton's, was foolish enough to introduce this man, unknown to Britton, for the sole purpose of terrifying him; and he succeeded in it. Honeyman, without moving his lips, or seeming to speak, announced, as from afar off, the death of Britton within a few hours; with an intimation that the only way to avert his doom was for him to fall on his kneea immediately and say the Lord's prayer: the poor man did as he was bid, went home and took to his bed, and in a few days died, leaving his friend Mr Robe to enjoy the fruits of his mirth. This happened in September 1714. Britton left behind him a large collection of books, music, and musical instruments. Of the former Sir Hans Sloane was a considerable purchaser. His collection of music, mostly pricked by himself, and very neatly, sold for near 100l. In the British Museum there is a painting of him taken from the life. A mezzotinto print was taken from this picture, for which Mr Hughes (author of the Siege of Damascus, and a frequent performer at Britton's concerts) wrote the following lines:

* See *Ventriloquism.*

Tho' mean thy rank, yet in thy humble cell
Did gentle peace and arts unpurchas'd dwell;
Well pleas'd, Apollo thither led his train,
And music warbled in her sweetest strain.
Cyllenius, so, as fables tell, and Jove,
Came willing guests to poor Philemon's grove.
Let useless pomp behold, and blush to find
So low a station, such a lib'ral mind.

BRIVA ISARÆ, in *Ancient Geography*, a town of Gallia Belgica, on the river Isara or Oyse; now *Pontoyse.*

BRIVATES, in *Ancient Geography*, a port of Gallia Celtica, now *Brest*, in Brittany.

BRIVES-LA-GALLARD, a town of France, in lower Limosin, now the department of Correze. It stands in a fruitful plain, opposite to an island formed by the river Correze, over which there are two handsome bridges. Silk and cotton manufactures are established here. It is 220 miles south by west of Paris. E. Long. 1. 45. N. Lat. 45. 15.

BRIXELLUM, in *Ancient Geography*, a town of Gallia Cispadana; remarkable for being the place where Otho killed himself after the battle of Bedriacum: now *Bersello* or *Bresello*, in the territory of Rhegio.

BRIXEN, THE BISHOPRIC OF, is seated in Tirol, in Germany, near the frontiers of Friuli and Carinthia, towards the east. The bishop has a vote and seat in the diet of the empire, and furnishes his contingent when any tax is laid on Tirol. The principal places are Brixen, Sertzingen, Brenneck, and Leintz.

BRIXEN, the capital of the bishopric of the same name, and where the bishop commonly resides, is seated on the river Eisache, at some distance from the mountain Brenner. It is surrounded with mountains, where there are plenty of vineyards, which yield good red wine. It is a populous town; and the houses are well built, with piazzas, and are painted on the outside. The public buildings are very handsome, and there are several spacious squares. It is much frequented, on account of the mineral waters that are near it. E. Long. 11. 50. N. Lat. 46. 35.

BRIXIA, in *Ancient Geography*, a town of the Cenomani in the Regio Transpadana: now *Brescia*, capital of the Bresciano.

BRIZA, QUAKING-GRASS. See BOTANY *Index.*

BRIZE, in *Husbandry*, denotes ground that has lain long untilled.

BRIZE Vents, shelters used by gardeners who have not walls on the north side, to keep cold winds from damaging their beds of melons. They are inclosures about six or seven feet high, and an inch or more thick; made of straw, supported by stakes fixed into the ground, and props across on both inside and outside; and fastened together with willow-twigs, or iron wire.

BROACH, BROCHA (from the French *broche*), denotes an awl or bodkin; also a large packing-needle. A spit, in some parts of England, is called a *broach*; and from this word comes to pierce or broach a barrel. In Scotland, *broach*, *broche*, or *brotche*, is the name of an utensil which the Highlanders used, like the *fibula* of the Romans, to fasten their vest. It is usually made of silver, of a round figure, with a tongue crossing its diameter, to fasten the folds of the garment; sometimes with two tongues, one on each side of a cross-bar in the middle. There are preserved, in several families, ancient brotches of very elegant workmanship, and richly ornamented. Some of them are inscribed with names, to which particular virtues used to be attributed; others are furnished with receptacles for relicks, supposed to preserve from harm. So that these brotches seem to have been worn not only for use but as amulets. One or two of this sort are figured and described by Mr Pennant, *Tour in Scotland*, i. 90. iii. 14. edit. 3d.

BROADCAST, as opposed to the drill-husbandry, denotes the method of cultivating corn, turnips, pulse, clover, the foreign grasses, and most other field plants, that are not transplanted, by sowing them with the hand; in which method they are scattered over the ground at large, and thence said to be sown in broad-

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cast. This is called the *old husbandry*, to distinguish it from the drill, horse-hoeing, or new husbandry. See AGRICULTURE *Index*.

BROAD-Piece, a denomination given to certain gold pieces broader than a guinea; particularly Caroluses and Jacobuses.

BROAD-Side, in the sea-language, a discharge of all the guns on one side of a ship at the same time. A broad-side is a kind of volley of cannonade, and ought never to be given at a distance from the enemy above musket-shot at point-blank.

BROCADE, or BROCADO, a stuff of gold, silver, or silk, raised and enriched with flowers, foliages, and other ornaments, according to the fancy of the merchants or manufacturers.

Formerly the word signified only a stuff wove all of gold, both in the warp and in the woof, or all of silver, or of both mixed together; thence it passed to those stuffs in which there was silk mixed, to raise and terminate the gold or silver flowers: but at present all stuffs, even those of silk alone, whether they be grograms of Tours or of Naples, satins, and even taffeties or lustrings, if they be but adorned and worked with some flowers or other figures, are called *brocades*.

In manufacturing brocades, the flatted gilt wire is spun on threads of yellow silk approaching as near as may be to the colour of gold itself. The wire, winding off from a bobbin, twists about the thread as it spins round; and, by means of curious machinery, too complex to be described here, a number of threads are thus twisted at once by the turning of one wheel. The principal art consists in so regulating the motion, that the several circumvolutions of the flatted wire on each side may just touch one another, and form, as it were, one continued covering. It is said, that at Milan there is made a sort of flatted wire, gilt only on one side, which is wound upon the thread so that only the gilt side appears; and that the preparation of this wire is kept a secret, and has been attempted in other places with little success. There is also a gilt copper wire, made in the same manner as the gilt silver: Savary observes, that this kind of wire, called *false gold*, is prepared chiefly at Nuremberg; and that the ordinances of France require it to be spun, for its distinction from the gilt silver, on flaxen or hempen threads. One of our writers takes notice, that the Chinese, instead of flatted gilt wire, use slips of gilt paper, which they both interweave in their stuffs and twist upon silk threads: this practice he inconsiderately proposes as a hint to the British weaver. But, whatever be the pretended beauty of stuffs of this kind of manufacture, it is obvious that they must want durability. The Chinese themselves, according to Du Halde's account, sensible of this imperfection, scarcely use them any otherwise than in tapestries, and such other ornaments as are not intended to be much worn, or exposed to moisture.

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The Venetians have carried on a large trade to the Levant in a kind of brocade called *domasquete*, which, though it has only about half the quantity of gold or silver as that made among us, looks far more beautiful. The flatted wire is neither wound close together on the silk threads, nor the threads stuck close in the weaving; yet by passing the stuff betwixt rolls, the disposition and management of which is kept a secret, the tissue or flower is made to appear one entire brilliant plate of gold or silver. The French ministry, ever vigilant for the advancement of arts and commerce, judged this manufacture important enough to deserve their attention; and accordingly, for contriving the machinery, they engaged the ingenious M. Vaucanson, known throughout Europe for his curious pieces of mechanism, who, in the memoirs of the academy for the year 1757, lately printed, gives an account of his success, and of the establishment of such a manufacture at Lyons. Brocade.

The lower roll is made of wood, 32 inches in length and 14 in diameter; the upper one of copper, 36 inches long and 8 in diameter: this last is hollow, and open at one end, for introducing iron heaters. For making the rolls cylindrical, he has a particular kind of lathe, wherein the cutting tool, which the most dexterous hand could not guide in a straight line through such a length as 36 inches, is made to slide by means of a screw, on two large steel-rulers, perfectly straight, and capable of being moved at pleasure, nearer, and always exactly parallel, to the axis of the roll.

He first disposed the rolls nearly as in the common flatting mill. In this disposition, ten men were scarcely sufficient for turning them with force enough to duly extend the gilding: and the collars, in which the axes of the rolls turned at each end, wore or gulled so fast, that the pressure continually diminished, insomuch that a piece of stuff of ten ells had the gilding sensibly less extended on the last part than on the first. He endeavoured to obviate this inconvenience by screwing the rolls closer and closer in proportion as the stuff passed through, or as the wearing of the collars occasioned more play between them; but this method produced an imperfection in the stuff, every turn of the screw making a sensible bar across it. To lessen the attrition, each end of the axis, instead of a collar, was made to turn between three iron cylinders called *friction wheels*: but even this did not answer fully, for now another source of unequal pressure was discovered. The wooden roll, being compressible, had its diameter sensibly diminished: it likewise lost its roundness, so that the pressure varied in different points of its revolution. On trying different kinds both of European and Indian woods, all the hard ones split, the soft ones warped without splitting, and of more than 20 rolls, there was not one which continued round for 24 hours even without being worked in the machine.

These failures put him upon contriving another method of pressing the rolls together, so that the force should always accommodate itself to whatever inequalities might happen. The axis of the copper roll being made to turn between friction wheels as before, that of the wooden one is pressed upwards by a lever at each end furnished with a half collar for receiving the end of the axis. Each lever has the end of its short arm supported on the frame of the machine, and the long arm is drawn upwards by an iron rod communicating with the end of the short arm of another lever placed horizontally: to the long arm of this lever is hung a weight, and the levers are so proportioned, that a weight of 30 pounds presses the rolls together with a force equivalent to 17,536 pounds, which was found to be the proper force for the sufficient extension

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Brocade, Brocatel.

tension of the gilding. By this contrivance four men can turn the rolls with more ease than ten can turn those which are kept together by screws; and the same weight acting uniformly in every part, the pressure continues always equal, though the wooden roll should even become oval, and though the stuff be of unequal thickness.

A piece of cloth, of about two ells, is sewed to the beginning and end of the stuff, to keep it out to its width when it enters and parts from the rolls, which could not be done by the hands for fear of burning or bruising them; as it would take too much time to sew these cloths to every small piece of an ell or two, a number of these is sewed together. The stuff is rolled upon a cylinder, which is placed behind the machine, and its axis pressed down by springs to keep the stuff tight as it comes off. Four iron bars, made red hot, are introduced into the copper roll, which in half an hour acquires the proper degree of heat, or nearly such a one as is used for the ironing of linen: the wooden roll is then laid in its place, and the machine set to work. If more than 30 ells are to be passed at once, the wooden roll must be changed for another, for it will not bear a long continuance of the heat without danger of splitting: and therefore the manufacturer should be provided with several of these rolls, that when one is removed, another may be ready to supply its room: as soon as taken off from the machine, it should be wrapt in a cloth and laid in a moist place.

The principal inconvenience attending the use of this machine, it that the heat necessary for extending the gilding, though it improves the brightness of white and yellow silks, is injurious to some colours, as crimson and green. A double pressure will not supply the place of heat; and the only method of preventing this injury, or rendering it as light as possible, appeared to be, to pass the stuff through with great celerity.

Method of clearing BROCADE *when sullied.* For this purpose neither alkalies nor soap must be used; because the former, while they clean the gold, corrode the silk, and change or discharge its colour; and the latter also alters the shade, and even the species, of certain colours. But spirit of wine may be used without any danger of its injuring either the colour or quality of the subject; and in many cases proves as effectual for restoring the lustre of the gold as the most corrosive detergents. A rich brocade flowered with a variety of colours, after being disagreeably tarnished, had the lustre of the gold perfectly restored by washing it with a soft brush dipt in warm spirit of wine, and some of the colours of the silk which were likewise soiled became at the same time remarkably bright and lively. Spirit of wine seems to be the only material adapted to this intention, and probably the boasted secret of certain artists is no other than this spirit disguised. As to powders, however fine, and however cautiously used, they scratch and wear the gold, which here is only superficial and of extreme tenuity.

BROCADE-Shell, the English name of a species of LIMAX.

BROCATEL, or BROCADEL, a kind of coarse brocade; chiefly used for tapestry.

BROCCOLI, a kind of cabbage cultivated for the use of the table. See BRASSICA.

BROCHE, or BROACH. See BROACH.

BROCK, among sportsmen, a term used to denote a badger.—A hart, too, of the third year, is called a *brock*, or *brocket*; and a hind of the same year, is called a *brocket's sister*.

BROCKLESBY, RICHARD, an eminent English physician. See SUPPLEMENT.

BROD, a town of Hungary, in the county of Possega in Sclavonia, seated on the river Save. It was once more considerable than at present; and is memorable for a victory obtained over the Turks in 1688. E. Long. 18. 36. N. Lat. 45. 20.

BRODEAU, JOHN, in Latin *Brodæus*, a great critic, on whom Lipsius, Scaliger, Grotius, and all the learned, have bestowed great encomiums, was descended from a noble family in France, and born at Tours in 1500. He was liberally educated, and placed under Alciat to study the civil law; but soon forsaking that, he gave himself up wholly to languages and the belles letters. He travelled into Italy, where he became acquainted with Sadolet, Bembus, and other famous wits: and here (says Thuanus) he applied himself to the study of mathematics, philosophy, and the sacred languages, in which he made no small proficiency. Then, returning to his own country, he led a retired, but not an idle, life, as his many learned lucubrations abundantly testify. He was a man free from all ambition and vain glory, and suffered his works to be published rather under the sanction and authority of others than under his own. His chief works are, 1. A commentary on the *Anthologia*. 2. Ten books of miscellanies. 3. Notes on Oppian, Euripides, &c. He died in 1563, aged 63.

BRODERA, or BRODRA, a town of Asia, in the empire of the Great Mogul. It stands in a large sandy plain, on the little river Wasset; and is fortified, after the old way, with pretty good walls and towers. It is inhabited by Banians and callico-weavers. The country about it produces plenty of gum-lac and indigo. E. Long. 72. 30. N. Lat. 22. 10.

BROGLING FOR EELS; the same with SNIGLING.

BROGLIO, a town of Piedmont in Italy, and capital of a county of the same name, situated near the frontiers of Provence, in E. Long. 6. 42. N. Lat. 44. 12.

BROKE, SIR ROBERT, lord chief justice of the common pleas, was the son of Thomas Broke, Esq. of Claverly in Shropshire, and educated at Oxford; from whence he removed to the middle temple, and soon became a very eminent lawyer. In the year 1542, he was chosen summer reader, and double reader in 1550. In 1552, he was made serjeant at law; and in the year following (first Queen Mary), lord chief justice of the common pleas; about which time he received the honour of knighthood. Stow says he was recorder of London and speaker of the house of commons; which is confirmed by a manuscript in the Ashmolean library. He died and was buried at Claverly in Shropshire, the place of his nativity, in 1558. Wood gives him the character of a great lawyer and an upright judge. His works are, 1. An abridgement containing an abstract of

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of the year-books till the time of Queen Mary. 2. Certain cases adjudged in the reign of Henry VIII. Edward VI. and Queen Mary. 3. Reading on the statute of limitations, 32 Hen. VIII. c. 2.

BROKEN WIND, among farriers. See FARRIERY *Index.*

BROKER. The origin of the word is contested; some derive it from the French *broier*, "to grind;" others from *brocarder*, "to cavil, or triggle;" others deduce broker from a trader broken, and that from the Saxon *broc*, "misfortune," which is often the true reason of a man's breaking. In which view, a broker is a broken trader by misfortune; and it is said none but such were formerly admitted to that employment.

BROKERS are of three kinds; exchange-brokers, stock-brokers, and pawn-brokers.

Exchange-BROKERS, are a sort of negotiators, who contrive, make, and conclude bargains between merchants and tradesmen, in matters of money or merchandise, for which they have a fee or premium. These, in old English law-books, are called *broggers*, and in Scotland, *broccarii*, i. e. according to Skene, mediators or intercessors in any contract, &c.

They make it their business to know the alteration of the course of exchange, to inform merchants how it goes, and to notify to those who have money to receive or pay beyond sea, who are proper persons for negotiating the exchange with; and when the matter is accomplished, that is, when the money is paid, they have for brokage 2s. per 100l. sterling. These, by the statute of 8 and 9 William III. are to be licensed in London by the lord mayor, who gives them an oath, and takes bond for the faithful execution of their offices. If any person shall act as a broker without being thus licensed and admitted, he shall forfeit the sum of 500l.: and persons employing him, 5l.; and brokers are to register contracts, &c. under the like penalty: also brokers shall not deal for themselves, on pain of forfeiting 200l. They are to carry about with them a silver medal, having the king's arms and the arms of the city, and pay 40s. a-year to the chamber of the city.

In France, till the middle of the 17th century, their exchange brokers were called *courtiers de change;* but by an arret of council in 1639, the name was changed for that more creditable one of *agent de change, banque, et finance;* and in the beginning of the 18th century, to render the office still more honourable, the title of *king's counsellors* was added.

At Grand Cairo, and several places of the Levant, the Arabs, who do the office of exchange-brokers, are called *consuls;* the manner of whose negotiating with the European merchants has something in it so very particular, that we have referred it to a distinct article. See CONSUL.

The exchange-brokers at Amsterdam, called *makelders*, are of two kinds: the one, like the English, called *sworn-brokers*, because of the oath they take before the burgomasters; but the others negotiate without any commission, and are called *walking-brokers*. The first are in number 395; whereof 375 are Christians, and 20 Jews: the others are near double that number; so that in Amsterdam there are near 1000 exchange-brokers.—The difference between the two consists in this: The books and persons of the former are allowed as evidence in the courts of justice; whereas, in case of dispute, the latter are disowned, and their bargains disannulled. Brokers.

The fee of the sworn exchange-brokers of Amsterdam is fixed by two regulations, of 1613 and 1623, with regard to matters of exchange, to 18 sols for 100 livres de gros, or 600 florins; i. e. three sols for 100 florins; payable, half by the drawer and half by the person who pays the money. But custom has made considerable alterations herein.

The Jews, Armenians, and Banians, are the chief brokers throughout most parts of the Levant and the Indies. In Persia all affairs are transacted by a sort of brokers whom they call *delal*, i. e. great talkers. Their manner in making their markets is very singular: after the brokers have launched out into long, and usually impertinent discourses, coming towards a conclusion, they only converse with their fingers. The buyer's and seller's broker each takes the other by the right hand, which they cover with their coat or a handkerchief: the finger stretched out stands for six; bent for five; the tip of the finger for one; the whole hand for 100: and the hand clinched for 1000. They will express even pounds, shillings, and pence, by their hands. During all this mystic commerce, the two brokers appear as cold and composed as if there were nothing passing between them.

The French distinguish two kinds of brokers; one for the service of merchants, the other of manufacturers, artificers, and workmen. The business of the former is to facilitate the sale of goods in the wholesale and mercantile way; that of the other, to procure the goods wanted for manufacturers, artificers, &c. or to sell their goods when made. At Paris there is scarce a company of tradesmen, or even mechanics, but have their brokers, who are usually taken out of their body, and make it their sole business to negotiate in the particular kinds of goods to which such company is by statutes restrained. There are brokers for drapery, brokers for grocery, brokers for mercery, &c. There are even brokers for tanners, curriers, cutlers, and the like.

Stock-BROKERS, are those who are employed to buy and sell shares in the joint stock of a company or corporation, and also in the public funds. As the practice of stock-jobbing has been carried to such an excess as became not only ruinous to a great number of private families, but even affected, or at least might soon affect, the public credit of the nation, the legislature thought fit to put a stop to it, or at least to bring it within certain bounds, and under some regulation. The negotiations, &c. of these brokers are regulated by stat. 6 Geo. I. cap. 18. and 7 and 10 Geo. II. cap. 8. which, among other things, enacted, that contracts in the nature of wagers, &c. incur a penalty of 500l. and by the sale of stock, of which the seller is not possessed, a forfeit of 100l. and that brokers keep a book, in which all contracts, with their dates, and the names of the parties concerned, shall be entered, on pain of 50l.

Pawn-BROKERS, persons who keep shops, and lend money upon pledges to necessitous persons, and most commonly at an exorbitant interest. They are more properly styled *pawn-takers*, or *tallymen;* sometimes *fripers*, or *friperers*. These are meant in 1 Jac. I. cap. xxi.

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Brokers, Brome.

xxi. sect. 5. where it is declared, that the sale of goods wrongfully taken to any broker, or pawn-broker, in London, Westminster, Southwark, or within two miles of London, does not alter the property. And (sect. 7.) if a broker, having received such goods, shall not, upon request of the owner, discover them, how and when he came by them, and to whom they are conveyed, he shall forfeit the double value thereof. See BROKER, SUPPLEMENT.

In the cities of Italy, there are companies established by authority for the letting out money on pawns, called *mounts of piety;* a title little becoming such institutions. In some parts of Italy, they have also mounts of piety of another kind, wherein they only receive ready money, and return it again with interest, at a certain sum per annum. At Bologna, they have several such mounts, which are distinguished into *frank* and *perpetual:* the interest of the former is only four per cent.; that of the latter, seven.

BROKERS are also those who sell old household furniture, and wearing apparel, &c.

BROME, ALEXANDER, a poet, and attorney in the lord mayor's court in the reign of Charles II. was the author of the greatest part of those songs and epigrams which were published in favour of the royalists, and against the *rump*, as well in Oliver Cromwell's time as during the rebellion. These, together with his Epistles and Epigrams translated from different authors, were all printed in one volume 8vo after the Restoration. He also published a version of Horace, by himself and others, which is very far from being a bad one. He left behind him a comedy entitled The Cunning Lovers: and the world is indebted to him for two volumes of Richard Brome's plays in octavo; many of which, but for his care in preserving and publishing them, would in all probability have been entirely lost. He died in 1666.

BROME, *Richard*, a dramatic writer who lived in the reign of King Charles I. and was contemporary with Decker, Ford, Shirley, &c. His extraction was mean, he having been originally no better than a menial servant to the celebrated Ben Johnson. He wrote himself, however, into high reputation, as is testified, not only by various commendatory verses written by his contemporaries and prefixed to many of his plays, but also by some lines which his quondam master addressed to him on account of his comedy called The Northern Lass. Brome, in imitation of his master, laid it down as his first great point, to apply closely to the study of men and manners. His genius was entirely turned to comedy; and therefore his proper province was observation more than reading. His plots are all his own, and are far from being ill conducted; and his characters, which for the most part are strongly marked, were the offspring of his own judgment and experience, and his close attention to the foibles of the human heart. In a word, his plays in general are good ones; met with great applause when first acted; and as Langbain informs us, were thought by the players worthy to be revived, to their own profit and the author's honour, in that critical age which he himself lived in. Nay, we have had a proof, even in our own time, of the merit of one of his comedies, which with a very little alteration has lately been revived, and with great success, viz. The Jovial Crew, which for no less than three seasons running brought crowded audiences to the theatre-royal in Covent Garden at all the frequent repetitions of its performance. The comedies which the author left behind him are 15 in number ten of which are collected together, as above mentioned, in two volumes octavo. He joined also with Thomas Heywood in a play called The Lancashire Witches.

BROMELIA, the PINE-APPLE: for the classification see BOTANY *Index*. In the natural method it ranks under the 10th order, *Coronariæ*.

As the pine apple, on account of its highly flavoured fruit, is a desirable object to those who can afford the expence of raising it, we shall here enter somewhat into the detail of the most approved method of cultivation.—The plants are propagated by planting the crowns which grow on the fruit, or the suckers which are produced either from the sides of the plants or under the fruit: both which are found to be equally good; although by some persons the crown is thought preferable to the suckers, as supposing it will produce fruit sooner than the suckers, which is certainly a mistake. The suckers and crowns must be laid to dry in a warm place for four or five days, or more (according to the moisture of the part which adhered to the old plant or fruit); for if they are immediately planted, they will rot. The certain rule of judging when they are fit to plant, is by observing if the bottom is healed over and become hard; for if the suckers are drawn off carefully from the old plants, they will have a hard skin over the lower part, so need not lie so long as the crowns of those whose bottoms are moist. But whenever a crown is taken from the fruit, or the suckers from old plants, they should be immediately divested of their bottom-leaves, so high as to allow depth for their planting; so that they may be thoroughly dry and healed in every part, lest when they receive heat and moisture they should perish, which often happens when this method is not observed If these suckers or crowns are taken off late in the autumn, or during the winter, or early in the spring, they should be laid in a dry place in the stove for a fortnight or three weeks before they are planted; but in the summer season, they will be fit for planting in a week at farthest.

These should be planted in a rich good kitchen-garden mould, not too heavy so as to detain the moisture too long, nor over light and sandy; but where this is wanting, you should procure some fresh earth from a good pasture, which should be mixed with about a third part of rotten neats dung, or the dung of an old melon or cucumber bed which is well consumed. These should be mixed six or eight months before they are used, but if it be a year it will be the better; and should be often turned, that their parts may be the better united, as also the clods well broken. This earth should not be screened very fine; for if you only clear it of the great stones, it will be better for the plants than when it is made too fine. You should always avoid mixing any sand with the earth, unless it be extremely stiff, and then it will be necessary to have it mixed at least six months or a year before it is used; and it must be frequently turned, that the sand may be incorporated in the earth so as to divide its parts: but you should not put more than a sixth part of

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Bromelia. of sand; for too much sand is very injurious to these plants. In the summer season, these plants must be frequently watered; but you should not give them large quantities at a time: you must also be very careful that the moisture is not detained in the pots by the holes being stopped, for that will soon destroy them. If the season is warm, they should be watered twice a-week; but in a cool season, once a-week will be often enough: and during the summer season you should once a-week water them gently all over their leaves; which will wash the filth from off them, and thereby greatly promote the growth of the plants.

There are some persons who frequently shift these plants from pot to pot. But this is by no means to be practised by those who propose to have large well-flavoured fruit: for unless the pots be filled with the roots, by the time the plants begin to show their fruit, they commonly produce small fruit, which have generally large crowns on them; therefore the plants will not require to be new potted oftener than twice in a season. The first time should be about the end of April, when the suckers and crowns of the former year's fruit (which remained all the winter in those pots in which they were first planted) should be shifted into larger pots; i. e. those which were in halfpenny or three-farthing pots, should be put into penny or at most three halfpenny pots, according to the size of the plants; for you must be very careful not to over-pot them, nothing being more prejudicial to these plants. The second time for shifting of them is in the beginning of August; when you should shift those which are of a proper size for fruiting the following spring into twopenny pots, which are full large enough for any of these plants. At each of these times of shifting the plants, the bark-bed should be stirred up, and some new bark added, to raise the bed up to the height it was at first made: and when the pots are plunged again into the bark-bed, the plants should be watered gently all over their leaves, to wash off the filth, and to settle the earth to the roots of the plants. If the bark-bed be well stirred, and a quantity of good fresh bark added to the bed, at this latter shifting, it will be of great service to the plants; for they may remain in the same tan until the beginning of November, or some time latter, according to the mildness of the season, and will require but little fire before that time. During the winter, they will not require to be watered oftener than once a-week, according as you find the earth in the pots too dry: nor should you give them too much at each time; for it is much better to give them a little water often, than to over-water them.

You must observe never to shift those plants which show their fruit into other pots; for if they are removed after the fruit appears, it will stop the growth, and thereby cause the fruit to be smaller, and retard its ripening, so that many times it will be October or November before the fruit is ripe: therefore you should be very careful to keep the plants in a vigorous growing state from the first appearance of the fruit, because upon this depends the goodness and the size of the fruit; for if they receive a check after this, the fruit is generally small and ill-tasted.—When you have cut off the fruit from the plant whose kind you are desirous to propagate, you should trim the leaves, and plunge the pots again into a moderate hot-bed, observing to refresh them frequently with water, which will cause them to put out suckers in plenty; so that a person may be soon supplied with plants enough of any of the kinds, who will but observe to keep the plants in health. Bromelia.

The most dangerous thing that can happen to these plants is their being attacked by small white insects, which appear at first like a white mildew, but soon after have the appearance of lice; these attack both root and leaves at the same time; and if they are not soon destroyed, will spread over a whole stove in a short time, and in a few weeks entirely stop the growth of the plants by sucking out the nutritious juice, so that the leaves will appear yellow and sickly, and have generally a great number of yellow transparent spots all over them. These insects, after they are full grown, appear like bugs, adhering so closely to the leaves as not to be easily washed off, and seem to have no local motion. They were originally brought from America upon the plants which were imported from thence; and are probably the same insects which have destroyed the sugar-canes of late in some of the Leeward islands, for upon some sugar-canes which were sent Mr Miller from Barbadoes he observed great numbers of these insects. Since they have been in England, they have spread greatly in such stoves where there has not been more than ordinary care taken to destroy them. They have also attacked the orange-trees in many gardens near London, and have done them incredible damage; but they do not endure the cold of our climate in winter, so that they are never found on such plants as live in the open air. The only method yet discovered for destroying these insects, is by frequently washing the leaves, branches, and stems, of such plants as they attack, with water in which there has been a strong infusion of tobacco stalks. But this method cannot be practised on the ananas plants, because the insects will fasten themselves so low between the leaves, that it is impossible to come at them with a sponge to wash them off; so that if all those which appear to sight are cleared off; they will soon be succeeded by a fresh supply from below, and the roots will be also equally infested at the same time. Therefore, whenever these insects appear on the plants, the safest method will be to take the plants out of the pots, and clear the earth from the roots; then prepare a large tub, which should be filled with water in which there has been a strong infusion of tobacco stalks; into this tub you should put the plants, placing some sticks across the tub to keep them immersed in water. In this water they should remain 24 hours; then take them out, and with a sponge wash off all the insects from the leaves and roots, and dip the plants into a tub of fair water, washing them therein, which is the most effectual way to clear them from the insects. After which, you should pot them in fresh earth; and, having stirred up the bark-bed, and added some new tan to give a fresh heat to the bed, the pots should be plunged again, observing to water them all over the leaves, and this should be repeated once a-week during the summer season; for these insects always multiply much faster where the plants are kept dry, than where they are sometimes sprinkled over with water, and kept in a growing state. As these insects are frequently brought over

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story. These were supposed, according to the opinion of many philosophers, to have only an imaginary existence. But of late years the attention of naturalists has been much directed to stones that have fallen from the clouds. The fact seems to be sufficiently established; but whether the stones are formed in the atmosphere during the thunder storm which generally accompanies their fall, are ejected from a volcano, or projected, as some suppose, from the moon, there is great difference of opinion.

BRONTIUM, in Grecian antiquity, a place underneath the floor of the theatres, in which were kept brazen vessels full of stones and other materials, with which they imitated the noise of thunder.

BRONTOLOGY, denotes the doctrine of thunder, or an explanation of its causes, phenomena, &c. together with the presages drawn from it. See ELECTRICITY.

BRONZE, a compound of copper and tin, to which sometimes other metallic substances, particularly zinc, are added. This metal is brittle, hard, and sonorous. It is employed for various uses, as for making of bells, cannon, and statues; and the proportions of the component metals are varied to suit the several purposes to which it is applied. This compound, like some others, is specifically heavier than either of the metals taken separately. A metallic mass, composed of four-fifths of copper and one-fifth part of tin, weighs in water $7\frac{1}{10}$ grains more than the same quantities of these two metals would together weigh in water, if not allayed. This proves, that in the union of copper and tin there is a penetration of parts, the one metal entering into the pores of the other; and this is further confirmed by an observation of Mr Tillet, member of the royal academy of sciences. In his memoir concerning the ductility of metals, he takes notice, that when the mixture of copper and tin is made in the proportions above mentioned, the colour of the copper is entirely annulled and covered by that of the tin, although the quantity of the first be four times greater; and this singular effect cannot be understood without admitting a total change in the size and disposition of the pores of the compound metal.

Tin being less subject to rust than copper, bronze is also found to be less liable to be covered with verdigrease than pure copper is; and this is one reason why it is used for cannons, statues, and works exposed to the air and weather. The greater fusibility of bronze than copper is also an advantageous property, and much facilitates the casting of large works. The operation for casting bronze is sufficiently simple. For this purpose a brick furnace is used, nearly of the shape of an oven for baking bread. The floor of this furnace is concave, and consists of a composition of sand and clay. In this hollow floor the metals to be fused are put.—The furnace has three openings. The first is a lateral mouth, at which enters the flame of the wood placed in a second furnace, on one side of the first: the second opening is a chimney placed on a side opposite to the mouth, by means of which the flame is drawn over the metal. The third is a hole which is opened and shut at pleasure; through which the inner part of the furnace may be occasionally inspected, that the state of the metal may be observed. When the metal is in the state required, a fourth opening is then unclosed, communicating with the hollow floor, and through which the melted metal flows by channels into the moulds prepared to receive it. See BRONZING, SUPPLEMENT.

Bronze
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Brooke.

BRONZE, also denotes a colour prepared by the colourmen of Paris, wherewith to imitate bronze.—There are two sorts, the red bronze, and the yellow or golden. The latter is made solely of copper-dust, the finest and brightest that can be got: the former is made of the same, with the addition of a little quantity of red ochre well pulverized. They are both applied with varnish. To prevent their turning greenish, the work must be dried over a chafing-dish as soon as bronzed.

BRONZES, a name given by antiquarians to figures either of men or beasts, to urns, and in general to every piece of sculpture which the ancients made of that metal. We likewise give the name of *bronzes* to statues or busts cast of bronze, whether these pieces be copies of antiques or original subjects.—Among medallists, all copper medals bear the name of *bronze*.

BRONZING, the art or act of imitating bronze, which is done by means of copper-dust or leaf, fastened on the outside, as gold leaves are in gilding.

BROOD, the young of fish, fowls, &c.

BROODING, the act of a hen in hatching her eggs. See HATCHING.

BROOK, a little river or small current of water.—A brook is distinguished from a river, inasmuch as a river flows at all times, whereas a brook flows at some particular seasons only.

Brook-Lime. See VERONICA, BOTANY *Index*.

BROOKE, MRS, daughter of a clergyman of the name of Moore, was a lady as remarkable for her virtue and suavity of manners as for her great literary accomplishments. Her first performance, which introduced her to the notice and consequent esteem of the public, was *Julia Mandeville*; a work concerning which there were various opinions, but which every body read with eagerness. It has been often wished that she had made the catastrophe less melancholy; and we believe that she afterwards was of the same opinion, but she thought it beneath her character to alter it. She soon afterwards went to Canada with her husband, who was chaplain to the garrison at Quebec; and here she saw and loved those romantic characters and scenes which gave birth to *Emily Montague*, a work most deservedly in universal esteem, which has passed through several editions, and which is now not easily met with. On her return to England, accident introduced her, and congenial sentiments attracted her, to Mrs Yates; and an intimacy was formed which terminated only with the life of that lady. Mrs Brooke, in consequence of this connexion, formed an acquaintance with Mr Garrick, and wrote some pieces for the stage. She had, however, great reason to be dissatisfied with his behaviour as a manager; and she made *The Excursion*, a novel which she wrote at this time, the vehicle by which she exhibited to the public her complaints and anger against the king of Drury. Her anger, we believe, was just, but the retribution was too severe. She herself afterwards thought so, for she lamented and retracted it. Her first dramatic performance was the tragedy of *Virginia*, 1756. Her next effort in that line was, *The Siege of Synope*, a tragedy, introduced by Mr Harris, and written principally with a view of placing Mrs Yates

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Broome — Brother.

which he published in the Gentleman's Magazine under the name of *Chester*. He died at Bath in 1745.

BROOMING, or *Breaming of a Ship*, the washing and burning off all the filth she has contracted on her sides, with weeds, straw, broom, &c. when she is on the careen, or on the ground. See CAREENING.

BROSSARD, SEBASTIAN DE, an eminent French musician. In the former part of his life he had been prebendary and chapel-master of the cathedral church of Strasburg; but afterwards became grand-chaplain, and also maitre de chapelle in the cathedral of Meaux. There is extant of his a work entitled *Prodromus Musicalis*. He was author also of a very useful book, entitled *Dictionaire de Musique*, printed at Amsterdam, in folio, 1703; and afterwards at the same place in octavo, without a date. At the end of this book is a catalogue of authors ancient and modern, to the amount of 900, who have written on music, divided into classes; wherein are interspersed many curious observations of the author relating to the history of music. By Mr Boivin's *Catalogue General des Livres de Musique* for the year 1729, it appears that Brossard was the author of two sets of motets, as also of nine *Leçons de Tenebres* therein mentioned. It seems that these several publications were at a time when the author was far advanced in years; for Walther takes notice that in the *Mercure Galante*, he is mentioned as an abbé and componist, so early as the year 1678.

BROSSES, CHARLES DE, a miscellaneous French writer. See SUPPLEMENT.

BROTHEL-HOUSES, lewd places, being the common habitations of prostitutes. King Henry VIII. by proclamation, in the 37th year of his reign, suppressed all the stews or brothel-houses which had long continued on the bank-side in Southwark, contrary to the law of God and of the land *. A brothelman was a loose idle fellow; and a *femme bordelier*, or *brothelier*, a common whore. And *borelman* is a contraction for *brothelman*. See *BAWDY-House*.

* 3 Inst. 5.

BROTHER, *Frater*, a term of relation between two male children, sprung from the same father, or mother, or both. Scaliger and Vossius derive *frater* from φρατης, for φρεατης, which properly signifies a person who draws water in the same well; φρεας, in Greek, signifying *well*, and φρατρια, a company of people who have a right to draw water out of the same well. The word, it is said, came origiually from the city Argos, where there were only a few wells distributed in certain quarters of the city, to which those of the same neighbourhood alone repaired.

By the civil law, brothers and sisters stand in the second degree of consanguinity; by the canon law, they are in the first degree.—By the Mosaic law, the brother of a man who died without issue was obliged to marry the widow of the deceased. Deuter. xxv. 7.

The ancients applied the term brother indifferently to almost all who stood related in the collateral line, as uncles and nephews, cousin germans, &c.—This we learn not only from a great many passages in the Old Testament, but also from profane authors: Cicero, in his Philippics, says, "Antonia was both wife and sister of Mark Antony; because she was daughter of his brother C. Antonius." And as to cousins, Tullus Hostilius, in Dionysius Halicarnasseus, calls the Horatii and Curiatii, brothers; because they were sisters children. Brother.

The language of the Jews, Bishop Pearson observes, included in the name of brethren not only the strict relation of fraternity, but also the larger of consanguinity. We are brethren, says Abraham to Lot, Gen. xiii. 8. whereas Lot was only his nephew.—So Jacob told Rachel that he was her father's brother, Gen. xxix. 12. where he was only her father's nephew.—This consideration has been urged with good advantage against the Antidicomarianites, who, from the mention made of the brethren of Jesus, John ii. 12. Matth. xii. 46. have impugned the perpetual virginity of the mother of Christ.

Among us, it is customary for kings to give the title brother to each other; the unction in coronation being esteemed to create a kind of brotherhood. Nor is the custom modern: Menander mentions a letter of Cosroes king of Persia to the emperor Justinian, beginning thus: Cosroes, king of kings, &c. to the emperor Justinian my brother.—Kings now also give the same appellation to the electors of the empire; and the like was given by the king of France to the late king of Sardinia, while only duke of Savoy.

In the civil law, brothers, *fratres*, in the plural, sometimes comprehends sisters: as *Lucius et Titia, fratres; tres fratres, Titius, Mævius, et Seia.*

Foster-BROTHERS, those who sucked the same nurse. The French call them *fratres du lait*, or brothers by milk; which is most properly used in respect of a person who sucked a nurse at the same time with the nurse's own child.

BROTHERS-German, *Fratres Germani*. See GERMAN.

BROTHER was also used, in middle-age writers, for a *comes*, or governor of a province.

BROTHER is applied, in a less proper sense, to denote a person of the same profession. In which sense, judges, bishops, priests, &c. call each other brothers.

BROTHER is also a customary term for priests of the same persuasion to address one another by: But it is more particularly used to denote the relation between monks of the same convent; as Brother Zachary: in English, we more usually say, Friar Zachary, from the French word, *frere*, brother.—Preachers also call their hearers, *my brethren*, or *my dear brethren*. This appellation is borrowed from the primitive Christians, who all called each other *brothers*. But it is now principally used for such of the religious as are not priests; those in orders are generally honoured with the title of *father*, whereas the rest are only simply brothers.

BROTHER is also an appellation more peculiarly given to certain orders of religious: Thus, the

BROTHERS of St Alexis, in the low countries, were an order of persons who attended on those who lay dying, and took care of the burial of the dead. See also *Brethren of CHARITY*, *of DEATH*, &c.

Poor BROTHERS, in the charity-house, a denomination given to decayed gentlemen, to the number of 80, who are subsisted with diet, clothing, and lodging, on the establishment. The poor brothers are to be gentlemen by descent, come to poverty; or decayed merchants, soldiers, or officers of the king's household. The conditions of admission are, that they have no estate.

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Broome Brother.

which he published in the Gentle
the name of *Chester*. He died a
BROOMING, or *BREAMING*
ing and burning off all the filth sh
ther sides, with weeds, straw, bro
on the careen, or on the ground.
BROSSARD, SEBASTIAN DE,
musician. In the former part of
prebendary and chapel-master of
of Strasburg; but afterwards be
and also maitre de chapelle in the
There is extant of his a work enti
sicalis. He was author also of a
titled *Dictionaire de Musique*, pu
in folio, 1703; and afterwards
octavo, without a date. At the
catalogue of authors ancient and m
of 900, who have written on musi
ses; wherein are interspersed mi
tions of the author relating to the
Mr Boivin's *Catalogue General de*
for the year 1729, it appears that
thor of two sets of motets, as alt
Tenebres therein mentioned. It se
ral publications were at a time wh
advanced in years; for Walther
the *Mercure Galante*, he is menti
componist, so early as the year 16
BROSSES, CHARLES DE, a m
writer. See SUPPLEMENT.
BROTHEL-HOUSES, lewd pla
mon habitations of prostitutes. Ki
proclamation, in the 37th year of h
all the stews or brothel-houses which
on the bank-side in Southwark, co
God and of the land *. A brothel
fellow; and a *femme bordelier*, o
mon whore. And *borelman* is a com
man. See *BAWDY-House*.

* 3 Inst. 205.

BROTHER, *Frater*, a term
two male children, sprung from the
ther, or both. Scaliger and Vossiu
φρατηρ, for φρεατηρ, which properly
who draws water in the same well
signifying *well*, and φρατρια, a com
have a right to draw water out of t
word, it is said, came originally fr
where there were only a few wells
tain quarters of the city, to which
neighbourhood alone repaired.

By the civil law, brothers and si
cond degree of consanguinity; by t
are in the first degree.—By the M
ther of a man who died without is
marry the widow of the deceased.

The ancients applied the term b
to almost all who stood related in th
uncles and nephews, cousin germa
learn not only from a great many p
Testament, but also from profane a
his Philippics, says, "Antonia was b
of Mark Antony; because she wa
brother C. Antonius." And as t
Hostilius, in Dionysius Halicarnasse

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roukhu-
sius
ll
Brown.

As a classical editor, he is distinguished by his labours upon Tibullus and Propertius; the latter was published in 1702, the former in 1708. He was an excellent Latin poet himself; a volume of his poems was published at Utrecht, 1684, in 12mo; but a very noble edition of them was given by Van Hoogstraeten at Amsterdam, 1711, in 4to. His "Dutch poems" were also published at Amsterdam, 1712, in 8vo, by the same person, who prefixed his life, extracted from Peter Burman's funeral oration upon him. Broukhusius was also an editor of Sannazarius's and Palearius's Latin works. With regard to his Latin poems, the authors of the "Journal de Trevoux" have delivered themselves thus (and what they have said may be applied to the bulk of modern Latin poems): "His verses are written in good enough Latin; but they want fire. The author was a poet by art, not by nature."

BROUNCKER, or BROUNKER, WILLIAM, lord viscount of Castle-Lyons, in Ireland, and the first president of the Royal Society, was the son of Sir William Brounker, knt. and born about the year 1620. He was distinguished by his knowledge of the mathematics, and by the considerable posts of honour and profit he enjoyed after the Restoration; for he had at the same time the office of chancellor to the queen, and the keeping of her great seal, that of one of the commissioners of the navy, and master of St Catharine's hospital near the Tower of London. He wrote, 1. Experiments of the recoiling of guns. 2. An algebraical paper upon the squaring of the hyperbola; and several letters to Dr Usher, archbishop of Armagh. He died in 1684.

BROUSSONET, P. M. A. an eminent French naturalist. See SUPPLEMENT.

BROWER, ADRIAN, a famous Dutch painter, born either at Oudenard or Haerlem, in 1608, of poor parentage. He became the disciple of Francis Hals, under whom he proved an inimitable artist. His subjects were taken from low life, always copied from nature; as droll conversations, drunken brawls, boors at cards, or surgeons dressing the wounded. Brower was apprehended at Antwerp as a spy; where being discovered by Rubens, he procured his liberty, took him home, clothed him, and endeavoured to acquaint the public with his merit; but the levity of his temper made him quit his benefactor; and he died not long after, in 1640, destroyed by a dissolute course of life.

BROW, or EYE-BROW, a hairy arch extended over the orbit of each eye. See ANATOMY *Index*.

BROW-Post, among builders, denotes a beam which goes across a building.

BROW-Antler, among sportsmen, that branch of a deer's horn next the tail.

BROWALLIA. See BOTANY *Index*.

BROWN, ROBERT, a schismatic divine, the founder of the Brownists, a numerous sect of dissenters in the reign of Queen Elizabeth. He was the son of Mr Anthony Brown of Tolthorp in Rutlandshire; whose father obtained the singular privilege of wearing his cap in the king's presence, by a charter of Henry VIII. Robert was educated at Cambridge, in Corpus Christi, or, according to Collier, in Bennet college, and was afterwards a schoolmaster in Southwark. About the year 1580, he began to promulgate his principles of dissension from the established church; and the following year preached at Norwich, where he soon accumulated a numerous congregation. He was violent in his abuse of the church of England; pretended to divine inspiration, and that he alone was the sure guide to heaven. This new sect daily increasing, Dr Freake bishop of Norwich, with other ecclesiastical commissioners, called our apostle before them. He was insolent to the court, and they committed him to the custody of the sheriff's officer; but he was released at the intercession of lord treasurer Burleigh, to whom it seems he was related. Brown now left the kingdom; and with permission of the states, settled at Middleburg in Zealand; where he formed a church after his own plan, and preached without molestation; but here persecution, the *sine qua non* of fanaticism, was wanting. In 1585, we find him again in England: for in that year he was cited to appear before Archbishop Whitgift; and seeming to comply with the established church, was, by Lord Burleigh, sent home to his father: but relapsing into his former obstinacy, his aged parent was obliged to turn him out of his house. He now wandered about for some time, and in the course of his mission endured great hardships. At last he fixed at Northampton; where, labouring with too much indiscretion to increase his sect, he was cited by the bishop of Peterborough, and, refusing to appear, was finally excommunicated for contempt. The solemnity of this censure, we are told, immediately effected his reformation. He moved for absolution, which he obtained, and from that time became a dutiful member of the church of England. This happened about the year 1590; and, in a short time after, Brown was preferred to a rectory in Northamptonshire, where he kept a curate to do his duty, and where he might probably have died in peace: but having some dispute with the constable of his parish, he proceeded to blows; and was afterwards so insolent to the justice, that he committed him to Northampton jail, where he died in 1630, aged 80. Thus ended the life of the famous Robert Brown; the greatest part of which was a series of opposition and persecution. He boasted on his deathbed, that he had been confined in no less than 32 different prisons. He wrote "A treatise of reformation without tarrying for any, and of the wickedness of those teachers which will not reform themselves and their charge, because they will tarry till the magistrate command and compel them, by me Robert Brown;" and two others, making together a thin quarto; published at Middleburg, 1582. Brown.

BROWN, *Ulysses Maximilian*, a celebrated general of the 18th century, was son of Ulysses, Baron Brown and Camus, colonel of a regiment of cuirassiers in the emperor's service, and descended from one of the most ancient and noble families in Ireland. He was born at Basil in 1705; and having finished his first studies at Limerie in Ireland, was, in 1715, sent for into Hungary, by Count George Brown, his uncle, member of the aulic council of war, and colonel of a regiment of infantry. He was present at the famous battle of Belgrade, in 1717. Next year he followed his uncle into Italy, who made him continue his studies, in the Clementine college at Rome, till the year 1721, when he was sent to Prague in order to learn the civil law.

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Brown. law. At the end of the year 1723, he became captain in his uncle's regiment; and in 1725, lieutenant-colonel: in 1730, he went into Corsica with a battalion of his regiment; and contributed greatly to the taking of Callansara, where he received a considerable wound in his thigh. In 1732, the emperor made him chamberlain: He was raised to the rank of colonel in 1734; and distinguished himself so much in the war of Italy, especially at the battles of Parma and Guastalla, and in burning in the presence of the French army the bridge which the marshal de Noailles had caused to be thrown over the Adige, that he was made general in 1736. The following year he favoured the retreat of the army, after the unhappy battle of Banjuluca in Bosnia, by an excellent manœuvre, and saved all the baggage. His admirable conduct upon this occasion was rewarded by his obtaining a second regiment of infantry, vacant by the death of Count Francis de Wallis.

At his return to Vienna, in 1739, the emperor Charles VI. raised him to the rank of general field-marshal-lieutenant, and made him counsellor in the aulic council of war. After the death of that prince, the king of Prussia entering Silesia, Count Brown, with a small body of troops, disputed the country with him inch by inch. He signalized himself on several other occasions: and, in 1743, the queen of Hungary made him a privy-counsellor, at her coronation in Bohemia. He at length passed into Bavaria, where he commanded the van-guard of the Austrian army; seized Deckendorf, with a great quantity of baggage; and obliged the French to abandon the banks of the Danube, which the Austrian army passed in full security. The same year, viz. in 1743, the queen of Hungary sent him to Worms, in quality of her plenipotentiary to the king of Britain; where he put the last hand to the treaty of alliance between the courts of Vienna, London, and Turin. In 1744, he followed Prince Lobkowitz into Italy; took the city of Veletri, on the 4th of August, in spite of the superior numbers of the enemy; entered their camp, overthrew several regiments, and took many prisoners. The following year he was recalled into Bavaria, where he took the town of Wilshosen by assault, and received a dangerous shot in the thigh. The same year he was made general of the artillery; and in January 1746, marched for Italy, at the head of a body of 18,000 men. He then drove the Spaniards out of the Milanese; and having joined the forces under Prince de Lichtenstein, commanded the left wing of the Austrian army at the battle of Placentia on the 15th of June 1746, and defeated the right wing of the enemy's forces commanded by Marshal de Maillebois. After this victory, he commanded in chief the army against the Genoese; seized the pass of Bosetta or Bochetta, though defended by above 4000 men; and took the city of Genoa. Count Brown at length joined the king of Sardinia's troops; and took, in conjunction with him, Mont-Alban, and the county of Nice. On the 30th of November he passed the Var, in spite of the French troops; entered Provence; took the isles of St Margaret and St Honorat; and thought to have rendered himself master of a much greater part of Provence, when the revolution which happened in Genoa, and Marshal Belleisle's advancing with his army, obliged him to make that fine retreat which procured him the admiration and esteem of all persons skilled in war. He employed the rest of the year 1747 in defending the states of the house of Austria in Italy; and after the peace in 1748, he was sent to Nice to regulate there, in conjunction with the duke of Belleisle and the marquis de la Minas, the differences that had arisen with respect to the execution of some of the articles of the definitive treaty of Aix-la-Chapelle.

The empress queen, to reward these signal services, especially his glorious campaign in Italy, in 1749 made him governor of Transylvania, where he rendered himself generally admired for his probity and disinterestedness. In 1752, he obtained the government of the city of Prague, with the chief command of the troops in that kingdom; in 1753, the king of Poland, elector of Saxony, honoured him with the collar of the order of the White Eagle; and the next year he was declared field-marshal.

The king of Prussia entering Saxony in 1756, and attacking Bohemia, Count Brown marched against him; and repulsed that prince at the battle of Lobositz, on the 1st of October, though he had only 27,000 men, and the king of Prussia had at least 40,000. Seven days after this battle, he undertook the famous march into Saxony, to deliver the Saxon troops shut up between Pirna and Konigstein; an action worthy of the greatest captains, ancient or modern. He at length obliged the Prussians to retire from Bohemia; for which he was rewarded, by being made a knight of the Golden Fleece. Soon after, Count Brown hastily assembled an army in Bohemia, to oppose the king of Prussia, who had again penetrated into that kingdom at the head of all his forces; and on the 6th of May fought the famous battle of Prague; in which, while he was employed in giving his orders for maintaining the advantages he had gained over the Prussians, he was so dangerously wounded, that he was obliged to be carried to Prague, where he died of his wounds, on the 26th of June 1757, at 52 years of age. There is reason to believe, that, had he not been wounded, he would have gained the victory, as he had broken the Prussians, and the brave Count Schwerin, one of their greatest generals, was slain.

Brown, *Sir Thomas*, an eminent physician and celebrated writer, was born at London, October 19th 1605. Having studied at Winchester college, and afterwards at Oxford, he travelled through France and Italy; and returning by the way of Holland, took his degree of doctor of physic at Leyden. In 1636, he settled at Norwich; and the year following was incorporated as doctor of physic at Oxford. His *Religio Medici* made a great noise; and being translated into Latin, instantly spread throughout Europe, and gained him a prodigious reputation: it was then translated into almost every language in Europe. This book has been heavily censured by some, as tending to infidelity, and even atheism: while others, with much more reason, have applauded the piety, as well as the parts and learning, of the author. The reverend Mr Granger observes, that among other peculiarities in this book, he speaks of the ultimate act of love as a folly beneath a philosopher; and says, that he could be content that we might procreate, like trees, without conjunction; but, after the writing of it, he descended

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Brown. scended from his philosophic dignity, and married an agreeable woman. It was said, that his reason for marrying was, because he could discover no better method of procreation. His Treatise on Vulgar Errors was read with equal avidity; he also published *Hydriotaphia*, or a Discourse of Sepulchral Urns lately found in Norfolk. His reputation in his profession was equal to his fame for learning in other respects; and therefore the college of physicians were pleased to take him into their number as an honorary member; and King Charles II. coming to Norwich in his progress, in 1671, was pleased to knight him, with singular marks of favour and respect. He died on his birthday, in 1681, leaving several manuscripts behind him, which were published under the title of *The posthumous works of the learned Sir Thomas Brown, Knt. M. D.*

Brown, *Edward*, the son of the former, physician to King Charles II. and president of the royal college at London. He was born in the year 1642; and studied at Cambridge, and afterwards at Merton college, Oxford. He then travelled; and at his return published a brief account of some travels in Hungary, Servia, Bulgaria, Macedonia, Thessaly, Austria, Styria, Carinthia, Carniola, Friuli, &c.: he also published an account of several travels through great part of Germany; and joined his name to those of many other eminent men, in a translation of Plutarch's Lives. He was acquainted with Hebrew, was a critic in Greek, and no man of his age wrote better Latin. High Dutch, Italian, French, &c. he spoke and wrote with as much ease as his mother-tongue. King Charles said of him, that "he was as learned as any of the college, and as well bred as any at court." He died August 27th, 1708.

Brown, *William*, an English poet of the 17th century, was descended from a good family, and born at Tavistock in Devonshire in the year 1590. After he had passed through the grammar school, he was sent to Exeter college in the university of Oxford, in the beginning of the reign of James I. and became tutor to Robert Dormer, who was afterwards earl of Carnarvon, and killed at Newbury battle, September 20. 1643. He is styled in the public register of the university, "a man well skilled in all kinds of polite literature and useful arts;" *vir omni humana literatura et bonorum artium cognitione instructus.* After he had left the college with his pupil, he was taken into the family of William earl of Pembroke, who had a great respect for him; and he made his fortune so well, that he purchased an estate. His poetical works procured him a very great reputation. They are as follow: 1. Britannia's pastorals. The first part was published at London, 1613, in folio; and ushered into the world with several copies of verses made by his ingenious and learned friends John Selden, Michael Drayton, Christopher Cook, &c. The second part was printed at London in 1616, and recommended by various copies of verses written by John Glanville, who afterwards became eminent in the profession of the law, and others. These two parts were reprinted in two vols. 8vo. 1625. 2. The Shepherd's Pipe, in seven eclogues; London, 1614, in 8vo. 3. An elegy on the never-enough bewailed death of Prince Henry, eldest son of King James I. Mr Wood tells us, that it is probable our author wrote several other poems which he had not seen. It is uncertain when he died. Brown.

Brown, *Thomas*, "of facetious memory," as he is styled by Addison, was the son of a farmer in Shropshire; and entered in Christ-church college, Oxford, where he soon distinguished himself by his uncommon attainments in literature. But the irregularities of his life not suffering him to continue long there, he, instead of returning to his father, went to London to seek his fortune: his companions, however, being more delighted with his humour than ready to relieve his necessities, he had recourse to the usual refuge of half-starved wits, scribbling for bread; and published a great variety of poems, letters, dialogues, &c. full of humour and erudition, but often indelicate. Though a good-natured man, he had one pernicious quality, which was, rather to lose his friend than his joke.

Towards the latter end of Tom Brown's life, we are informed by Mr Jacob, that he was in favour with the earl of Dorset, who invited him to dinner on a Christmas day, with Mr Dryden and some other gentlemen celebrated for their ingenuity, (as his lordship's custom was); when Mr Brown to his agreeable surprise found a bank note of 50l. under his plate, and Mr Dryden at the same time was presented with another of 100l. Mr Brown died in the year 1704; and was interred in the cloyster of Westminster abbey, near the remains of Mrs Behn, with whom he was intimate in his lifetime. His works have been printed both in 8vo and 12mo, making 4 vols.

Brown, *Dr John*, a clergyman of the church of England, and an ingenious writer, was born at Rothbury in Northumberland in November 1715. His father, John Brown, was a native of Scotland; of the Browns of Colstown near Haddington; and at the time of his son's birth was curate to Dr Tomlinson, rector of Rothbury. He was afterwards collated to the vicarage of Wigton in Cumberland; to which place he carried his son, who received the first part of his education there. Thence he was removed in 1732 to the university of Cambridge, and entered of St John's college, under the tuition of Dr Tunstall. After taking the degree of bachelor of arts with great reputation (being among the list of wranglers, and his name at the head of the list), he returned to Wigton, and received both deacon's and priest's orders from Sir George Fleming bishop of Carlisle. Here he was appointed by the dean and chapter a minor canon and lecturer of the cathedral church. For some years he lived here in obscurity; and nothing farther is known concerning him, than that in 1739 he went to Cambridge to take his degree of master of arts. In 1745 he distinguished himself as a volunteer in the king's service, and behaved with great intrepidity at the siege of Carlisle. After the defeat of the rebels, when several of them were tried at the assises held at Carlisle in the summer of 1746, he preached at the cathedral church of that city two excellent discourses, on the mutual connexion between religious truth and civil freedom; and between superstition, tyranny, irreligion, and licentiousness.

Mr Brown's attachment to the royal cause and to the Whig party procured him the friendship of Dr Osbaldeston, who was the only person that continued to be

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Brown. scended from his philosophic digni
agreeable woman. It was said,
marrying was, because he could
method of procreation. His Tre
rors was read with equal avidity
Hydriotaphia, or a Discourse of Bu
found in Norfolk. His reputatio
was equal to his fame for learning
and therefore the college of physic
take him into their number as an
and King Charles II. coming to N
gress, in 1671, was pleased to ho
gular marks of favour and respec
birthday, in 1681, leaving several
him, which were published under th
humous works of the learned Sir T
M. D.

BROWN, *Edward*, the son of th
to King Charles II. and president
at London. He was born in the y
died at Cambridge, and afterward
Oxford. He then travelled; and
lished a brief account of some tr
Servia, Bulgaria, Macedonia, The
ria, Carinthia, Carniola, Friuli,
lished an account of several travels
of Germany; and joined his name
other eminent men, in a translation
He was acquainted with Hebrew
Greek, and no man of his age w
High Dutch, Italian, French, &
wrote with as much ease as his moth
Charles said of him, that "he was a
the college, and as well bred as an
died August 27th, 1708.

BROWN, *William*, an English poe
tury, was descended from a good fa
Tavistock in Devonshire in the yea
had passed through the grammar sc
to Exeter college in the university
beginning of the reign of James I.
to Robert Dormer, who was afterw
narvon, and killed at Newbury batt
1643. He is styled in the public r
versity, "a man well skilled in all k
rature and useful arts;" *vir omni hu*
bonorum artium cognitione instructu
left the college with his pupil, he w
family of William earl of Pembroke,
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Britannia's pastorals. The first part
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eclogues; London, 1614, in 8vo.
the never-enough bewailed death of Pri
est son of King James I. Mr Wood

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Brown. no more than the substance given in the dissertation above mentioned. The same year Dr Brown published a volume of sermons, dedicated to his patron Dr Osbaldeston bishop of London; but most, if not all, of these, had been separately published, excepting the first three, which were on the subject of education. In the beginning of the year 1765, the doctor again returned to politics, and published "Thoughts on Civil Liberty, Licentiousness, and Faction." At the conclusion of this work the author prescribed a code of education, upon which Dr Priestley made remarks at the end of his "Essay on the Course of a liberal Education for civil and active Life." The same year he published a sermon "On the Female Character and Education," preached on the 16th of May 1766, before the guardians of the asylum for deserted female orphans. His last publication was in 1766, "A Letter to the Rev. Dr Lowth, occasioned by his late Letter to the Right Rev. Author of the Divine Legation of Moses." This was occasioned by Dr Lowth's having *clearly*, though *indirectly*, pointed at Dr Brown as one of the extravagant adulators and defenders of Bishop Warburton. Besides these works, Dr Brown published a poem on Liberty, and two or three anonymous pamphlets. At the end of several of his latter writings, he advertised his design of publishing, "Christian Principles of Legislation," but was prevented from executing it by his death; though the work appears to have been completed.

We come now to the concluding events of our author's life; concerning which the following is the most authentic intelligence that can be procured. Whilst Dr Dumaresq resided in Russia in the year 1765, to which he had been invited in the preceding year to give his advice and assistance for the establishment and regulation of several schools which her imperial majesty intended to erect, he received a letter from a lady of distinguished character in England, recommending to him Dr Brown as a proper correspondent on this occasion. Dr Dumaresq then wrote a letter to Dr Brown, telling him the occasion of his application, and the difficulties that occurred. He had imagined that nothing more would be wanted of him than what concerned classical learning, and a general foundation for the sciences; as that had been the common introduction to every kind of useful knowledge in the western parts of Europe. But on his arrival he found that a much more extensive scheme was required; and such as extended not only to learning properly so called, but also to matters military and naval, civil and commercial. But having stated his difficulties in executing this plan to Dr Brown, the latter proposed a scheme still more extensive; and which was no less than a general plan of civilization throughout the whole Russian empire. In this plan, however, though it showed very enlarged ideas and great strength of mind, there were several defects which rendered it, as Dr Brown himself was afterwards convinced, impracticable. He had laid greater stress upon the support, energy, and efficacy of absolute power in princes, when exerted in a good cause, than experience would warrant; and he was ready to imagine that the bulk of the Russian nation, just emerging out of barbarism, was like a *tabula rasa*, upon which any characters might be written. At last the doctor's letter was laid before the empress, who was so pleased with it that she immediately invited him to Russia. He accepted the invitation, and procured his majesty's leave to go: 1000l. were ordered for his expence, and he actually received 200l. But when he was on the point of setting out, an attack of the gout and rheumatism, to which he had been all his lifetime subject, so impaired his health, that his friends dissuaded, and at last succeeded in preventing him from going. The money was returned excepting 97l. 6s. which had been expended in necessaries for the intended journey. But though he thus declined the journey, a long letter which he afterwards wrote to the empress, and which does honour to his abilities, shows that he had not abandoned his intention of being serviceable. The affair, however, taken in all its circumstances, did no doubt greatly agitate his mind; and his being obliged at length to give up the journey, must have been no small disappointment to a man of his sanguine expectations. This disappointment concurring with the general state of his health, and perhaps the recollection of some other failures that had happened, was followed by a dejection of spirits; in consequence of which he put an end to his life on the 23d of September 1766, in the 51st year of his age. On the morning of that day his servant came into his bed-chamber, and asked him what sort of a night he had had? to which he replied, "A pretty good one." The servant having quitted the bedside for a few minutes, heard a noise in the doctor's throat, which he imagined to be owing to some obstruction occasioned by phlegm. Going to assist his master, he found him speechless, and bleeding profusely, having cut the jugular vein with a razor; and this he had done so effectually, that death speedily ensued. Such was the unhappy end of this ingenious writer; but the manner of it, when some previous circumstances of his life are understood, will cast no stain on his character. He had a tendency to insanity in his constitution; and, from his early life, had been subject at times to some disorder in his brain; at least to melancholy in its excess. Mrs Gilpin of Carlisle, soon after Dr Brown's decease, wrote in the following terms, in a letter to a friend. "His distemper was a frenzy, to which he had by fits been long subject; to my own knowledge above 30 years. Had it not been for Mr Farish frequently, and once for myself, the same event would have happened to him long ago. It was no premeditated purpose in him; for he abhorred the thought of self-murder; and in bitterness of soul expressed his fears to me, that one time or another some ready mischief might present itself to him, at a time when he was wholly deprived of his reason." Brown.

Brown, *Simon*, a dissenting minister, whose uncommon talents and singular misfortunes entitle him justly to a place in this work, was born at Shepton Mallet in Somersetshire, 1680. Grounded and excelling in grammatical learning, he early became qualified for the ministry, and actually began to preach before he was twenty. He was first called to be a pastor at Portsmouth, and afterwards removed to the Old Jewry, where he was admired and esteemed for a number of years. But the death of his wife and only son, which happened in 1723, affected him so as to deprive him of his reason; and he became from that time lost to himself, to his family, and to the world: his congregation

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wn. osity to be suppressed. The above pieces were published by Mr, afterwards Dr W. Harris, who, in an advertisement to the reader, recommends the afflicted case of the author, under a deep and peculiar melancholy, to the compassion and prayers of all his friends, and every serious Christian. Mr Brown survived the publication of this last work a very short time. A complication of distempers, contracted by his sedentary life (for he could not be prevailed on to refresh himself with air and exercise), brought on a mortification, which put a period to his labours and sorrows about the latter end of 1732. He was unquestionably a man of uncommon abilities and learning: his management of Woolston showed him to have also vivacity and wit: and, notwithstanding that strange conceit which possessed him, it is remarkable that he never appeared feeble or absurd, except when the object of his frenzy was before him. Besides the two pieces above mentioned, and before he was ill, he had published some single Sermons, together with a Collection of Hymns and Spiritual Songs. He left several daughters.

BROWN, *Isaac Hawkins*, an ingenious English poet, was born at Burton upon Trent, in Staffordshire, January 21. 1705-6; of which place his father was the minister. He received his grammatical institution first at Litchfield, then at Westminster; whence, at sixteen years of age, he was removed to Trinity College, Cambridge, of which his father had been fellow. He remained there till he had taken a master of arts degree; and about 1727 settled himself in Lincoln's-inn, where he seems to have devoted more of his time to the Muses than to the law. Soon after his arrival there, he wrote a poem on Design and Beauty, which he addressed to Mr Highmore the painter, for whom he had a great friendship. Several other poetical pieces were written here, and particularly his Pipe of Tobacco. This is in imitation of Cibber, Ambrose Phillips, Thomson, Young, Pope, and Swift, who were then all living; and is reckoned one of the most pleasing and popular of his performances. In 1743-4, he married the daughter of Dr Trimnell, archdeacon of Leicester. He was chosen twice to serve in parliament, first in 1744, and afterwards in 1748; both times for the borough of Wenlock in Shropshire, near which place he possessed a considerable estate, which came from his maternal grandfather, Isaac Hawkins, Esq. In 1754, he published what has been deemed his capital work, *De Animi Immortalitate*, in two books; in which, besides a most judicious choice of matter and arrangement, he is thought to have shewn himself not a servile but happy imitator of Lucretius and Virgil. The universal applause and popularity of this poem produced several English translations of it in a very short time; the best of which is that by Soame Jenyns, Esq. printed in his Miscellanies. Mr Brown intended to have added a third part, but went no farther than to leave a fragment. This excellent person died, after a lingering illness, in 1760, aged 55. In 1768, the present Hawkins Brown, Esq. obliged the public with an elegant edition of his father's poems, in large octavo; to which is prefixed a print of the author, from a painting of Mr Highmore, engraved by Ravenet. Brown.

BROWN, *Sir William*, a noted physician and multifarious writer, was settled originally at Lynn in Norfolk, where he published a translation of Dr Gregory's Elements of Catoptrics and Dioptrics; to which he added, 1. A method for finding the Foci of all Specula, as well as Lenses universally; as also magnifying or lessening a given object by a given Speculum or Lens, in any assigned Proportion. 2. A Solution of those Problems which Dr Gregory has left undemonstrated. 3. A particular Account of Microscopes and Telescopes, from Mr Huygens; with the discoveries made by Catoptrics and Dioptrics. Having acquired a competence by his profession, he removed to Queen's Square, Ormond Street, London, where he resided till his death. By his lady, who died in 1763, he had one daughter, grandmother to the present Sir Martin Browne Folkes, Bart. A great number of lively essays, both in prose and verse, the production of his pen, were printed and circulated among his friends. The active part taken by Sir William Brown in the contest with the licentiates, 1768, occasioned his being introduced by Mr Foote in his Devil upon Two Sticks. Upon Foote's exact representation of him, with his identical wig and coat, tall figure, and glass stifly applied to his eye, he sent him a card complimenting him on having so happily represented him; but as he had forgotten his muff, he had sent him his own. This good-natured method of resenting disarmed Foote. He used to frequent the annual ball at the ladies boarding-school, Queen Square, merely as a neighbour, a good-natured man, and fond of the company of sprightly young folks. A dignitary of the church being there one day to see his daughter dance, and finding this upright figure stationed there, told him he believed he was Hermippus *redivivus*, who lived *anhelitu puellarum*. When he lived at Lynn, a pamphlet was written against him: he nailed it up against his house door. At the age of 80, on St Luke's day, 1771, he came to Batson's coffee-house in his laced coat and band, and fringed white gloves, to show himself to Mr Crosby, then lord mayor. A gentleman present observing that he looked very well, he replied, *he had neither wife nor debts*. He died in 1774, at the age of 82; and by his will he left two prize medals to be annually contended for by the Cambridge poets.

BROWN, *John*, M. D. the founder of a modern theory of physic, was born about the year 1735 or 1736 in the parish of Buncle, in Berwickshire, Scotland. His parents being in an inferior rank of life, while he was very young, he was put an apprentice to a weaver, the

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known to your majesty: many such doubtless there are, though courts are not usually the places where the devout resort, or where devotion reigns. And it is not improbable, that multitudes of the pious throughout the land may take a case to heart, that under your majesty's patronage comes thus recommended. Could such a favour as this restoration be obtained from heaven by the prayers of your majesty, with what transport of gratitude would the recovered being throw himself at your majesty's feet, and, adoring the divine power and grace, profess himself, Madam, your majesty's most obliged and dutiful servant, SIMON BROWN.

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Brown. And as he now proposed to prosecute the profession of medicine by private practice and public instruction, it was found necessary to have a medical degree, as a testimony to the world of his qualifications. Having opposed and quarrelled with all the professors in the university of Edinburgh, there was little hope of his succeeding there; and therefore, in consequence of an application to the university of St Andrews, he was admitted to medical honours.

But the terms on which Dr Brown lived with his medical brethren, and the unfortunate habits which were daily gathering strength, precluded him from all rational hopes of success, either as a private practitioner or a public teacher. He therefore turned his thoughts to London, and removed to that metropolis in the year 1786. Previous to 1788, he had delivered one course of lectures; for in October of this year, he was cut off by a fit of apoplexy, on the day after he had delivered his introductory lecture to a second course. He died in the 53d year of his age.

Dr Brown possessed great vigour of mind, and seems to have been capable of considerable application. His talents, had they been directed to more practical and more useful objects, would have probably raised him to more eminent distinction, and rendered him a more valuable member of society. The style of his *Elementa* is harsh and unpolished. His meaning is often dark and ambiguous. But perhaps this want of perspicuity is as much owing to the subjects which he treated, the principles of which are far from being settled, as to the obscurity of his expression. He attempted an unbeaten path; it is not wonderful that he was often bewildered and lost.

To the sketch which we have now given of the life of Dr Brown, it will be expected, by some of our readers, that we add some account of the leading features of his theory. The following, extracted from the observations prefixed to an edition of the Elements of Medicine, published by Dr Beddoes, will perhaps be as correct and satisfactory as any thing we can give.

"The varied structure of organized beings, it is the business of anatomy to explain. Consciousness, assisted by common observation, will distinguish animated from inanimate bodies with precision more than sufficient for all the ends of medicine. The cause of gravitation has been left unexplored by all prudent philosophers; and Brown, avoiding all useless disquisition concerning the cause of vitality, confines himself to the phenomena which this great moving principle in nature may be observed to produce. His most general propositions are easy of comprehension.

"1. To every animated being is allotted a certain portion only of the quality or principle on which the phenomena of life depend. This principle is denominated *excitability*.

"2. The excitability varies in different animals, and in the same animal at different times. As it is more intense, the animal is more vivacious or more susceptible of the action of exciting powers.

"3. Exciting powers may be referred to two classes. 1. External; as heat, food, wine, poisons, contagions, the blood, secreted fluids, and air. 2. Internal; as the functions of the body itself, muscular exertion, thinking, emotion and passion.

"4. Life is a forced state; if the exciting powers are withdrawn, death ensues as certainly as when the excitability is gone. Brown.

"5. The excitement may be too great, too small, or in just measure.

"6. By too great excitement, weakness is induced, because the excitability becomes defective; this is *indirect debility:* when the exciting powers of stimulants are withheld, weakness is induced; and this is *direct debility*. Here the excitability is in excess.

"7. Every power that acts on the living frame is stimulant, or produces excitement by expending excitability. Thus, although a person, accustomed to animal food, may grow weak if he lives upon vegetables, still the vegetable diet can only be considered as producing an effect, the same in kind with animals, though inferior in degree. Whatever powers, therefore, we imagine, and however they vary from such as are habitually applied to produce due excitement, they can only weaken the system by urging it into too much motion, or suffering it to sink into languor.

"8. Excitability is seated in the medullary portion of the nerves, and in the muscles. As soon as it is anywhere affected, is is immediately affected everywhere; nor is the excitement ever increased in a part, while it is generally diminished in the system; in other words, different parts can never be in opposite states of excitement.

"I have already spoken of an illustration, drawn up by Mr Christie from a familiar operation, to facilitate the conception of Brown's fundamental positions. I introduce it here as more likely to answer its purpose than if separately placed at the end of my preliminary observations. 'Suppose a fire to be made in a grate, filled with a kind of fuel not very combustible, and which could only be kept burning by means of a machine containing several tubes, placed before it, and constantly pouring streams of air into it. Suppose also a pipe to be fixed in the back of the chimney, through which a constant supply of fresh fuel was gradually let down into the grate, to repair the waste occasioned by the flame, kept up by the air machine.

'The grate will represent the human frame; the fuel in it, the matter of life—the excitability of Dr Brown, and the sensorial power of Dr Darwin; the tube behind, supplying fresh fuel, will denote the power of all living systems, constantly to regenerate or reproduce excitability; while the air machine, of several tubes, denotes the various stimuli applied to the excitability of the body; and the flame drawn forth in consequence of that application represents life, the product of the exciting powers acting upon the excitability.

'As Dr Brown has defined life to be *a forced state*, it is fitly represented by a flame forcibly drawn forth from fuel little disposed to combustion, by the constant application of streams of air poured into it from the different tubes of a machine. If some of these tubes are disposed to convey pure or dephlogisticated air, they will denote the highest class of exciting powers, opium, musk, camphor, spirits, wine, tobacco, &c. the diffusible stimuli of Dr Brown, which bring forth for a time a greater quantity of life than usual, as the blowing in of pure air into a fire will temporarily draw forth an uncommon quantity of flame. If others of the tubes be

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tion, and even renewal, of excitability, I do not think it was his intention to induce his pupils to think of it as a kind of fluid substance existing in the animal, and subject to the law by which substances are governed. According to him, excitability was an unknown *somewhat*, subject to peculiar laws of its own, and whose different states we are obliged to describe (though inaccurately) by terms borrowed from the qualities of material substances.'

"The Brunonian system has frequently been charged with promoting intemperance. The objection is serious; but the view already given of its principles shows it to be groundless. No writer had insisted so much upon the dependence of life on external causes, or so strongly stated the inevitable consequences of excess. And there are no means of promoting morality upon which we can rely, except the knowledge of the true relations between man and other beings or bodies. For by this knowledge we are directly led to shun what is hurtful, and pursue what is salutary: and in what else does moral conduct, as far as it regards the individual, consist? It may be said that the author's life disproves the justness of this representation: his life, however, only shows the superior power of other causes, and of bad habits in particular; and I am ready to acknowledge the little efficacy of instruction when bad habits are formed. Its great use consists in preventing their formation; for which reason popular instruction in medicine would contribute more to the happiness of the human species, than the complete knowledge of every thing which is attempted to be taught in education, as it is conducted at present. But though the principles of the system in question did not correct the propensities of its inventor, it does not follow that they tend to produce the same propensities in others."

BROWN, among dyers, painters, &c. a dusky colour inclining towards redness. Of this colour there are various shades or degrees, distinguished by different appellations; for instance, Spanish-brown, a sad-brown, a tawny-brown, the London brown, a clove-brown, &c.

Spanish-brown is a dark dull red, or a horse-flesh colour. It is an earth; and is of great use among painters, being generally used as the first and priming colour that they lay upon any kind of timber-work in house-painting. That which is of the deepest colour, and freest from stones, is the best. Though this is of a dirty brown colour, yet it is much used, not to colour any garment, unless it be an old man's gown; but to shadow vermilion, or to lay upon any dark ground behind a picture, or to shadow yellow berries in the darkest places, when you want lake, &c. It is best and brightest when burnt in the fire till it be red hot; although, if you would colour any hare, horse, dog, or the like, it should not be burnt; but, for other uses, it is best when it is burnt; as for colouring wood, posts, bodies of trees, or any thing else of wood, or any dark ground of a picture.

BROWNIA. See BOTANY *Index*.

BROWNISTS, a religious sect, which sprung out of the Puritans, towards the close of the 16th century. Their leader, Robert Brown, wrote divers books in their behalf, was a man of good parts, and some learning. He was born of a good family in Rutlandshire, and related to the lord-treasurer Burleigh. He had been educated at Cambridge; but first published his notions, and began to inveigh openly against the discipline and ceremonies of the church, at Norwich, in the year 1580; from which time he underwent divers prosecutions from the bishops; insomuch that he boasted he had been committed to no less than 32 prisons, in some of which he could not see his hand at noon-day. At length, with his congregation, he left the kingdom, and settled at Middleburgh in Zealand; where they obtained leave of the states to worship God in their own way, and form a church according to their own model; which they had not long done, before this handful of men, just delivered from the severities of the bishops, began to differ among themselves and crumble into so many parties, that Brown their pastor grew weary of his office; and, returning to England in 1589, renounced his principles of separation, and was preferred to the rectory of a church in Northamptonshire, and died, after leading a very idle and dissolute life, in 1630. Brownists.

The revolt of Brown was attended with the dissolution of the church at Middleburgh; but the seeds of Brownism, which he had sown in England, were so far from being destroyed, that Sir Walter Raleigh, in a speech in 1592, computes no less than 20,000 followers of it. The occasion of their separation was not any fault they found with the faith, but only with the discipline and form of government, of the other churches in England. They equally charged corruption on the Episcopal form, and on that of the Presbyterians, by consistories, classes, and synods: nor would they join with any other reformed church, because they were not assured of the sanctity and regeneration of the members that composed it; on account of the toleration of sinners, with whom they maintained it an impiety to communicate. They condemned the solemn celebration of marriages in the church; maintaining that matrimony being a political contract, the confirmation thereof ought to come from the civil magistrate. They would not allow any children to be baptized of such as were not members of the church, or of such as did not take sufficient care of those baptized before. They rejected all forms of prayer; and held that the Lord's prayer was not to be recited as a prayer, being only given for a rule or model whereon all our prayers are to be formed. The form of church-government which they established was democratical. When a church was to be gathered, such as desired to be members of it made a confession of it, and signed a covenant, by which they obliged themselves to walk together in the order of the gospel. The whole power of admitting and excluding members, with the decision of all controversies, was lodged in the brotherhood. The church officers were chosen from among themselves, for preaching the word, and taking care of the poor, and separated to their several offices by fasting, prayer, and imposition of hands of some of the brethren. But they did not allow the priesthood to be any distinct order, or to give any indelible character. As the vote of the brotherhood made a man a minister, and gave him authority to preach the word and administer the sacraments among them, so the same power could discharge him from his office, and reduce him to a mere layman again. And as they maintained

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appellations; for instance, Spanish-b
a tawny-brown, the London brow
&c.

Spanish-brown is a dark dull red
colour. It is an earth; and is of
painters, being generally used as the
colour that they lay upon any kind
house-painting. That which is of t
and freest from stones, is the best.
a dirty brown colour, yet it is much
lour any garment, unless it be an
but to shadow vermilion, or to lay
ground behind a picture, or to shad
in the darkest places, when you want
best and brightest when burnt in the
hot; although, if you would colour
dog, or the like, it should not be burn
uses, it is best when it is burnt; as fo
posts, bodies of trees, or any thing else
dark ground of a picture.

BROWNIA. See BOTANY *Index*

BROWNISTS, a religious sect, w
of the Puritans, towards the close of t
Their leader, Robert Brown, wrote
in their behalf, was a man of good p
learning. He was born of a good fam

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owny
ruce.

When in one night, ere glimpse of morn,
His shadowy flail hath thrash'd the corn
That ten day-lab'rers could not end;
Then lays him down the Lubber Fiend,
And stretch'd along the chimney's length,
Basks at the fire his hairy strength.

BROWSE, the tops of the branches of trees, whereon beasts feed. This is sometimes also called *brouce* and *bruttle*; probably from the French *brout*, which signifies the same thing.

BROWSE more properly denotes the food which deer find in young copses, continually sprouting anew.

BRUCE, ROBERT, son of the earl of Carrick, being competitor with Baliol for the crown of Scotland, lost it by the arbitration of Edward I. of England, for generously refusing to hold the crown of Scotland as depending on him, which his ancestors had left him independent. But Baliol having afterwards broke his agreement with Edward, Bruce was easily persuaded by that king to side with him against Baliol, upon promise that he would settle him on the throne. Having contributed much to the breaking of Baliol's party, he demanded the accomplishment of King Edward's promise, who is said to have given him this answer: "What! have I nothing else to do but to conquer kingdoms for you?" However, he recovered his crown, defeated the English in several battles, raised the glory of the Scots, and extended their dominions. See *History of* SCOTLAND.

BRUCE, *James*, F. R. S. the celebrated traveller, was born at Kinnaird-house in the county of Stirling, Scotland, in the year 1729. The Bruces of Kinnaird are a very ancient family. They were descended from a younger son of Robert de Bruce, and have been in possession of that estate for three centuries, connected during this period with some of the most distinguished houses of the kingdom.

Mr Bruce was instructed in grammatical learning at the school of Harrow on the Hill in Middlesex, where he acquired a considerable share of classical knowledge. Returning to Scotland, he applied to the study of the laws of his country; but soon contracting a dislike to his situation, he determined to push his fortune in the East Indies, and for that purpose went to London. Being disappointed in his views of procuring an appointment in the company's service, he engaged in trade, and entered into partnership with a wine merchant in London of the name of Allen, whose daughter he married. That lady falling into a bad state of health, Mr Bruce took her abroad, in hopes that travelling would be attended with beneficial effects, but in these he was disappointed, as she died within a year after her marriage. He was induced, in order to dispel his grief, to continue his travels, during which his father dying (at Edinburgh 4th May 1758), the inheritance of his ancestors devolved upon him, and he returned to Britain. Some of his subsequent transactions shall now be related in his own words:

"Every one will remember that period, so glorious to Britain, the latter end of the ministry of the late Earl of Chatham. I was then returned from a tour through the greatest part of Europe, particularly through the whole of Spain and Portugal, between whom there was then the appearance of an approaching war.

"I was about to retire to a small patrimony I had received from my ancestors, in order to embrace a life of study and reflexion, nothing more active appearing within my power, when chance threw me unexpectedly into a very short and very desultory conversation with Lord Chatham. Bruce.

"It was a few days after this, that Mr Wood, then under secretary of state, my zealous and sincere friend, informed me that Lord Chatham intended to employ me upon a particular service; that, however, I might go down for a few weeks to my own country to settle my affairs, but, by all means, to be ready upon a call. Nothing could be more flattering to me than such an offer, when so young; to be thought worthy by Lord Chatham of any employment, was doubly a preference. No time was lost on my side; but just after receiving orders to return to London, his Lordship had gone to Bath, and resigned his office.

"This disappointment, which was the more sensible to me that it was the first I had met with in public life, was promised to be made up to me by Lord Egremont and Mr George Grenville. The former had been long my friend; but unhappily he was then far gone in a lethargic indisposition, which threatened, and did very soon put a period to his existence. With Lord Egremont's death my expectations vanished. Further particulars are unnecessary; but I hope that, at least in part, they remain in that breast where they naturally ought to be, and where I shall ever think, not to be long forgotten is to be rewarded.

"Seven or eight months were passed in an expensive and fruitless attendance in London, when Lord Halifax was pleased, not only to propose but to plan for me, a journey of considerable importance, and which was to take up several years. His lordship said, that nothing could be more ignoble than, at such a time of life, at the height of my reading, health, and activity, I should as it were, turn peasant, and voluntarily bury myself in obscurity and idleness; but though war was now drawing fast to an end, full as honourable a competition remained among men of spirit, which should acquit themselves in the dangerous line of useful adventure and discovery.

"He observed, that the coast of Barbary, which might be said to be just at our door, was yet but partially explored by Dr Shaw, who had only illustrated (very judiciously indeed) the geographical labours of Sanson; that neither Dr Shaw nor Sanson had been, or pretended to be, capable of giving the public any detail of the large and magnificent remains of ruined architecture, which they both vouch to have seen in great quantities, and of exquisite elegance and perfection, all over the country. Such had not been their study, yet such was really the taste that was required in the present times. He wished, therefore, that I should be the first, in the reign just now beginning, to set an example of making large additions to the royal collection; and he pledged himself to be my support and patron, and to make good to me, upon this additional merit, the promises which had been held forth to me by former ministers for other services.

"The discovery of the source of the Nile was also a subject of these conversations; but it was always mentioned to me with a kind of diffidence, as if to be expected from a more experienced traveller. Whether this was but another way of exciting me to the at-

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Bruce. were employed in attendance on the king; and in an unsuccessful expedition round the lake of Dembea. Towards the end of October, Mr Bruce set out for the sources of the Nile, at which long-desired spot he arrived on the 14th of November, and his feelings on the accomplishment of his wishes cannot better be expressed than in his own words:

"It is easier to guess than to describe the situation of my mind at that moment; standing in that spot which had baffled the genius, industry, and inquiry, of ancients and moderns for the course of near 3000 years. Kings had attempted this discovery at the head of armies; and each expedition was distinguished from the last only by the difference of the numbers which had perished, and agreed alone in the disappointment which had uniformly, and without exception, followed them all. Fame, riches, and honour, had been held out for a series of ages to every individual of those myriads those princes commanded, without having produced one man capable of gratifying the curiosity of his sovereign, or wiping off this stain upon the enterprise and abilities of mankind, or adding this desideratum for the encouragement of geography. Though a mere private Briton, I triumphed here in my own mind over kings and their armies; and every comparison was leading nearer and nearer to the presumption, when the place itself where I stood, the object of my vain-glory, suggested what depressed my short-lived triumphs. I was but a few minutes arrived at the source of the Nile, through numberless dangers and sufferings, the least of which would have overwhelmed me, but for the continual goodness and protection of providence; I was, however, but then half through my journey, and all those dangers which I had already passed awaited me again on my return. I found a despondency gaining ground fast upon me, and blasting the crown of laurels I had too rashly woven for myself."

When he returned to rest the night of that discovery, repose was sought for in vain. "Melancholy reflections upon my present state, the doubtfulness of my return in safety, were I permitted to make the attempt, and the fears that even this would be refused, according to the rule observed in Abyssinia with all travellers who have once entered the kingdom; the consciousness of the pain that I was then occasioning to many worthy individuals, expecting daily that information concerning my situation which it was not in my power to give them; some other thoughts, perhaps, still nearer the heart than those, crowded upon my mind, and forbade all approach of sleep.

"I was, at that very moment, in possession of what had for many years been the principal object of my ambition and wishes; indifference, which, from the usual infirmity of human nature, follows, at least for a time, complete enjoyment, had taken place of it. The marsh, and the fountains, upon comparison with the rise of many of our rivers, became now a trifling object in my sight. I remembered that magnificent scene in my own native country, where the Tweed, Clyde, and Annan, rise in one hill; three rivers I now thought not inferior to the Nile in beauty, preferable to it in the cultivation of those countries through which they flow; superior, vastly superior to it in the virtues and qualities of the inhabitants, and in the beauty of its flocks, crowding its pastures in peace, without fear of violence from man or beast. I had seen the rise of the Rhine and Rhone, and the more magnificent sources of the Saone; I began, in my sorrow, to treat the inquiry about the source of the Nile as a violent effort of a distempered fancy: Bruce.

'What's Hecuba to him, or he to Hecuba,
'That he should weep for her?'

Grief and despondency now rolling upon me like a torrent, relaxed, not refreshed, by unquiet and imperfect sleep, I started from my bed in the utmost agony. I went to the door of my tent. Every thing was still; the Nile, at whose head I stood, was not capable either to promote or to interrupt my slumbers, but the coolness and serenity of the night braced my nerves, and chased away those phantoms that while in bed had oppressed and tormented me.

"It was true, that numerous dangers, hardships, and sorrows, had beset me through this half of my excursion; but it was still as true, that another Guide, more powerful than my own courage, health, or understanding, if any of them can be called man's own, had uniformly protected me in all that tedious half. I found my confidence not abated, that still the same Guide was able to conduct me to my wished-for home. I immediately resumed my former fortitude, considered the Nile as indeed no more than rising from springs as all other rivers do, but widely differing in this, that it was the palm for 3000 years held out to all the nations of the world as a *detur dignissimo*, which in my cool hours I had thought was worth the attempting at the risk of my life, which I had long either resolved to lose, or lay this discovery a trophy in which I could have no competitor, for the honour of my country, at the feet of my sovereign, whose servant I was."

The object of Mr Bruce's wishes being now gratified, he bent his thoughts on his return to his native country. He arrived at Gondar 19th November 1770; but found, after repeated solicitations, that it was by no means an easy task to obtain permission to quit Abyssinia. A civil war in the mean time breaking out, several engagements took place between the king's forces and the troops of the rebels, particularly three actions at a place called Serbraxos on the 19th, 20th, and 23d of May 1771. In each of them Mr Bruce acted a considerable part, and for his valiant conduct in the second received, as a reward from the king, a chain of gold, of 184 links, each link weighing $3\frac{7}{10}$dwts. or somewhat more than $2\frac{1}{2}$lbs. troy in all. At Gondar, after these engagements, he again preferred the most earnest entreaties to be allowed to return home, entreaties which were long resisted; but his health at last giving way, from the anxiety of his mind, the king consented to his departure, on condition of his engaging by oath to return to him in the event of his recovery, with as many of his kindred as he could engage to accompany him.

After a residence of nearly two years in that wretched country, Mr Bruce left Gondar on the 16th of December 1771, taking the dangerous way of the desert of Nubia, in place of the more easy road of Masuah, by which he entered Abyssinia. He was induced to take this rout, from his knowledge and former experience of the cruel and savage temper of the naybe of Masuah. Arriving at Teawa the 21st March 1772, Mr

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Bruce. interval asserts, that the new moon was seen by a fakir, and was found by the ephemerides to be three days old; whereas it is certain that the moon changed on the 8th of January 1767. The other phenomenon appears equally impossible. At Teawa Mr Bruce says he terrified the shekh by foretelling that an eclipse of the moon was to take place at four o'clock afternoon of the 17th of April 1772; that accordingly, soon after that hour, he saw the eclipse was begun; and when the shadow was half over, told the shekh that in a little time the moon would be totally darkened. Now, by calculation, it is certain, that at Teawa this eclipse must have begun at 36 minutes past four, and the moon have been totally covered at 33 minutes past five; while the sun set there a few minutes past six, before which time the moon, then in opposition, could not have risen: so that as the moon rose totally eclipsed, Mr Bruce could not see the shadow half over the disk, nor point it out to the shekh. To these objections, which appear unsurmountable, Mr Bruce made no reply, though in conversation he said he would do it in the second edition of his book.

The language of the work is in general harsh and unpolished, though sometimes animated. Too great a display of vanity runs through the whole, and the apparent facility with which the traveller gained the most familiar access to the courts, and even to the harams, of the sovereigns of the countries through which he passed, is apt to create in readers some doubts of the accuracy of the narration. Yet there appears upon the whole such an air of manly veracity, and circumstances are mentioned with a minuteness so unlike deceit, that these doubts are overcome by the general impression of truth, which the whole detail irresistibly fastens upon the mind. This first impression being almost wholly disposed of within a short time, Mr Bruce had stipulated for a second edition, which was preparing for the press, when death removed the author from this transitory stage.

That event happened on the 26th of April 1794. In the evening of that day, when some company were departing, Mr Bruce attended them down stairs; on the steps his foot slipped, and he fell down headlong. He was taken up speechless, and remained in a state of insensibility for eight or nine hours, when he expired, on the 27th of April 1794, in the 65th year of his age.

He married, for his second wife, at Carronhall, 20th May 1776, Mary, eldest daughter of Thomas Dundas of Fingask. Mrs Bruce died, after a long and lingering indisposition, during which she was attended with the most affectionate assiduity by her husband, in 1784, having had issue two sons and one daughter.

There never, perhaps, existed a man better qualified for the hazardous enterprise he undertook, than Mr Bruce. His person was of the largest size, his height exceeding six feet, and the bulk as well as the strength of his body was proportionally great. He excelled in all corporeal accomplishments, being a hardy, practised, and indefatigable swimmer, trained to exercise and fatigue of every kind, and his long residence among the Arabs had given him a more than ordinary facility in managing the horse. In the use of fire arms he was so unerring, that in innumerable instances he never failed to hit the mark; and his dexterity in handling the spear and lance on horseback was also uncommonly great. He was master of most languages, understanding the Greek perfectly; and was so well skilled in oriental literature, that he revised the New Testament in the Ethiopic, Samaritan, Hebrew, and Syriac, making many useful notes and remarks on difficult passages. He had applied from early youth to mathematics, drawing, and astronomy; and had acquired some knowledge of physic and surgery. His memory was astonishingly retentive, his judgment sound and vigorous. He was dexterous in negotiation, a master of public business, animated with the warmest zeal for the glory of his king and country, a physician in the camp or city, a soldier and horseman in the field, while, at the same time, his breast was a stranger to fear, though he took every precaution to avoid danger. Such, at least, is *his own* representation of his character; and though an impartial judge would probably make considerable abatement for the natural bias of a man drawing his own portrait, yet it cannot be denied, that in personal accomplishments, Mr Bruce equalled, if not exceeded, most of his cotemporaries; was uncommonly distinguished for vigour of understanding, as well as great literary attainments; and in active persevering intrepidity may be classed with the most eminent characters in any age or country. Bruce ‖ Bruges.

Thus accomplished, Mr Bruce could not but be eminently fitted for an attempt so full of difficulty and danger as the discovery of the sources of the Nile: no one who peruses his account of the expedition, can fail to pay an unfeigned tribute of admiration to his intrepidity, manliness, and uncommon dexterity in extricating himself out of situations the most dangerous and alarming, in the course of his long and hazardous journey. Not to mention his conduct during his residence in Abyssinia, his behaviour at Masuah, Teawa, and Sennaar, evinces the uncommon vigour of his mind; but it was chiefly during his passage through the Nubian desert that his fortitude, courage, and prudence, appeared to the greatest advantage. Of his learning and sagacity, his delineation of the course of Solomon's fleet from Tarshish to Ophir, his account of the cause of the inundations of the Nile, and his comprehensive view of the Abyssinian history, afford ample proofs. He expresses throughout all his works a deep and lively sense of the care of a superintending Providence, without whose influence, he was convinced of the futility of all human ability and foresight to preserve from danger. He appears to have been a serious believer of the truth of Christianity; and his illustrations of some parts of the sacred writings are original and valuable. (*Edin. Mag.*)

BRUCHSAL, a town of Germany, in the palatinate of the Rhine, and bishopric of Spires, situated on the river Satz, in E. Long. 8. 30. N. Lat. 49. 15.

BRUCHUS. See ENTOMOLOGY *Index.*

BRUCKER, JAMES, a German theologian and historian. See SUPPLEMENT.

BRUEGHEL. See BREUGHEL.

BRUGES, a city of the Netherlands, is seated in a plain eight miles from the sea; and has a great number of canals, one of which leads to Ghent, another to Ostend, and others to Sluys, to Newport, to Furnes, to Ypres, and to Dunkirk. All the waters about Bruges are without any current; but they may be

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stinction in Scotland, and born in the year 1619. His father was a statuary by profession. He discovered, it is said, such an early inclination for painting, that at three years of age he used to take coals, and design on the hearth and sides of the chimney, only by the light of the fire; and at 12 he drew the picture of his uncle so well, that it still passes for a fine piece. His father being employed in the gardens at Sequier, and having brought his son along with him, the chancellor of that name took a liking to him, and placed him with Simon Vouet, an eminent painter. He was afterwards sent to Fountainbleau, to take off some of Raphael's pieces. He sent him next to Italy, and supported him there for six years. Le Brun, in his return, met with the celebrated Poussin, by whose conversation he greatly improved himself in his art, and contracted a friendship with him which lasted as long as their lives. A painting of St Stephen, which he finished in 1651, raised his reputation to the highest pitch. Soon after this, the king, upon the representation of M. Colbert, made him his first painter, and conferred on him the order of St Michael. His majesty employed two hours every day to see him work while he was painting the family of Darius at Fountainbleau. About the year 1662, he began his five large pieces of the history of Alexander the Great, in which he is said to have set the actions of that famous conqueror in a more glorious light than Quintus Curtius has done in his history. He procured several advantages for the royal academy of painting and sculpture at Paris, and formed the plan of another for the students of his own nation at Rome. There was scarcely any thing done for the advancement of the fine arts in which he was not consulted. It was through the interest of M. Colbert that the king gave him the direction of all his works, particularly of his royal manufactory at the Gobelins, where he had a handsome house with a genteel salary assigned to him. He was also made director and chancellor of the royal academy, and showed the greatest zeal to encourage the fine arts in France. He was endowed with a vast inventive genius, which extended itself to arts of every kind. He was well acquainted with the manners and history of all nations. Besides his extraordinary talents, his manners were so polished and his address so pleasing, that he attracted the regard and affection of the whole court of France, where, by the places and pensions conferred on him by the king's liberality, he made a very considerable figure. Le Brun was the author of two treatises; one on physiognomy, and the other on the different characters of the passions. He died at Paris in 1690.

The talent of this painter, except for landscapes, was universal. He was not indeed admired for his colouring, or for his skill in the distribution of his lights and shadows; but for a good gusto of design, an excellent choice of attitudes, an agreeable management of his draperies, a beautiful and just expression, and a strict observance of decorum. In fine, his compositions demand the attention and admiration of the nicest judges. The pieces that gained him greatest reputation were, besides what we have already mentioned, those which he finished at Fontainbleau, the great staircase at Versailles, but especially the grand gallery there, which was the last of his works, and is said to have taken him up 14 years.

BRUNDISIUM, or BRUNDUSIUM, in *Ancient Geography*, a town of Calabria, with the best harbour in Italy. It was a very ancient town, and belonged originally to the Salentines; but was taken by the Romans about 256 years before Christ. Now *Brindisi*; which see. Brundisium

BRUNIA. See BOTANY *Index*.

BRUNO, JORDANO, an atheistical writer, was born at Nola in the kingdom of Naples; and about the year 1582 began to call in question some of the tenets of the Romish church, which occasioned his retiring to Geneva: but after two years stay there, he expressed his aversion to Calvinism in such a manner that he was expelled the city. After having staid some time at Lyons, Thoulouse, and Paris, he came to London, and continued two years in the house of M. Castleneau the French ambassador. He was very well received by Queen Elizabeth, and the politer part of the court. His principal friends were Sir Philip Sidney and Sir Fulk Greville. With these and some others of their club, Bruno held assemblies; but as they treated of subjects of a very delicate nature, which could not suit the taste or capacity of every body, they kept the door always shut, and none but select persons were admitted into their company. At Sir Philip's request, he composed his *Spaccio della Bestia Triumphante*, which was printed in 8vo, 1584, and dedicated to that gentleman. This work, which is remarkable for nothing but its impiety, we are told in one of the Spectators (N° 389.), sold at an auction in London for 30l. From England he went to Wittemberg, and from thence to Prague, where he printed some tracts, in which he openly avowed his atheistical principles. After visiting some other towns in Germany, he made a tour to Venice. Here he was apprehended by order of the inquisition; tried; condemned; and refusing to retract, was burnt at the stake, February 9th 1600.

BRUNSBUTTLE, a sea-port town of Germany, in the circle of Lower Saxony, and duchy of Holstein, seated at the mouth of the river Elbe, in E. Long. 8. 42. N. Lat. 44. 30. It is a subject to Denmark.

BRUNSFELSIA. See BOTANY *Index*.

BRUNSWICK, a city of Germany, in the circle of Lower Saxony, and capital of the duchy of the same name. It is composed of five towns, viz. the Old Town, the New Town, the Hagen or Burg, the Old Wieck, and the Sack, which makes it a large place, but the house are almost all built of wood. There are several churches, one of which is an ancient Gothic building, but the appearance of its antiquity is almost absorbed by the repairs it has undergone. Brunswick is a fortified place, and would require a numerous army to besiege, and not a few men to defend it. It is of a square form, divided in the middle by the river Ocker. It is about two miles in circumference, and is strongly fortified. On the ramparts is a mortar piece of brass, ten feet six inches long, and nine feet two inches in circumference, weighing 1800 quintals, and has 93 quintals of iron in its carriages. It will carry a ball of 730 pounds weight to the distance of 33,000 paces, and throw a bomb of a thousand weight; but it requires 52 pounds of powder for a charge. This city is the residence of the prince whom we style the *duke of Brunswick-Wolfenbuttle*. The inhabitants Brunswick.

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Brun. stinction in Scotland, and born in th
father was a statuary by profession.
is said, such an early inclination for
three years of age he used to take
on the hearth and sides of the chi
light of the fire; and at 12 he drew
uncle so well, that it still passes for
father being employed in the garde
having brought his son along with h
of that name took a liking to him, a
Simon Vouet, an eminent painter.
sent to Fountainbleau, to take off
pieces. He sent him next to Italy,
there for six years. Le Brun, in h
the celebrated Poussin, by whose co
ly improved himself in his art, and c
ship with him which lasted as long
painting of St Stephen, which he
raised his reputation to the highest
this, the king, upon the representa
made him his first painter, and co
order of St Michael. His majesty e
every day to see him work while he
family of Darius at Fountainbleau.
1662, he began his five large piece
Alexander the Great, in which he
the actions of that famous conqueror
light than Quintus Curtius has done i
procured several advantages for the
painting and sculpture at Paris, and
another for the students of his own
There was scarcely any thing done for
of the fine arts in which he was not c
through the interest of M. Colbert th
him the direction of all his works, p
royal manufactory at the Gobelins,
handsome house with a genteel salary
He was also made director and chanc
academy, and showed the greatest z
the fine arts in France. He was end
inventive genius, which extended itsel
kind. He was well acquainted with
history of all nations. Besides his
lents, his manners were so polished a
pleasing, that he attracted the regar
the whole court of France, where, b
pensions conferred on him by the kin
made a very considerable figure. Le
thor of two treatises; one on physi
other on the different characters of th
died at Paris in 1690.

The talent of this painter, except for
universal. He was not indeed admir
ing, or for his skill in the distribution
shadows: but for a good gusto of desi
choice of attitudes, an agreeable ma
draperies, a beautiful and just expressi
observance of decorum. In fine, his c
mand the attention and admiration of t
The pieces that gained him greatest
besides what we have already mention
he finished at Fountainbleau, the great s
sailles, but especially the grand galle
was the last of his works, and is said to
up 14 years.

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swick
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schius.

Frederick Barbarossa in a war against Pope Alexander III. this drew the emperor's resentment on him; and being already jealous of his power and abilities, all his former services were forgotten; and in the diet of Wurtzburg in 1179 or 1180, he was proscribed. The duchy of Bavaria was given to Otho Count Whittlepatch, from whom is descended the present electoral family of Bavaria; the duchy of Saxony to Bernard Ascanius, founder of the house of Anhalt; and all his other territories disposed of to different persons. On this he retired to England; and by his father's intercession, Brunswick and Lunenburg were restored to him. His wife Maude died in 1189, and he in 1195. He left three sons: but the two oldest not leaving any male issue, William, the third son, carried on the line of the family; and his son Otho was created duke of Brunswick and Lunenburg in 1235, by the emperor Ferdinand II. From him all the succeeding dukes of this family have descended; and no family can boast of a line of princes who have more distinguished themselves, both by their political abilities and martial achievements; and they are allied to all the principal families in Europe. The house of Brunswick has divided into several branches. The late duke of Brunswick had a command in the Prussian army, and fell in the attack made by the French on the 16th June, two days before the battle of Waterloo.

BRUNTISLAND, a parliament town of Fifeshire in Scotland, situated on the frith of Forth, eight miles north of Edinburgh, in W. Long. 3. 5. N. Lat. 56. 12. It has the best harbour on the coast, which is formed by a rocky isle eked out with piers, for there are none on this side the country entirely natural. This is dry at low water. The church is square, with a steeple rising in the centre. The old castle, built by the *Duries*, commanded both town and harbour. The place has a natural strength, which, with the conveniency of a port opposite to the capital, made it, during the troubles of 1560, a most desirable post. The French, allies of the queen regent, fortified it strongly. In 1715, it was surprised and possessed by the rebels, who here formed the bold design of passing over a body of troops to the opposite shore, which was in part executed under the command of Brigadier Macintosh, notwithstanding all the efforts of the men of war to prevent it. Population 1934 in 1811.

BRUSCHIUS, GASPAR, a Latin historian and poet, was born at Egra in Bohemia, in 1518. He was devoted to books from his childhood, and especially to poetry, in which he gained so much reputation, that he attained to the poetical crown, to the dignity of poet laureat, and of count palatine. He wrote with prodigious facility; and his verses are extremely flowing, easy, and natural. He published Latin poems on a great variety of subjects; the history of the bishops and bishoprics of Germany; history of German monasteries, and a great number of other works, of which a catalogue is given in Gesner's *Bibliotheque*. Bruschius was far from being rich, or rather he was very poor, subsisting almost entirely by the benefactions of his poetical patrons, and by presents from the abbots and abbesses whose monasteries he described. The liberalities of some abbots, while he was with Oporin at Basil, enabled him to buy a new suit of clothes; but when he found that appearing well dressed in the streets procured him many marks of respect from the vulgar, he tore his new finery to pieces, "as slaves that had usurped their master's honours." Bruschius seems to have been too great a philosopher for the age he lived in, or indeed for any age. He was murdered in the forest of Scalingenbach, between Rottemberg on the Tauber and Winsheim: and it was believed that this assassination was concerted and carried into execution by some gentleman against whom Bruschius was about to write something.

Bruschius
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Brussels.

BRUSH, an assemblage of hairs and hogs bristles, fastened in the holes of a wooden handle or board, pierced for that purpose, serving to cleanse divers bodies by rubbing therewith. The manner of making brushes is by folding the hair or bristle in two; and bringing it by means of a packthread, which is engaged in the fold, through the holes with which the wood is pierced all over, being afterwards fastened therein with glue. When the holes are thus filled, the ends of the hair are cut to make the surface even.

Shearmen's BRUSH, is made of wild boar's bristles; and serves to lay the wool or nap of cloth, after shearing it for the last time.

BRUSH, among painters, a larger and coarser kind of pencil, made of hogs bristles, wherewith to lay the colours on their large pieces. The Chinese painters brush consists of the stalk of a plant; whose fibres being fretted at both ends, and tied again, serve for a brush.

*Wire-*BRUSHES, are used by silversmiths and gilders, for scrubbing silver, copper, or brass pieces, in order to the gilding of them. There is a method of dyeing or colouring leather, performed by only rubbing the colour on the skin with a brush. This the French leather-gilders call *broussure*; being the lowest of all the sorts of dye allowed by their statutes.

Brush of a Fox, among sportsmen, signifies his drag or tail, the tip or end of which is called the *chape*.

BRUSH is also used in speaking of a small thicket or coppice. In this sense the word is formed from the middle-age Latin *bruscia*, *bruscius*, which signifies the same.

Brush-Wood denotes small slender wood or spray. See BROWSE.

BRUSH, in *Electricity*, denotes the luminous appearance of the electric matter issuing in a parcel of diverging rays from a point. Beccaria ascribes this appearance to the force with which the electric fluid, going out of a point, divides the contiguous air, and passes through it to that which is more remote.

BRUSHING. Among jockies, a brushing gallop denotes a brisk one; a horse should have his brushing gallop in a morning before watering.

BRUSSELS, the chief town of Brabant, and now the capital of the kingdom of the Netherlands, is situated on the small river Senne, which runs through it. It is a rich and handsome city; and among the public structures, the ducal palace where the governor resides, the town-house, and the arsenal, are most superb. No city in Europe, except Naples and Genoa, makes a finer appearance at a distance: but, like them, when in the town, it is all up and down hill. It is encompassed with a double brick wall, and has seven gates; but being seven miles in compass, is too large to hold out a long siege. In Brussels are seven

fine

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Brussels || Brute.

fine squares or market-places; that of the great market is one of the most beautiful in the world. The town-house takes up one quarter of it; and has a very high steeple, on the top of which is a brazen statue of St Michael, 15 feet high. In one of the apartments, which is handsomely adorned, the states of Brabant meet. In three other rooms there is the history of the resignation of Charles V. wrought in tapestry; which is so well done, that it may be mistaken for painting. In the other parts of the square are the halls of the different trades. There are here several palaces of the nobility. The opera-house is built after the Italian manner, with rows of boxes, in which are chimneys. One is covered over with looking-glass, so that they can sit by the fire, drink a bottle, and see what is doing. There are 20 public fountains, adorned with statues, at the corners of the most public streets; and in the middle of the town-house is one with Neptune, the tritons, and the horses spouting out water from their nostrils. The hospitals are well endowed, some of which are for the maintenance of strangers for three days. There is also a foundling hospital, and one for penitent courtezans. Among the churches, that of St Gudula is very magnificent. It stands on the top of a hill, near the gate of Louvain, and is surrounded with iron ballustrades. It is an old Gothic structure, with two large steeples at the east end, and is finely adorned within. The Jesuits have a fine church as well as a library. There are several monasteries and nunneries, two of which last are English. The nunnery, called the *Beguinage*, is like a little town, being surrounded by a wall and ditch, and has little streets, where each nun has an apartment. Six or seven hundred girls are educated here.

In 1695, Brussels was bombarded by Marshal Villeroy, who demolished four thousand houses, the stadt-house, and several churches. In 1708, it was besieged again by the elector of Bavaria; but the duke of Marlborough soon came to its assistance, and obliged him to raise the siege with precipitation. Marshal Saxe, the French general, took it in 1746; but it was restored by the treaty of Aix-la-Chapelle. The population of Brussels, which had been long on the decline, has begun to increase since 1814. By a census in 1816, the inhabitants amounted to 80,000. It has a considerable trade in lace, camblets, tapestry, &c. E. Long. 4. 8. N. Lat. 50. 51.

BRUSSELS, the quarter or district of, is one of the four parts of the duchy of Brabant. This quarter is bounded on the east by that of Louvain; on the north by that of Antwerp; on the west by Flanders; and on the south by Hainault. Brussels is the capital city of this quarter, and of all Brabant.

BRUTE, a general name for all animals except mankind.

Among brutes, the monkey kind bear the nearest resemblance to man, both in the external shape and internal structure, but more in the former than in the latter. In the monkey kind, the highest and the nearest approach to the likeness of man is the ouran outang, or *Homo Sylvestris**.—The structure and economy of brutes make the objects of what is called *Comparative* ANATOMY. See ANATOMY *Index*.

* See *Simia*.

Philosophers have been much puzzled about the essential characteristics of brutes, by which they may be distinguished from man. Some define a brute to be an *animal not risible*, or a *living creature incapable of laughter*; others call them *mute animals*. The Peripatetics allowed them a sensitive power, but denied them a rational one. The Platonists allowed them reason and understanding, though in a degree less pure and refined than that of men. Lactantius allows every thing to brutes which men have, except a sense of religion; and even this has been ascribed to them by some sceptics. Descartes maintained, that brutes are mere inanimate machines, absolutely destitute not only of reason, but of all thought and perception, and that all their actions are only consequences of the exquisite mechanism of their bodies. This system, however, is much older than Descartes; it was borrowed by him from Gomez Pereira, a Spanish physician, who employed 30 years in composing a treatise which he entitled *Antoniana Margarita*, from the Christian names of his father and mother. It was published in 1554: but his opinion had not the honour of gaining partizans, or even of being refuted; so that it died with him. Even Pereira seems not to have been the inventor of this notion; something like it having been held by some of the ancients, as we find from Plutarch and St Augustin. Others, who rejected the Cartesian hypothesis, have maintained that brutes are endowed with a soul essentially inferior to that of men; and to this soul some have allowed immortality, others not. And, lastly, in a treatise published by one Bougeant a Jesuit, entitled, *A Philosophical Amusement on the Language of Beasts*, he affirms that they are animated by evil spirits or devils.

The opinion of Descartes was probably invented, or at least adopted by him, to defeat two great objections: one against the immortality of the souls of brutes, if they were allowed to have any; the other against the goodness of God, in suffering creatures who had never sinned to be subjected to so many miseries. The arguments in favour of it may be stated as follow: 1. It is certain, that a number of human actions are merely mechanical; because they are done imperceptibly to the agent, and without any direction from the will; which are to be ascribed to the impression of objects and the primordial disposition of the machine, wherein the influence of the soul has no share; of which number are all habits of the body acquired from the reiteration of certain actions. In all such circumstances, human beings are no better than automata. 2. There are some natural movements so involuntary, that we cannot restrain them; for example, that admirable mechanism ever on the watch to preserve an equilibrium, when we stoop, bend, or incline our bodies in any way, and when we walk upon a narrow plank. 3. The natural liking for, and antipathy against, certain objects, which in children precede the power of knowing and discriminating them, and which sometimes in grown persons triumph over all the efforts of reason, are all phenomena to be accounted for from the wonderful mechanism of the body, and are so many cogent proofs of that irresistible influence which objects have on the human frame. 4. Every one knows how much our passions depend on the degree of motion into which the blood is put, and the reciprocal impressions caused by the animal spirits between the heart and brain, that are so closely connected

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connected by their nerves; and if such effects may be produced by such simple mechanical means as the mere increase of motion in the blood, without any direction of the will, we are not to wonder at the actions of brutes being the effects only of a refined mechanism, without thought or perception. 5. A farther proof will arise from a consideration of the many wonderful effects which even the ingenuity of men has contrived to bring about by mechanical means; the androide, for instance, of Mr Kempel, which plays at chess. Now, it is not to be questioned, but that the mechanism of the body of the meanest animal infinitely surpasses that of Mr Kempel's machine; and what can be the consequence of this, but that the actions of that animal must be proportionably more surprising than those of the wooden chess-player? See ANDROIDES and AUTOMATON.

The above is a short abstract of all the arguments that are brought in favour of the Cartesian system: but they are evidently very far from being conclusive. They are deficient, in the first place, because, though we allow them in the utmost extent the Cartesians themselves can desire, they prove only the possibility of brutes being inanimate, and that the power of God actually could produce such and such actions from inanimate machines; but that he actually hath done so, they have not the least tendency to prove. In the second place, the Cartesian argument is insufficient, because it hath no limits, and knows not where to stop; as, by the same method of arguing, every man might prove his neighbour to be an inanimate machine: for though every individual be conscious of his own thoughts, he is not so of those of his neighbours; and it no more exceeds the power of God to cause an inanimate machine perform the actions of a man than those of a beast. Neither are the two objections which the hypothesis is calculated to answer, to be at all admitted as arguments in its favour. They are, 1. That if we allow brutes to have souls, they must be immaterial, and consequently immortal: and, 2. It seems a contradiction to the goodness of God to think that he should subject innocent creatures to such a multitude of evils as we see the brute creation endure in this world. The first of these is productive of no bad consequences to us, though it should be granted; and if it is supposed that the brute creatures are really immortal, the second objection vanishes; because, in the enjoyment of endless felicity, all temporary afflictions, how severe soever, must be swallowed up as though they had never been.

As to a positive proof on the other side, viz. that brutes are really endowed with sensation and consciousness, there is undoubtedly the same evidence for the sensibility of brutes that there is for that of mankind. We see brutes avoid pain as much as we do; and we likewise see them seek for pleasure, and express their happiness in the enjoyment of certain things by signs not at all equivocal. Therefore, though we grant the possibility of all this being the effect of mere mechanism; yet, as we are conscious that in ourselves similar effects are produced by a sentient principle, we have all the reason in the world to conclude that in brutes they are likewise derived from a principle of sensation; especially seeing we know of no kind of mechanism in any other part of nature that produces any thing like the effects just mentioned: and until we see that a mechanism of this kind does take place in some part of nature, we have no reason to suppose it in any. As to those actions of the human body in which it seems to move spontaneously, like an automaton, without the direction of the mind or will, it is almost superfluous to observe, that they were not performed in this manner originally, but required very great exertions of the will and intellectual faculty before the body could be brought to perform them easily; so that from this nothing can be inferred. Add to this, that divine revelation sets forth to us in many places the brute creation as objects of mercy; which could not be done without the highest absurdity, if they were not really capable of feeling pleasure and pain as well as we. Brute.

The most rational opposers of the Cartesian scheme maintain, that brutes are endowed with a principle of sensation as well as we; though of an inferior nature to ours. Great disputes, however, have arisen on this subject; some maintaining, that the soul of brutes is merely sensitive, and that they are altogether destitute of reflection and understanding; others, that they not only reason, but make a better use of it than men do. That the brutes are endowed only with sensation, and totally destitute of all power of reflection, or even reasoning, is what can by no means be maintained on good grounds: neither can it be asserted that they act entirely from instinct, or a blind propensity to certain things, without knowing why or wherefore. In numberless instances, needless to be mentioned here, but which will readily occur to every reader, it is evident, that education will get the better of many of the natural instincts of brutes; which could never be the case were they absolutely incapable of reasoning. On the other hand, it is equally certain, that they are by no means capable of education in the same degree that men are; neither are the rational exertions of beasts at all to be compared even with those of the meanest savages. One remarkable instance of this is in the use of the element of fire. The most savage nations have known how to make this element subservient to their purposes; or if some have been found who have been entirely ignorant of its existence, they have quickly learned its uses on seeing it made use of by others; but though many of the brute creatures are delighted with warmth, and have opportunities every day of seeing how fire is supplied with fuel, and by that means preserved, it never was known that one of them attempted to preserve a fire by this means. This shows a strange defect of rationality, unaccountable upon any other supposition than that the soul or sentient principle of brutes is somehow or other inferior in its nature to that of man; but still it is a sentient principle, capable of perceptions as quick, and in many instances much more so than our own.

Father Bougeant supports his opinion of the spirits of brute creatures being devils in the following manner: Having proved at large that beasts naturally have understanding, "Reason (says he) naturally inclines us to believe that beasts have a spiritual soul; and the only thing that opposes this sentiment is, the consequences that might be inferred from it. If brutes have a soul, that soul must be either matter or spirit; it must be

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Brute.

be one of the two, and yet you dare affirm neither. You dare not say it is matter, because you must then necessarily suppose matter to be capable of thinking; nor will you say that it is spirit, this opinion bringing with it consequences contrary to the principles of religion; and this, among others, that man would differ from beasts only by the degrees of plus and minus; which would demolish the very foundation of all religion. Therefore, if I can elude all these consequences; if I can assign to beasts a spiritual soul, without striking at the doctrines of religion; it is evident, that my system, being moreover the most agreeable to reason, is the only warrantable hypothesis. Now I shall, and can do it, with the greatest ease imaginable. I even have means, by the same method, to explain many very obscure passages in the Holy Scripture, and to resolve some very great difficulties which are not well confuted. This we shall unfold in a more particular manner.

"Religion teaches us, that the devils, from the very moment they had sinned, were reprobate, and that they were doomed to burn for ever in hell; but the church has not yet determined whether they do actually endure the torments to which they are condemned. It may then be thought that they do not yet suffer them, and that the execution of the verdict brought against them is reserved for the day of the final judgment.—Now what I pretend to infer from hence is, that, till doomsday comes, God, in order not to suffer so many legions of reprobate spirits to be of no use, has distributed them through the several spaces of the world, to serve the designs of his providence, and make his omnipotence to appear. Some, continuing in their natural state, busy themselves in tempting men, in seducing and tormenting them; either immediately, as Job's devil, and those that lay hold of human bodies; or by the ministry of sorcerers or phantoms. These wicked spirits are those whom the Scripture calls the *powers of darkness*, or the *powers of the air*. God, with the others, makes millions of beasts of all kinds, which serve for the uses of men, which fill the universe, and cause the wisdom and omnipotence of the Creator to be admired. By that means I can easily conceive, on the one hand, how the devils can tempt us; and on the other, how beasts can think, know, have sentiments, and a spiritual soul, without any way striking at the doctrines of religion. I am no longer surprised to see them have forecast, memory, and judgment. I should rather have occasion to wonder at their having no more, since their soul very likely is more perfect than ours. But I discover the reason of this; it is because, in beasts as well as in ourselves, the operations of the mind are dependent on the material organs of the machine to which it is united; and those organs being grosser and less perfect than in us, it follows, that the knowledge, the thoughts, and the other spiritual operations of the beasts, must of course be less perfect than ours: And if these proud spirits know their own dismal state, what a humiliation must it be to them thus to see themselves reduced to the condition of beasts! But, whether they know it or not, so shameful a degradation is still, with regard to them, the primary effect of the divine vengeance, I just mentioned; it is an anticipated hell."

Having mentioned the prejudices against this hypothesis, such particularly as the pleasure which people of sense and religion take in beasts and birds, especially all sorts of domestic animals: he proceeds, "Do we love beasts for their own sakes? No. As they are altogether strangers to human society, they can have no other appointment than that of being useful and amusing. And what care we whether it be a devil or any other creature that amuses us? The thought of it, far from shocking, pleases me mightily. I with gratitude admire the goodness of the Creator, who gave me so many little devils to serve and to amuse me. If I am told that these poor devils are doomed to suffer eternal tortures, I admire God's decrees, but I have no manner of share in that dreadful sentence; I leave the execution of it to the sovereign Judge: and, notwithstanding this, I live with my little devils as I do with a multitude of people, of whom religion informs me that a great number shall be damned. But the cure of a prejudice is not to be effected in a moment: it is done by time and reflection: give me leave then lightly to touch upon this difficulty, in order to observe a very important thing to you.

"Persuaded as we are that beasts have intelligence, have we not all of us a thousand times pitied them for the excessive evils which the majority of them are exposed to, and in reality suffer? How unhappy is the condition of horses! we are apt to say upon seeing a horse whom an unmerciful carman is murdering with blows. How miserable is the dog whom they are breaking for hunting! How dismal is the fate of beasts living in woods! they are perpetually exposed to the injuries of the weather; always seized with apprehensions of becoming the prey of hunters, or of some wilder animal; for ever obliged, after long fatigue, to look out for some poor insipid food; often suffering cruel hunger; and subject, moreover, to illness and death! If men are subject to a multitude of miseries that overwhelm them, religion acquaints us with the reason of it; viz. the being born sinners. But what crimes can beasts have committed by birth to be subject to evils so very cruel? What are we, then, to think of the horrible excesses of miseries undergone by beasts? miseries, indeed, far greater than those endured by men. This is, in any other system, an incomprehensible mystery; whereas nothing is more easy to be conceived from the system I propose. The rebellious spirits deserve a punishment still more rigorous, and happy it is for them that their punishment is deferred. In a word, God's goodness is vindicated, man himself is justified: for what right can we have, without necessity, and often in the way of mere diversion, to take away the lives of millions of beasts, if God had not authorised us so to do? And beasts being as sensible as ourselves of pain and death, how could a just and merciful God have given man that privilege, if they were not so many guilty victims of the divine vengeance?

"But hear still something more convincing, and of greater consequence: beasts, by nature, are extremely vicious. We know well that they never sin, because they are not free; but this is the only condition wanting to make them sinners. The voracious birds and beasts of prey are cruel. Many insects of one and the same species devour one another. Can

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Brute

are perfidious and ungrateful; monkeys are mischievous; and dogs envious. All beasts in general are jealous and revengeful to excess; not to mention many other vices we observe in them: and at the same time that they are by nature so very vicious, they have, say we, neither the liberty, nor any helps to resist the bias that hurries them into so many bad actions. They are, according to the schools, necessitated to do evil, to disconcert the general order, to commit whatever is most contrary to the notion we have of natural justice and to the principles of virtue. What monsters are these in a world originally created for order and justice to reign in? This is, in good part, what formerly persuaded the Manicheans, that there were of necessity two orders of things, one good, and the other bad; and that the beasts were not the work of the good principle: a monstrous error! But how then shall we believe that beasts came out of the hands of their Creator with qualities so very strange! If man is so very wicked and corrupt, it is because he has himself through sin perverted the happy nature that God had given him at his creation. Of two things, then, we must say one: either that God has taken delight in making beasts so vicious as they are, and of giving us in them models of what is most shameful in the world; or that they have, like man, original sin, which has perverted their primitive nature.

"The first of these propositions finds very difficult access to the mind, and is an express contradiction to the holy scriptures; which say, that whatever came out of God's hands, at the time of the creation of the world, was good, yea very good. What good can there be in a monkey's being so very mischievous, a dog so full of envy, a cat so malicious? But then many authors have pretended, that beasts, before man's fall, were different from what they are now; and that it was in order to punish man that they became so wicked. But this opinion is a mere supposition, of which there is not the least footstep in holy Scripture. It is a pitiful subterfuge to elude a real difficulty: this at most might be said of the beasts with whom man has a sort of correspondence; but not at all of the birds, fishes, and insects which have no manner of relation to him. We must then have recourse to the second proposition, That the nature of beasts has, like that of man, been corrupted by some original sin: Another hypothesis, void of foundation, and equally inconsistent with reason and religion, in all the systems which have been hitherto espoused concerning the souls of beasts. What party are we to take? Why, admit of my system, and all is explained. The souls of beasts are refractory spirits which have made themselves guilty towards God. The sin in beasts is no original sin; it is a personal crime, which has corrupted and perverted their nature in its whole substance; hence all the vices and corruption we observe in them, though they can be no longer criminal, because God, by irrevocably reprobating them, has at the same time divested them of their liberty."

These quotations contain the strength of Father Bougeant's hypothesis, which also hath had its followers; but the reply to it is obvious. Beasts, though remarkably mischievous, are not completely so; they are in many instances capable of gratitude and love, which devils cannot possibly be. The very same passions that are in the brutes exist in the human nature; and if we choose to argue from the existence of those passions, and the ascendency they have over mankind at some times, we may say with as great justice, that the souls of men are devils, as that the souls of brutes are. All that can be reasonably inferred from the greater prevalency of the malignant passions among the brutes than among men, is, that the former have less rationality than men: and accordingly it is found, that among savages, who exercise their reason less than other men, every species of barbarity is practised, without being deemed a crime. Brute.

On the present subject there is a very ingenious treatise in German, published by the late Professor Bergman, under the title (as translated) of "Researches designed to show what the Brute animals certainly *are not*, and also what they probably *are*."—That they are *not* machines, he proves with more detail than seemed necessary for refuting a hypothesis which would equally tend to make *us all* machines. It is certain, that the *half-reasoning* elephant cannot be deemed a machine, by us, from any other consideration, than that *he* goes upon four feet, while *we* go upon two; and he might as well take us for mere machines because *we* go upon two feet, while *he* goes upon four.

But if animals are not mere machines, what are they? Manifestly sensitive beings, with an immaterial principle; and thinking or reasoning beings, to a *certain degree*. In certain classes of animals this appears evident to our author, who seems to have observed with great sagacity and attention their *various* operations and proceedings, their ways and means, &c. He thinks it impossible to deduce this variety of action, in any animals (if we except those of the lowest classes in the gradation of intelligence), from a general and uniform instinct. For they accommodate their operations to times and circumstances. They combine; they choose the favourable moment; they avail themselves of the occasion, and seem to receive instruction by experience. Many of their operations announce reflection: the birds repair a shattered nest, instead of constructing instinctively a new one: the hen, who has been robbed of her eggs, changes her place, in order to lay the remainder with more security: the cat discovers both care and artifice in concealing her kittens. Again, it is evident, that, on many occasions, animals know their faults and mistakes, and correct them; they sometimes contrive the most ingenious methods of obtaining their ends, and when one method fails have recourse to another; and they have, without doubt, a kind of language for the mutual communication of their ideas. How is all this to be accounted for (says our author), unless we suppose them endowed with the powers of perceiving, thinking, remembering, comparing, and judging? They have these powers, indeed, in a degree inferior to that in which they are possessed by the human species, and form classes below them in the graduated scale of intelligent beings. But still it seems to our author unreasonable to exclude them from the place which the principles of sound philosophy, and facts ascertained by constant observation, assign to them in the great and diversified sphere of life, sensation, and intelligence;—he does not, however, consider them as beings whose actions

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Brute.

actions are directed to moral ends, nor consequently as accountable and proper subjects for *reward* or *punishment* in a future world.

That brute animals possess reflection and sentiment, and are susceptible of the kindly as well as the irascible passions, independently of sexual attachment and natural affection, is evident from the numerous instances of affection and gratitude daily observable in different animals, particularly the dog. Of these and other sentiments, such as pride, and even a sense of glory, the elephant exhibits proofs equally surprising and indubitable, as the reader may see under the article ELEPHAS.

White's Natural History, &c. of Selborne.

As to the natural affection of brutes, says an ingenious writer, "the more I reflect on it, the more I am astonished at its effects. Nor is the violence of this affection more wonderful than the shortness of its duration. Thus every hen is in her turn the virago of the yard, in proportion to the helplessness of her brood; and will fly in the face of a dog or a sow in defence of those chickens which in a few weeks she will drive before her with relentless cruelty. This affection sublimes the passions, quickens the invention, and sharpens the sagacity of the brute creation. Thus a hen, just become a mother, is no longer that placid bird she used to be, but with feathers standing on end, wings hovering, and clocking note, she runs about like one possessed. Dams will throw themselves in the way of the greatest danger, in order to avert it from their progeny. Thus a partridge will tumble along before a sportsman, in order to draw away the dogs from her helpless covey. In the time of nidification the most feeble birds will assault the most rapacious. All the hirundines of a village are up in arms at the sight of a hawk, whom they will persecute till he leaves that district. A very exact observer has often remarked, that a pair of ravens nestling in the rock of Gibraltar would suffer no vulture or eagle to rest near their station, but would drive them from the hill with amazing fury: even the blue thrush at the season of breeding would dart out from the clefts of the rocks to chase away the kestril or the sparrow-hawk. If you stand near the nest of a bird that has young, she will not be induced to betray them by an inadvertent fondness, but will wait about at a distance with meat in her mouth for an hour together. The flycatcher builds every year in the vines that grow on the walls of my house. A pair of these little birds had one year inadvertently placed their nest on a naked bough, perhaps in a shady time, not being aware of the inconvenience that followed; but a hot sunny season coming on before the brood was half fledged, the reflection of the wall became insupportable, and must inevitably have destroyed the tender young, had not affection suggested an expedient, and prompted the parent-birds to hover over the nest all the hotter hours, while with wings expanded and mouths gaping for breath they screened off the heat from their suffering offspring. A farther instance I once saw of notable sagacity in a willow-wren, which had built in a bank in my fields. This bird, a friend and myself had observed as she sat in her nest; but were particularly careful not to disturb her, though we saw she eyed us with some degree of jealousy. Some days after, as we passed that way, we were desirous of remarking how this brood went on, but no nest could be found, till I happened to take up a large bundle of long green moss as it were carelessly thrown over the nest, in order to dodge the eye of any impertinent intruder."

A wonderful spirit of sociality in the brute creation, independent of sexual attachment, has been frequently remarked. Many horses, though quiet with company, will not stay one minute in a field by themselves: the strongest fences cannot restrain them. A horse has been known to leap out at a stable window, through which dung was thrown, after company; and yet in other respects is remarkably quiet. Oxen and cows will not fatten by themselves; but will neglect the finest pasture that is not recommended by society. It would be needless to instance in sheep, which constantly flock together. But this propensity seems not to be confined to animals of the same species. In the work last quoted, we are told of "a doe still alive, that was brought up from a little fawn with a dairy of cows; with them it goes a-field, and with them it returns to the yard. The dogs of the house take no notice of this deer, being used to her; but if strange dogs come by, a chase ensues; while the master smiles to see his favourite securely leading her pursuers over hedge, or gate, or style, till she returns to the cows, who with fierce lowings and menacing horns drive the assailants quite out of the pasture."

Even great disparity of kind and size does not always prevent social advances and mutual fellowship. Of this the following remarkable instance is given in the same work: "A very intelligent and observant person has assured me, that in the former part of his life, keeping but one horse, he happened also on a time to have but one solitary hen. These two incongruous animals spent much of their time together in a lonely orchard, where they saw no creature but each other. By degrees an apparent regard began to take place between these two sequestered individuals. The fowl would approach the quadruped with notes of complacency, rubbing herself gently against his legs; while the horse would look down with satisfaction, and move with the greatest caution and circumspection, lest he should trample on his diminutive companion. Thus by mutual good offices each seemed to console the vacant hours of the other; so that Milton, when he puts the following sentiment in the mouth of Adam, seems to be somewhat mistaken:

Much less can bird with beast, or fish with fowl,
So well converse, nor with the ox the ape.

In the Gentleman's Magazine for March 1788 we have the following anecdotes of a raven, communicated by a correspondent who does not sign his name, but who says it is at the service of the doubtful. The raven alluded to "lives, or did live three years since, at the Red Lion at Hungerford; his name, I think, is *Rafe*. You must know then, that coming into that inn, my chaise run over or bruised the leg of my Newfoundland dog; and while we were examining the injury done to the dog's foot, *Rafe was evidently a concerned spectator;* for the minute the dog was tied up under the manger with my horse, Rafe not only visited but fetched him bones, and attended upon him with particular and repeated marks of kindness. The bird's notice of the dog was so marked, that I observed it to the hostler;

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hostler; for I had not heard a word before of the history of this benevolent creature. John then told me, that he had been bred from his pin-feather in intimacy with a dog; that the affection between them was mutual; and that all the neighbourhood had often been witnesses of the innumerable acts of kindness they had conferred upon each other. Rafe's poor dog, after a while, unfortunately broke his leg; and during the long time he was confined, Rafe waited upon him constantly, carried him his provisions daily, and never scarce left him alone! One night by accident the hostler had shut the stable door, and Rafe was deprived of the company of his friend the whole night; but the hostler found in the morning the bottom of the door so pecked away, that had it not been opened, Rafe would in another hour have made his own entrance-port. I then inquired of my landlady (a sensible woman), and heard what I have related confirmed by her, with several other singular traits of the kindnesses this bird shows to all dogs in general, but particularly to maimed or wounded ones. I hope, and believe, however, the bird is still living; and the traveller will find I have not overrated this wonderful bird's merit."

To these instances of attachment between incongruous animals from a spirit of sociality or the feelings of sympathy, may be added the following instance of fondness from a different motive, recounted by Mr White, in the work already so frequently quoted. "My friend had a little helpless leveret brought to him, which the servants fed with milk in a spoon; and about the same time his cat kittened, and the young were dispatched and buried. The hare was soon lost, and supposed to be gone the way of most foundlings, or to be killed by some dog or cat. However, in about a fortnight, as the master was sitting in his garden in the dusk of the evening, he observed his cat, with tail erect, trotting towards him, and calling with little short inward notes of complacency, such as they use towards their kittens, and something gambling after, which proved to be the leveret, which the cat had supported with her milk, and continued to support with great affection. Thus was a graminivorous animal nurtured by a carnivorous and predaceous one!

"Why so cruel and sanguinary a beast as a cat, of the ferocious genus of *Felis*, the *murium leo*, as Linnæus calls it, should be affected with any tenderness towards an animal which is its natural prey, is not so easy to determine. This strange affection probably was occasioned by that desiderium, those tender maternal feelings, which the loss of her kittens had awakened in her breast; and by the complacency and ease she derived to herself from the procuring her teats to be drawn, which were too much distended with milk, till from habit she became as much delighted with this foundling as if it had been her real offspring.

"This incident is no bad solution of that strange circumstance, which grave historians as well as the poets assert, of exposed children being sometimes nurtured by female wild beasts that probably had lost their young. For it is not one whit more marvellous that Romulus and Remus, in their infant state, should be nursed by a she-wolf, than that a poor little sucking leveret should be fostered and cherished by a bloody grimalkin.

Viridi fœtam Mavortis in antro
Procubuisse lupam: geminos huic ubera circum
Ludere pendentes pueros, et lambere matrem
Impavidos: illam tereti cervice reflexam
Mulcere alternos, et corpora fingere lingua." Brute.

But besides the different qualities enumerated, besides reflection and sagacity often in an astonishing degree, and besides the sentiments and actions prompted by social or natural attachments, certain brutes seem on many occasions inspired with a superior faculty, a kind of presentiment or second-sight as it were, with regard to events and designs altogether unforeseen by the rational beings whom they concern. Of the faculty alluded to various instances will probably consist with the knowledge or the recollection of most of our readers: We shall therefore only recite the following, on account of its unquestionable authenticity. At the seat of the late earl of Lichfield, three miles from Blenheim, there is a portrait in the dining-room of Sir Henry Lee, by Johnston, with that of a mastiff dog which saved his life. It seems a servant had formed the design of assassinating his master and robbing the house; but the night he had fixed on, the dog, which had never been much noticed by Sir Henry, for the first time followed him up stairs, got under his bed, and could not be got from thence by either master or man: in the dead of night, the same servant entered the room to execute his horrid design; but was instantly seized by the dog, and being secured confessed his intentions. There are ten quaint lines in one corner of the picture, which conclude thus:

But in my dog, whereof I made no store,
I find more love than those I trusted more.

Upon what hypothesis can we account for a degree of foresight and penetration such as this? Or will it be suggested, as a solution of the difficulty, that a dog may possibly become capable in great measure of understanding human discourse, and of reasoning and acting accordingly; and that, in the present instance, the villain had either uttered his design in soliloquy, or imparted it to an accomplice, in the hearing of the animal?

It has been much disputed whether the brutes have any language whereby they can express their minds to each other; or whether all the noise they make consists only of cries inarticulate, and unintelligible even to themselves. We are, however, too little acquainted with the intellectual faculties of these creatures to be able to determine this point. Certain it is, that their passions, when excited, are generally productive of some peculiar cry; but whether this be designed as an expression of the passion to others, or only a mechanical motion of the muscles of the larynx occasioned by the passion, is what we have no means of knowing. We may indeed, from analogy, conclude, with great reason, that some of the cries of beasts are really expressions of their sentiments; but whether one beast is capable of forming a design, and communicating that design by any kind of language to others, is what we submit to the judgment of the reader, after giving the following instance, which among others is brought as a proof of it by Father Bougeant. "A sparrow finding a nest that a martin had just built, standing very conveniently

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Brute ‖ Brutus.

veniently for him, possessed himself of it. The martin, seeing the usurper in her house, called for help to expel him. A thousand martins came full speed, and attacked the sparrow; but the latter being covered on every side, and presenting only his large beak at the entrance of the nest, was invulnerable, and made the boldest of them who durst approach him repent of their temerity. After a quarter of an hour's combat, all the martins disappeared. The sparrow thought he had got the better, and the spectators judged that the martins had abandoned their undertaking. Not in the least. Immediately they returned to the charge; and each of them having procured a little of that tempered earth with which they make their nests, they all at once fell upon the sparrow, and inclosed him in the nest to perish there, though they could not drive him thence. Can it be imagined that the martins could have been able to hatch and concert this design, all of them together, without speaking to each other, or without some medium of communication equivalent to language?"

BRUTTII, in *Ancient Geography*, one of the two peninsulas of Italy, the ancient Calabria being the other; stretching to the south towards Sicily; bounded by the sea on every side except by the isthmus, between the river Laus and the Thurii, where it is terminated by Lucania; inhabited by the Bruttii, for whose country the ancient Romans had no peculiar name, calling both the people and the country indiscriminately *Bruttii*. This, and a part of Lucania, was the ancient Italia, (Stephanus). It was called Βρέττια, which in Greek signifies *pitch*, from the great quantity of it produced there, (Bochart). It is divided into two coasts by the Apennines; that on the Tuscan and that on the Ionian sea. Now called *Calabria Ultra*. Different from the ancient Calabria or Messapia to the east, on the Adriatic or Ionian sea, and which formed the other peninsula or heel of the leg, now called *Calabria Citra*, the Bruttii forming the foot.

BRUTTON, a town of Somersetshire in England. It is situated on the river Brew; and is a good place and well inhabited. It is adorned with a very beautiful church; has a free school, founded by Edward I.; and the alms-house or hospital is so good, that it has the appearance of a college. They have a woollen manufactory of cloth and serges, and they are likewise noted for their malt. Population 1536 in 1811. W. Long. 2. 30. N. Lat. 51. 15.

BRUTUS, or BRUTE, according to the old exploded history of this country by Geoffroy of Monmouth, was the first king of Britain. He is said to have been the son of Sylvius, and he of Ascanius the son of Æneas, and born in Italy: killing his father by chance, he fled into Greece, where he took King Padrosus prisoner, who kept the Trojans in slavery, whom he released on condition of providing ships, &c. for the Trojans to forsake the land. Being advised by the oracle to sail west beyond Gaul, he, after some adventures, landed at Totness in Devonshire. Albion was then inhabited by a remnant of giants, whom Brutus destroyed; and called the island after his own name, *Britain*. He built a city called *New Troy*, since London; and having reigned here 24 years, at his death parcelled the island among his three sons: Locrine had the middle, called *Loegria*; Camber had Wales, and Albanact Scotland.

BRUTUS, *Lucius Junius*, the avenger of the rape of Lucretia, and founder of the Roman republic flourished 500 years before Christ. See (*History of*) ROME.

BRUTUS, *Marcus*, the passionate lover of his country, and chief conspirator against Cæsar, slew himself on losing the battle of Philippi, 42 years before Christ. See (*History of*) ROME.

BRUTUS, *John Michael*, a man of learning, and a polite writer, in the 16th century. He was a native of Venice; and, having studied at Padua, spent great part of his life in travelling, and became historiographer to his imperial majesty. He wrote, 1. A history of Hungary. 2. A history of Florence. 3. Notes on Horace, Cæsar, Cicero, &c.; and other works. He was living in the year 1590.

BRUTUS, *Stephen Junius*, the disguised author of a political work, entitled *Vindiciæ contra tyrannos*. See LANGUET.

BRUYERE, JOHN DE LA, a celebrated French author, was born at Dourdan in the year 1664. He wrote characters, describing the manners of his age, in imitation of Theophrastus: which characters were not always imaginary or general, but descriptive, as was well known, of persons of considerable rank. In the year 1693, he was by an order of the king chosen a member of the French Academy; and died in the year 1696.—"The characters of Bruyere (says Voltaire), may justly be ranked among the extraordinary productions of this age. Antiquity furnishes no examples of such a work. A style rapid, concise, and nervous; expression animated and picturesque; an use of language altogether new, without offending against its established rules, struck the public at first; and the allusions, which are crowded in almost every page, completed its success. When La Bruyere showed his work in manuscript to Malesieux, this last told him, that the book would have many readers, and its author many enemies. It somewhat sunk in the opinion of men, when that whole generation whose follies it attacked were passed away; yet as it contains many things applicable to all times and places, it is more than probable that it will never be forgotten."

BRUYIERS, a town of Lorrain, in Vosque, with a provostship. E. Long. 6. 45. N. Lat. 48. 15.

BRYANS BRIDGE, a town of Ireland in the county of Clare and province of Connaught, seated on the river Shannon, eight miles north of Limerick. W. Long. 8. 30. N. Lat. 52. 31.

BRYANT, SIR FRANCIS, a soldier, statesman, and a poet of no inconsiderable fame in his time, was born of a genteel family, educated at Oxford, and afterwards spent some time in travelling abroad. In the year 1522 the 14th of Henry VIII. he attended in a military capacity the earl of Surrey in his expedition to the coast of Brittany; and commanded the troops in the attack of the town of Morlaix, which he took and burnt. For this service he was knighted on the spot by the earl. In 1528, he was in Spain; but on what service is doubtful. In 1529, he was sent ambassador to France; and the year following to Rome, on account of the king's divorce. He had also been there in 1522, in the same capacity, when Cardinal Wolsey's election to the holy

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Bryennius ⇑ Bubastis.

holy see was in agitation. He was gentleman of the privy chamber to King Henry VIII. and to his successor Edward VI. in the beginning of whose reign he marched with the protector against the Scots; and after the battle of Musselburgh, in which he commanded the light horse, was made banneret. In 1548, he was appointed chief governor of Ireland, where he married the countess of Ormond. He died soon after, and was buried at Waterford. He wrote, 1. Songs and Sonnets; some of which were printed with those of the earl of Surrey and Sir Thomas Wyatt. Lond. 1565. 2. Letters written from Rome concerning the king's divorce; manuscript. 3. Various letters of state; which Ant. Wood says he had seen. 4. A dispraise of the life of a courtier, &c. Lond. 1548, 8vo, from the French.

BRYANT, *Jacob*, a distinguished scholar and mythologist. See SUPPLEMENT.

BRYE, JOHN THEODORE DE, an excellent engraver, was a native of Liege; but he resided chiefly at Franckfort, where he carried on a considerable commerce in prints. It does not appear when he was born, nor to what master he owed his instructions in the art of designing and engraving. He worked almost entirely with the graver, and seldom called in the assistance of the point. He acquired a neat free style of engraving, excellently well adapted to small subjects, in which many figures were to be represented; as *funeral parades, processions*, and the like, which he executed in a charming manner. He also drew very correctly. His heads in general are spirited and expressive, and the other extremity of his figures well marked. His back-grounds, though frequently very slight, are touched with a masterly hand. He died, as his sons inform us in the third part of Boissard's collection of portraits, on March 27th, 1598; the two first parts of which collection were engraved by himself, assisted by his sons, who afterwards continued it.

BRYENNIUS, MANUEL, a Greek writer on music, is supposed to have flourished under the elder Palæologus, viz. about the year of Christ 1120. He wrote three books of Harmonics; the first whereof is a kind of commentary on Euclid, as the second and third are on Ptolemy. He professes to have studied perspicuity for the sake of young men. Meibomius had given the public expectations of a translation of this work: but not living to complete it, Dr Wallis undertook it; and it now makes a part of the third volume of his works, published at Oxford in three volumes folio, 1699.

BRYENNIUS, *Nicephorus*, a prince distinguished by his courage, probity, and learning, was born at Orestia in Macedonia; where his father by rebellion provoked the emperor to send his general Alexis Comnenus against him, who ordered his eyes to be pulled out; but being charmed with his son Bryennius, he married him to Anne Comnena his daughter, so famous by her writings. When Alexis came to the throne, he gave Bryennius the title of *Cæsar*; but would not declare him his successor, though solicited to it by the empress Irene; and was therefore succeeded by his son John Comnenus, to whom Bryennius behaved with the utmost fidelity. Being sent, about the year 1137, to besiege Antioch, he fell sick; and, returning, died at Constantinople. This prince wrote the History of Alexis Comnenus, which he composed at the request of his mother-in-law the empress Irene.

BRYGMUS, among physicians, a grating noise made by the gnashing of the teeth.

BRYONIA, BRYONY. See BOTANY *Index*.

Black-Bryony. See TAMUS, BOTANY *Index*.

BRYUM. See BOTANY *Index*.

BUA, an island of the gulf of Venice, on the coast of Dalmatia, near the town of Trau; called likewise the *Partridge-island*, because frequented by those birds. It is called *Bubus* by Pliny. In the times of the decay of the empire it was called *Boas*; and several illustrious men that fell under disgrace at court were banished to this island; among whom were Florentius, master of the offices of the emperor Julian, Immentius de Valenti, and the heretic Jovinian. The emperors of Constantinople either were not much acquainted with this pretended Siberia, or were willing to treat the banished with great clemency. It is certain that the climate of this island is exceedingly mild; the air perfectly good; the oil, grapes, and fruit excellent; and the sea around it abounds in fish, and the port is large and secure. Neither is it so small that a man has not room to walk and ride about as much as he pleases; for it is ten miles in length, and about 25 in circuit; nor can it be said to be rugged, though rather high and mountainous.

BUANES, a town of France, in Gascony, and in the diocese of Aire, seated on the river Bahus, in E. Long. 0. 5. N. Lat. 43. 47.

BUAT-NANCAY, L. G. COUNT DU, a French writer on politics and history. See SUPPLEMENT.

BUBALIS, in *Zoology*, the trivial name of the buffalo, a species of the bos. See BOS.

BUBASTIS, in the Egyptian mythology, one of the names of Isis or the moon. The Egyptians bestowed different names on the sun, either to characterize his effects or his relations with respect to the earth; they followed the same method respecting the moon. Chæremon, a sacred writer of Egypt, leaves no doubt on this subject. "Every thing which is published of Osiris and Isis, all the sacerdotal fables, allude only to the phases of the moon, and the course of the sun." Bubastis was one of the principal attributes of Isis. Theology having personified her, formed of her a divinity, in whose honour a city of that name was built, as described by Herodotus, and where the people collected from all parts of Egypt, at a certain period of the year. A cat was the symbol of this deity. The priests fed it with sacred food; and when it died, they embalmed its body, and carried it in pomp to the tomb prepared for it. The ancients have explained this worship variously. The Greeks pretend that when Typhon declared war against the gods, Apollo transformed himself into a vulture, Mercury into an ibis, and Bubastis into a cat, and that the veneration of the people for the latter animal took rise from that fable; but they ascribe their own ideas to the Egyptians, who thought very differently. However that may be, the cat was greatly honoured in Egypt, and a Roman soldier having imprudently killed one, was immediately put to death by the populace.

Bubastis, in the language of the priests, was deemed the daughter of Isis, and even represented her in certain

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Bucaneer. ple such extensive countries themselves, they were resolved that no others should do it for them; and therefore made a most cruel war on all those of any other nation who attempted to settle in any of the Antilles or Caribbee islands. The French, however, were at last lucky enough to acquire some footing in the island of St Christopher's: but by the time they began to subside into a regular form of government, the Spaniards found means to dislodge them. Upon this the wretched fugitives, considering at how great a distance they were from their mother-country, and how near to the island of Hispaniola or St Domingo, the northern parts of which were then uninhabited and full of swine and black cattle, immediately resolved to take possession of that country, in conjunction with several other adventurers of their own and the English nation; especially as the Dutch, who now began to appear in these seas, promised to supply them plentifully with all kinds of necessaries they might require, in exchange for the hides and tallow they should procure by hunting.

These new settlers obtained the name of *bucaneers*, from their custom of bucanning their beef and pork in order to keep it for sale, or for their own consumption, the method of which will be presently described. But some of them soon grew tired of this new way of life, and took to planting; while many more chose to turn pirates, trusting to find among those who remained on shore a quick sale for all the plunder they could make at sea. This new body of adventurers were called *freebooters*, from their making free prey or booty of whatever came in their way.

The colony now began to thrive at a great rate, by the cheap and easy manner in which the freebooters acquired the greatest riches, and the profusion with which they distributed them among their old companions, the bucaneers and planters, for the merest trifles. This brought numbers of settlers from Old France in quality of indented servants, though they toiled rather like slaves during the three years for which they generally bound themselves. One of these men presuming to represent to his master, who always fixed upon a Sunday for sending him with skins to the port, that God had forbidden such a practice, when he had declared, "Six days shalt thou labour, and on the seventh day shalt thou rest:" "And I (replied the brutish bucaneer) say to thee, Six days shalt thou kill bulls, and strip them of their skins, and on the seventh day shalt thou carry their hides to the sea-shore." This command was followed by blows, which sometimes enforce obedience, sometimes disobedience, to the laws of God.

Thus the colony consisted of four classes: bucaneers; freebooters; planters; and indented servants, who generally remained with the bucaneers or planters. And these four orders composed what they now began to call the *body of adventurers*. These people lived together in a perfect harmony under a kind of democracy: every freeman had a despotic authority over his own family; and every captain was a sovereign in his own ship, though liable to be discarded at the discretion of the crew.

The planters settled chiefly in the little island of Tortuga on the northern coast of Hispaniola: but it was not long before some of them going to the great island to hunt with the bucaneers, the rest were surprised by the Spaniards; and all, even those who had surrendered at discretion in hopes of mercy, were put to the sword or hanged. Bucaneer.

The next care of the Spaniards was to rid the great island of the bucaneers; and for this reason they assembled a body of 500 lance-men, who, by their seldom going fewer than 50 in a company, obtained the name of *the Fifties* from their enemies, whose manners and customs we shall now enter upon.

The bucaneers lived in little huts built on some spots of cleared ground, just large enough to dry their skins on, and contain their bucanning houses. These spots they called *Boucans*, and the huts they dwelt in *Ajoupas*, a word which they borrowed from the Spaniards, and the Spaniards from the natives. Though these ajoupas lay open on all sides, they were very agreeable to the hardy inhabitants, in a climate where wind and air are so very desirable things. As the bucaneers had neither wife nor child, they associated by pairs, and mutually rendered each other all the services a master could reasonably expect from a servant, living together in so perfect a community, that the survivor always succeeded his deceased partner. This kind of union or fellowship they called *s'emateloter* [insailoring], and each other *matelot* [sailor], whence is derived the custom of giving, at least in some parts of the French Antilles, the name *matelotage* [sailorage], to any kind of society formed by private persons for their mutual advantage. They behaved to each other with the greatest justice and openness of heart: it would have been a crime to keep any thing under lock and key; but, on the other hand, the least pilfering was unpardonable, and punished with expulsion from the community. And indeed there could be no great temptation to steal, when it was reckoned a point of honour, never to refuse a neighbour what he wanted; and where there was so little property, it was impossible there should be many disputes. If any happened, the common friends of the parties at variance interposed, and soon put an end to the difference.

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Bucaneer. tinued in their families to this day. Many, however, on their marrying, which seldom happened till they turned planters, took care to have their real surnames inserted in the French contract; and this practice gave occasion to a proverb, still current in the French Antilles, *a man is not to be known till he takes a wife.*

Their dress consisted of a filthy greasy shirt, dyed with the blood of the animals they killed; a pair of trowsers still more nasty; a thong of leather by way of belt, to which they hung a case containing some Dutch knives, and a kind of very short sabre called *manchette;* a hat without any brim, except a little flap on the front to take hold of it by; and shoes of hogskin all of a piece. Their guns were four feet and a half in the barrel, and of a bore to carry balls of an ounce. Every man had his contract servants, more or fewer according to his abilities; besides a pack of 20 or 30 dogs, among which there was always a couple of beagles. Their chief employment at first was ox-hunting; and, if at any time they chased a wild hog, it was rather for pastime, or to make provision for a feast, than for any other advantage. But in process of time, some of them betook themselves entirely to hunting of hogs, whose flesh they bucanned in the following manner: First, they cut the flesh into long pieces, an inch and a half thick, and sprinkled them with salt, which they rubbed off after 24 hours. Then they dried these pieces in stoves over a fire made of the skin and bones of the beast, till they grew as hard as a board, and assumed a deep brown colour. Pork prepared in this manner will keep in casks a twelvemonth and longer; and when steeped but a little while in lukewarm water, becomes plump and rosy, and yields moreover a most grateful smell, either broiled or boiled, or otherwise dressed, enough to tempt the most languid appetite and please the most delicate palate. Those who hunt the wild boar, have of late been called simply *hunters.*

In hunting, they set out at day-break, preceded by the beagles, and followed by their servants with the rest of the dogs; and as they made it a point never to balk their beagles, they were often led by them over the most frightful precipices, and through places which any other mortal would have deemed absolutely impassable. As soon as the beagles had roused the game, the rest of the dogs struck up and surrounded the beast, stopping it, and keeping a constant barking till the bucaneer could get near enough to shoot it; in doing this, he commonly aimed at the pit of the breast; when the beast fell, he hamstrung it, to prevent its rising again. But it has sometimes happened that the creature, not wounded enough to tumble to the ground, has run furiously at his pursuer, and ripped him open. But, in general, the bucaneer seldom missed his aim; and when he did, was nimble enough to get up the tree behind which he had the precaution to place himself. What is more; some of them have been seen to overtake the beast in chase, and hamstring it without any further ceremony.

As soon as the prey was half-skinned, the master cut out a large bone, and sucked the marrow for breakfast. The rest he left to his servants, one of whom always remained behind to finish the skinning, and bring the skin with a choice piece of meat for the huntsman's dinner. They then continued the chase till they had killed as many beasts as there were heads in the company. The master was the last to return to the boucan, loaded like the rest with a skin and a piece of meat. Here the bucaneers found their tables ready: for every one had his separate table; which was the first thing, any way fit for the purpose, that came in their way, a stone, the trunk of a tree, and the like. No table-cloth, no napkin, no bread or wine, graced their board; not even potatoes or bananas, unless they found them ready to their hand. When this did not happen, the fat and lean of the game, taken alternately, served to supply the place. A little pimento, and the squeeze of an orange, their only sauce; contentment, peace of mind, a good appetite, and abundance of mirth, made every thing agreeable. Thus they lived and spent their time, till they had completed the number of hides for which they had agreed with the merchants; which done, they carried them to Tortuga, or some part of the great island.

As the bucaneers used much exercise, and fed only on flesh meat, they generally enjoyed a good state of health. They were indeed subject to fevers, but either such as lasted only a day, and left no sensible impression the day following; or little slow fevers, which did not hinder them from action, and were of course so little regarded, that it was usual with the patient, when asked how he did, to answer "Very well, nothing ails me but the fever." It was impossible, however, they should not suffer considerably by such fatigues, under a climate to the heat of which few of them had been early enough inured. Hence the most considerate among them, after they had got money enough for that purpose, turned planters. The rest soon spent the fruits of their labour in taverns and tippling-houses; and many had so habituated themselves to this kind of life, as to become incapable of any other. Nay, there have been instances of young men, who having early embarked through necessity in this painful and dangerous profession, persisted in it afterwards, merely through a principle of libertinism, rather than return to France and take possession of the most plentiful fortunes.

Such were the bucaneers of St Domingo, and such their situation, when the Spaniards undertook to extirpate them. And at first they met with great success; for as the bucaneers hunted separately, every one attended by his servants, they were easily surprised. Hence the Spaniards killed numbers, and took many more, whom they condemned to a most cruel slavery. But whenever the bucaneers had time to put themselves into a state of defence, they fought like lions, to avoid falling into the hands of a nation from whom they were sure to receive no quarter; and by this means they often escaped: nay, there are many instances of single men fighting their way through numbers. These dangers, however, and the success of the Spaniards in discovering their boucans, where they used to surprise and cut the throats of them and their servants in their sleep, engaged them to cohabit in greater numbers, and even to act offensively, in hopes that by so doing they might at last induce the Spaniards to let them live in peace. But the fury with which they behaved whenever they met any Spaniards, served only to make their enemies more intent on their destruction; and assistance coming to both parties, the whole island was turned into a slaughter-house, and so much blood spilt on both sides, that many places, on account of the carnage of which

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Buccaneers. which they had been the theatres, w
massacre: such as *the hill of the mas*
the massacre; the valley of the mass
they retain to this day.

At length the Spaniards grew ti
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DOMINGO.

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That of the former furnishes Fran
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hides in packs which they call loads
hides of full grown bulls, of young
cows. Each of these loads is comp
Savary's Dict. of Com. hides, or of an equivalent; that is to
real bull hides, or of one bull-hide a
or of four cow-hides, or of three
hides; three bullocks hides being re
to two full-grown bulls hides, and
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monly call *ozen* in France, though
Each load is commonly sold for six
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but little current, or not at all, in the
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The boar meat bucanned in the ma
tioned is sold by the bundle or pack
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their weight is deducted, so that there
pack 60 pounds of net flesh. These bu
so a great trade of the lard of boars, w
and gather in large pots called *potich*

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Bucaneer. which had committed such enormities. The enthusiasm this spirit of humanity worked him up to, was turned into a rage more cruel than that of the religious fanaticism, to which so many victims had been sacrificed. The manes of these unhappy sufferers seemed to rouse him, and call upon him for vengeance. He had heard some account of the bucaneers, who were said to be the most inveterate enemies to the Spanish name: he therefore embarked on board a ship, in order to join them.

In the passage they met with a Spanish vessel; attacked it; and, as it was usual in those times, immediately boarded it. Montbar, with a sabre in his hand, fell upon the enemy; broke through them; and, hurrying twice from one end of the ship to the other, levelled every thing that opposed him. When he had compelled the enemy to surrender, leaving to his companions the happiness of dividing so rich a booty, he contented himself with the savage pleasure of contemplating the dead bodies of the Spaniards, lying in heaps together, against whom he had sworn a constant and deadly hatred.

Fresh opportunities soon occurred, that enabled him to exert this spirit of revenge, without extinguishing it. The ship he was in arrived at the coast of St Domingo; where the bucaneers on land immediately applied to barter some provisions for brandy. As the articles they offered were of little value, they alleged in excuse, that their enemies had overrun the country, laid waste their settlements, and carried off all they could. "Why (replied Montbar) do you tamely suffer such insults?" "Neither do we (answered they in the same tone); the Spaniards have experienced what kind of men we are, and have therefore taken advantage of the time when we were engaged in hunting. But we were going to join some of our companions, who have been still worse treated than we: and then we shall have warm work." "If you approve of it (answered Montbar), I will head you, not as your commander, but as the foremost to expose myself to danger." The bucaneers perceiving from his appearance that he was such a man as they wanted, cheerfully accepted his offer. The same day they overtook the enemy, and Montbar attacked them with an impetuosity that astonished the bravest. Scarce one Spaniard escaped the effects of his fury. The remaining part of his life was equally distinguished as on this day. The Spaniards suffered so much from him, both by sea and land, that he acquired the name of the *Exterminator*.

His savage disposition, as well as that of the other bucaneers who attended him, having obliged the Spaniards to confine themselves within their settlements, these freebooters resolved to attack them there. This new method of carrying on the war required superior forces; and their associations in consequence became more numerous. The first that was considerable was formed by L'Olonois, who derived his name from the sands of Olones the place of his birth. From the abject state of a bondsman, he had gradually raised himself to the command of two canoes, with 22 men. With these he was so successful as to take a Spanish frigate on the coast of Cuba. He then repaired to Port-au-Prince, in which were four ships, fitted out purposely to sail in pursuit of him. He took them, and threw all the crews into the sea, except one man, whom he saved, in order to send him with a letter to the governor of the Havannah, acquainting him with what he had done, and assuring him that he would treat in the same manner all the Spaniards that should fall into his hands, not excepting the governor himself, if he should be so fortunate as to take him. After this expedition, he ran his canoes and prize-ships aground, and sailed with his frigate only to the island of Tortuga. Bucaneer.

Here he met with Michael de Basco, who had distinguished himself by having taken, even under the cannon of Porto-Bello, a Spanish ship, estimated at 218,500l. and by other actions equally brave and daring. These two gave out, that they were going to embark together on an expedition equally glorious and profitable; in consequence of which they soon collected together 440 men. This body of men, the most numerous the bucaneers had yet been able to muster, sailed to the bay of Venezuela, which runs up into the country for the space of 50 leagues. The fort that was built at the entrance of it for its defence was taken; the cannon were nailed up; and the whole garrison, consisting of 250 men, put to death. They then reimbarked, and came to Maracaybo, built on the western coast of the lake of the same name, at the distance of ten leagues from its mouth. This city, which had become flourishing and rich by its trade in skins, tobacco, and cocoa, was deserted. The inhabitants had retired with their effects to the other side of the bay. If the bucaneers had not lost a fortnight in riot and debauch, they would have found at Gibraltar, near the extremity of the lake, every thing that the inhabitants had secreted to secure it from being plundered. On the contrary, they met with fortifications lately erected, which they had the useless satisfaction of making themselves masters of, at the expence of a great deal of blood; for the inhabitants had already removed to a distance the most valuable part of their property. Exasperated at this disappointment, they set fire to Gibraltar. Maracaybo would have shared the same fate, had it not been ransomed. Besides the sum they received for its ransom, they also carried off with them all the crosses, pictures, and bells of the churches; intending, as they said, to build a chapel in the island of Tortuga, and to consecrate this part of their spoils to sacred purposes. Such was the religion of these barbarous people, who could make no other offering to heaven than that which arose from their robberies and plunder.

While they were idly dissipating the spoils they had made on the coast of Venezuela, Morgan, the most renowned of the English bucaneers, sailed from Jamaica to attack Porto-Bello. His plan of operations was so well contrived, that he surprised the city, and took it without opposition.

The conquest of Panama was an object of much greater importance. To secure this, Morgan thought it necessary to sail in the latitudes of Costa-Ricca, to procure some guides in the island of St Catharine's, where the Spaniards confined their malefactors. This place was so strongly fortified, that it ought to have held out for ten years against a considerable army. Notwithstanding this, the governor, on the first appearance of the pirates, sent privately to concert measures how he might surrender himself without incurring the imputation of cowardice. The result of this consultation was, that Morgan, in the nighttime, should attack

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Bucaneer. tant colony. But their natural character was an invincible obstacle to so rare an union; for they always formed themselves into several distinct bodies, sometimes even so few in number as ten or twelve, who acted together, or separated, as the most trifling caprice directed. Grognier, Lecuyer, Picard, and Le Sage, were the most distinguished officers among the French; David Samms, Peter Wilner, and Towley, among the English.

Such of these adventurers as had got into the South sea by the straits of Darien, seized upon the first vessel they found upon the coast. Their associates, who had sailed in their own vessels, were not much better provided. Weak, however, as they were, they beat several times the squadrons that were fitted out against them. But these victories were prejudicial to them, as they interrupted their navigation. When there were no more ships to be taken, they were continually obliged to make descents upon the coasts to get provisions, or to go by land in order to plunder those cities where the booty was secured. They successively attacked Seppa, Puebla-Nuevo, Leon, Realejo, Puebla-Viejo, Chiriquita, Lesparso, Granada, Villia, Nicoy, Tecoanteca, Mucmeluna, Chiloteca, New-Segovia, and Guayaquil, the most considerable of all these places.

Many of them were taken by surprise; and most of them deserted by their inhabitants, who fled at the sight of the enemy. As soon as they took a town, it was directly set on fire, unless a sum proportioned to its value was given to save it. The prisoners taken in battle were massacred without mercy, if they were not ransomed by the governor or some of the inhabitants: gold, pearls, or precious stones, were the only things accepted of for the payment of their ransom. Silver being too common, and too weighty for its current value, would have been troublesome to them. The chances of fortune, that seldom leave guilt unpunished, nor adversity without a compensation for its suffering, atoned for the crimes committed in the conquest of the new world, and the Indians were amply revenged of the Spaniards.

While such piracies were committed on the southern ocean, the northern was threatened with the same by Gramont. He was a native of Paris, by birth a gentleman, and had distinguished himself in a military capacity in Europe; but his passion for wine, gaming, and women, had obliged him to join the pirates. He was, however, affable, polite, generous, and eloquent; he was endued with a sound judgment, and was a person of approved valour; which soon made him be considered as the chief of the French bucaneers. As soon as it was known that he had taken up arms, he was immediately joined by a number of brave men. The governor of St Domingo, who had at length prevailed upon his master to approve of the project, equally wise and just, of fixing the pirates to some place, and inducing them to become cultivators, was desirous of preventing the concerted expedition, and forbade it in the king's name. Gramont, who had a greater share of sense than his associates, was not on that account more inclined to comply, and sternly repelled: "How can Louis disapprove of a design he is unacquainted with, and which has been planned only a few days ago?" This answer highly pleased all the bucaneers; who directly embarked, in 1685, to attack Campeachy. Bucaneer.

They landed without opposition. But at some distance from the coast, they were attacked by 800 Spaniards, who were beaten and pursued to the town; where both the parties entered at the same time. The cannon they found there was immediately levelled against the citadel. As it had very little effect, they were contriving some stratagem to enable them to become masters of the place, when intelligence was brought that it was abandoned. There remained in it only a gunner, an Englishman; and an officer of such signal courage, that he chose rather to expose himself to the greatest extremities, than basely to fly from the place with the rest. The commander of the bucaneers received him with marks of distinction, generously released him, gave him up all his effects, and besides complimented him with some valuable presents: such influence have courage and fidelity even on the minds of those who seem to violate all the rights of society.

The conquerors of Campeachy spent two months in searching all the environs of the city, for 12 or 15 leagues, carrying off every thing that the inhabitants, in their flight, thought they had preserved. When all the treasure they had collected from every quarter was deposited in the ships, a proposal was made to the governor of the province, who still kept the field with 900 men, to ransom his capital city. His refusal determined them to burn it, and demolish the citadel. The French, on the festival of St Louis, were celebrating the anniversary of their king; and in the transports of their patriotism, intoxication, and national love of their prince, they burnt to the value of a million of logwood; a part, and a very considerable one too, of the spoil they had made. After this singular and extravagant instance of folly, of which Frenchmen only could boast, they returned to St Domingo.

In 1697, 1200 bucaneers were induced to join a squadron of seven ships that sailed from Europe under the command of Pointis, to attack the famous city of Carthagena. This was the most difficult enterprise that could be attempted in the new world. The situation of the port, the strength of the place, the badness of the climate, were so many obstacles that seemed insurmountable to any but such men as the bucaneers were. But every obstacle yielded to their valour and good fortune: the city was taken, and booty gained to the amount of 1,750,000l. Their rapacious commander, however, deprived them of the advantages resulting from their success. He scrupled not, as soon as they set sail, to offer 525l. for the share of those who had been the chief instruments in procuring him so considerable a spoil.

The bucaneers, exasperated at this treatment, resolved immediately to board the vessel called the *Sceptre*, where Pointis himself was, and which at that time was too far distant from the rest of the ships to expect to be assisted by them. This avaricious commander was upon the point of being massacred, when one of the malecontents cried out: "Brethren, why should we attack this rascal? he has carried off nothing that belongs to us. He has left our share at Carthagena, and there we must go to recover it." This proposal was

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Buccaneer. tant colony. But their natural cha
vincible obstacle to so rare an union;
formed themselves into several disti
times even so few in number as ten o
ed together, or separated, as the mo
directed. Grognier, Lecuyer, Picar
were the most distinguished officers a
David Samms, Peter Wilner, and T
English.

Such of these adventurers as had
sea by the straits of Darien, seiz
vessel they found upon the coast. Th
had sailed in their own vessels, were
provided. Weak, however, as they w
veral times the squadrons that were
them. But these victories were preju
they interrupted their navigation.
no more ships to be taken, they wer
ged to make descents upon the coasts
or to go by land in order to plunder
the booty was secured. They succ
Seppa, Puebla-Nuevo, Leon, Reale
Chiriquita, Lesparso, Granada, Villi
anteca, Mucmeluna, Chiloteca, N
Guayaquil, the most considerable of a

Many of them were taken by surpri
them deserted by their inhabitants,
sight of the enemy. As soon as they
was directly set on fire, unless a sum p
value was given to save it. The pr
battle were massacred without mercy,
ransomed by the governor or some of
gold, pearls, or precious stones, were
accepted of for the payment of their
being too common, and too weighty
value, would have been troublesome
chances of fortune, that seldom leave
nor adversity without a compensation
atoned for the crimes committed in the
new world, and the Indians were an
the Spaniards.

While such piracies were committed
ocean, the northern was threatened w
Gramont. He was a native of Pa
gentleman, and had distinguished hims
capacity in Europe; but his passion fo
and women, had obliged him to join t
was, however, affable, polite, generous
he was endued with a sound judgment,
son of approved valour; which soon
considered as the chief of the French
soon as it was known that he had take
was immediately joined by a number
The governor of St Domingo, who had
vailed upon his master to approve of the
ly wise and just, of fixing the pirates
and inducing them to become cultivator
of preventing the concerted expedition
it in the king's name. Gramont, who
share of sense than his associates, was n
count more inclined to comply, and ste
"How can Louis disapprove of a desig
quainted with, and which has been pl
few days ago?" This answer highly pl

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Bucephala || Buchanan.

was immediately obeyed, "So dear," says Arrian, "was Bucephalus to Alexander, and so terrible was Alexander to the Barbarians."

BUCER, MARTIN, one of the first authors of the reformation at Strasburg, was born in 1491, in Alsace; and took the religious habit of St Dominic, at seven years of age: but meeting afterward with the writings of Martin Luther, and comparing them with the Scriptures, he began to entertain doubts concerning several things in the Romish religion. After some conferences with Luther at Heidelburg in 1521, he adopted most of his sentiments; but in 1532, he gave the preference to those of Zuinglius. He assisted in many conferences concerning religion; and in 1548 was sent for to Augsburg to sign the agreement between the Papists and Protestants, called the *interim*. His warm opposition to this project exposed him to many difficulties and hardships; the news of which reaching England, where his fame had already arrived, Cranmer archbishop of Canterbury gave him an invitation to come over, which he readily accepted. In 1549, a handsome apartment was assigned him in the university of Cambridge, and a salary to teach theology. King Edward VI. had the greatest regard for him. Being told that he was very sensible of the cold of the climate, and suffered much for want of a German stove, he sent him 100 crowns to purchase one. He died of a complication of disorders in 1551; and was buried at Cambridge with great funeral pomp. Five years after, in the reign of Queen Mary, his body was dug up, and publicly burnt, and his tomb demolished; but it was afterwards set up by order of Queen Elizabeth. He composed many works, among which are commentaries on the evangelists and gospels.

BUCEROS. See ORNITHOLOGY *Index*.

BUCHAN, a district of Scotland, lying partly in the shire of Aberdeen and partly in that of Banff: it gives the title of earl to the noble and ancient family of Erskine.

BUCHANAN, GEORGE, the best Latin poet of his time, perhaps inferior to none since the Augustan age, was born in February 1506. This accomplished scholar and distinguished wit was not descended of a family remarkable for its rank. He had no occasion for the splendour of ancestry. He wanted not a reflected greatness, the equivocal, and too often the only ornament of the rich and noble. The village of Killearn, in Stirlingshire, Scotland, was the place of his nativity; and the abject poverty in which his father died might have confined him to toil at the lowest employments of life, if the generosity of an uncle had not assisted him in his education, and enabled him to pursue for two years his studies at Paris. But that short space was scarcely elapsed, when the death of his benefactor made it necessary that he should return to his own country, and forsake, for a time, the paths of science.

He was yet under his 20th year, and surrounded with the horrors of indigence. In this extremity, he enlisted as a common soldier under John duke of Albany, who commanded the troops which France had sent to assist Scotland in the war it waged, at this period, against England. But nature had not destined him to be a hero. He was disgusted with the fatigues of one campaign; and, fortunately, John Major, then professor of philosophy at St Andrew's, hearing of his necessity and his merit, afforded him a temporary relief. He now became the pupil of John Mair, a celebrated teacher in the same university, under whom he studied the subtilities of logic: and contracting an attachment to his master, he followed him to Paris. There, after having encountered many difficulties, he was invited to teach grammar in the college of St Barbe. In this slavish occupation he was found by the earl of Cassilis; with whom having remained five years at Paris, he returned to Scotland. He next acted as preceptor to the famous earl of Murray, the natural son of James V. But while he was forming this nobleman for public affairs, he found that his life was in danger; and from enemies, whose vindictive rage could suffer no abatement, and who would not scruple the most dishonourable means of gratifying it. Buchanan.

The scandalous lives of the clergy had, it seems, excited his indignation; and, more than reasoning or argument, had estranged him from the errors of Popery. The Franciscan monks, in return to the beautiful but poignant satires he had written against them, branded him with the appellation of *atheist*; a term which the religious of all denominations are too apt indiscriminately to lavish where they have conceived a prejudice; and, not satisfied with the outrage of abuse and calumny, they conspired his destruction. Cardinal Beaton gave orders to apprehend him, and bribed King James with a very considerable sum to permit his execution. He was seized upon accordingly; and the first genius of his age was about to perish by the halter, or by fire, to satisfy a malignant resentment, when, escaping the vigilance of his guards, he fled into England. Henry VIII. at all times the slave of caprice and passion, was then burning, on the same day, and at the same stake, the Lutheran and the Papist. His court did not suit a philosopher or a satirist. After a short stay, Buchanan crossed the sea to France; and, to his extreme disappointment, found at Paris, Cardinal Beaton, as ambassador from Scotland. He retired privately to Bourdeaux, dreading, perhaps, new misfortunes, and concerned that he could not prosecute his studies in obscurity and silence. Here he met Andrew Govea, a Portuguese of great learning and worth, with whom he had formerly been acquainted during his travels, and who was now employed in teaching a public school. He disdained not to act as the assistant of his friend; and during the three years he resided at this place, he composed the tragedies which do him so much honour. It was here, also, that he wrote some of the most pleasant of those poems, in which he has rallied the muses, and threatened to forsake them, as not being able to maintain their votary. About this time, too, he presented a copy of verses to the emperor Charles V. who happened to pass through Bourdeaux.

His enemies, meanwhile, were not inactive. Cardinal Beaton, wrote about him to the archbishop of Bourdeaux; and by every motive which a cunning and a wicked heart can invent, he invited him to punish the most pestilential of all heretics. The archbishop, however, was not so violent as the cardinal. On inquiring into the matter, he was convinced that the poet had committed a very small impropriety; and allowed

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||
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Buchaw Buckingham.

of the Upper Rhine, which comprehends the district of the abbot of Fulda.

BUCHOREST, a pretty large town of Turkey in Europe, seated in the middle of Walachia, and the ordinary residence of a hospodar. The houses are mean and very ill built, except a few that belong to the principal persons. In 1716, a party of Germans sent from Transylvania entered this town, and took the prince prisoner with all his court, and carried them off. This expedition was the more easily performed, as several lords of the country had a secret intelligence with the governor of Transylvania. This prince had no other way to regain his liberty, but by giving up that part of Walachia, which lies between the river Aluth and Transylvania, to the emperor of Germany, by the peace concluded at Passarowitz in 1718. The Germans again entered the capital of his dominions, and levied excessive contributions. But affairs took another turn after the fatal battle of Crotska in 1737; for the emperor was obliged to restore this part of Walachia to the hospodar. Buchorest contains about 60,000 inhabitants. E. Long. 26. 30. N. Lat. 44. 30.

BUCHAM, a small town of Suabia in Germany, seated on the lake of Constance, in E. Long. 9. 20. N. Lat. 47. 41.

BUCIOCHE, in commerce, a sort of woollen cloth manufactured in Provence in France, which the French ships carry to Alexandria and Cairo.

BUCK, in *Zoology*, a male horned beast of venery or chase, whose female is denominated a *doe*. See CERVUS and *Buck-Hunting*.

BUCK, is also applied to the male of the hare and rabbit kind. See LEPUS, and *Hare-Hunting*.

Buck-Bean. See MENYANTHES, BOTANY *Index*.

Buck-Thorn. See RHAMNUS, BOTANY *Index*.

Buck-Wheat. See POLYGONUM, BOTANY *Index*.

BUCKENHAM, NEW, a town of Norfolk in England, which formerly had a strong castle, but now demolished. It is seated in a flat, in E. Long. 1. 10. N. Lat. 52. 30. Population 656 in 1811.

BUCKET, a small portable vessel to hold water, often made of leather for its lightness and easy use in cases of fire. It is also the vessel let down into a well, or the sides of ships, to fetch up water.

BUCKING, the first operation in the whitening of linen yarn or cloth.

BUCKINGHAM, the chief town of Buckinghamshire in England, stands in a low ground, on the river Ouse, by which it is almost surrounded, and over which there are three handsome stone-bridges. The town contained 3500 inhabitants in 1811, and sends two members to parliament. It seems, however, to have been but an inconsiderable place at the Conquest; for, according to Doomsday-book, it paid only for one hide, and had but 26 burgesses. Edward the elder fortified it in the year 918 against the incursions of the Danes, with a rampart and turrets. It also had formerly a castle in the middle of the town, of which no vestiges now remain. The shrine of St Rumbald, the patron of fishermen, preserved in the church, was held in great veneration. The county-gaol stands in this town, and here the assizes are sometimes kept. It was formerly a staple for wool, but that advantage it hath now lost. It is governed by a bailiff and 12 burgesses, who are the sole electors of the members. In its neighbourhood are many paper-mills upon the Ouse. W. Long. 0. 58. N. Lat. 51. 30.

Buckingham Buckler.

BUCKINGHAM-Shire, (supposed to derive its name from the Saxon word *Buc*, denoting a hart or buck) an inland county of England. During the time prior to the landing of the Romans it was included in the division of Catieuchlani; and after their conquest it was included in their third province of Flavia Cæsariensis. During the heptarchy it belonged to the kingdom of Mercia, which commenced in 582, and terminated in 827, having had 18 kings; and it is now included in the Norfolk circuit, the diocese of Lincoln, and the province of Canterbury. It is bounded on the north by Northamptonshire; south by Berkshire; east by Bedfordshire, Hertfordshire, and Middlesex; and west by Oxfordshire. It is of an oblong form, whose greatest extent is from north to south. It contains 441,000 acres; has above 111,400 inhabitants, 185 parishes, 73 vicarages; is 49 miles long, 18 broad, and 109 in circumference. It has 15 market-towns, viz. Buckingham and Aylesbury, the county towns, Marlow, Newport-Pagnel, Winslow, Wendover, Beaconsfield, Wiccomb, Chesham, Amersham, Stony Stratford, Colnbrook, Ivingho, Oulney, Risborough; besides the considerable villages of Eaton and Fenny Stratford, and 613 others inferior. It is divided into eight hundreds, provides 560 men for the militia, sends 14 parliament-men, and pays 12 parts of the land-tax. Its rivers are the Thames, Ouse, Colu, Wicham, Amersham, Isis, Tame, and Loddon. Its chief produce is bone-lace, paper, corn, fine wool, and breeding rams. The most noted places are the Chiltern Hills, Vale of Aylesbury, Bernwood Forrest, Wooburn-Heath, and 15 parks. The air is generally good, and the soil mostly chalk or marle. The population of Buckinghamshire amounted to 117,650 in 1811. See BUCKINGHAMSHIRE, SUPPLEMENT.

BUCKINGHAM, *George Villiers, duke of*. See VILLIERS.

BUCKINGHAM, *John Sheffield, duke of*. See SHEFFIELD.

BUCKLE, a well known utensil, made of divers sorts of metals, as gold, silver, steel, brass, &c.

The fashion or form of buckles is various; but their use, in general, is to make fast certain parts of dress, as the shoes, garters, &c.

BUCKLE, in *Heraldry*. The buckle was so much esteemed in former times, that few persons of repute and honour wore their girdles without it; and it may be considered, in coats of arms, as a token of the surety, the faith, and service of the bearer.

BUCKLER, a piece of defensive armour used by the ancients. It was worn on the left arm, and composed of wickers woven together, or wood of the lightest sort, covered with hides and fortified with plates of brass or other metal. The figure was sometimes round, sometimes oval, and sometimes almost square. Most of the bucklers were curiously adorned with all sorts of figures of birds and beasts, as eagles, lions; nor of these only, but of the gods, of the celestial bodies, and all the works of nature; which custom was derived from the heroic times, and from them communicated to the Grecians, Romans, and Barbarians.

The scutum, or Roman buckler, was of wood, the parts being joined together with little plates of iron,

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all Lower Hungary from Gran and Canisca, the eastern part of Sclavonia, and almost all Servia: but a good part of this government now belongs to the emperor.

BUDÆUS, WILLIAM, the most learned man in France in the 15th century, was descended of an ancient and illustrious family, and born at Paris in 1467. He was placed young under masters; but barbarism prevailed so much in the schools of Paris, that Budæus took a dislike to them, and spent his whole time in idleness, till his parents sent him to the university of Orleans to study law. Here he passed three years without adding to his knowledge; for his parents sending for him back to Paris, found his ignorance no less than before, and his reluctance to study, and love to gaming and other useless pleasures, much greater. They talked no more to him of learning of any kind; and as he was heir to a large fortune, left him to follow his own inclinations. He was passionately fond of hunting, and took great pleasure in horses, dogs, and hawks. The fire of youth beginning to cool, and his usual pleasures to pall upon his senses, he was seized with an irresistible passion for study. He immediately disposed of all his hunting equipage, and even abstracted himself from all business to apply himself wholly to study; in which he made, without any assistance, a very rapid and amazing progress, particularly in the Latin and Greek languages. The work which gained him greatest reputation was his treatise *de Asse*. His erudition and high birth were not his only advantages; he had an uncommon share of piety, modesty, gentleness, and good-breeding. The French king, Francis I. often sent for him; and at his persuasion, and that of Du Bellay, founded the royal college of France, for teaching the languages and sciences. The king sent him to Rome with the character of his ambassador to Leo X. and in 1522 made him master of requests. The same year he was chosen provost of the merchants. He died at Paris in 1540. His works, making four volumes in folio, were printed at Basil in 1557.

BUDDÆUS, JOHN FRANCIS, a celebrated Lutheran divine, and one of the most learned men Germany has produced, was born in 1667, at Anclam, a town of Pomerania, where his father was minister. He was at first Greek and Latin professor at Colburg; afterwards professor of morality and politics in the university of Hall; and at length, in 1705, professor of divinity at Jena, where he fixed, and where he died, after having acquired a very great reputation. His principal works are, 1. A large historical German dictionary. 2. *Historia ecclesiastica Veteris Testamenti*, 2 vols 4to. 3. *Elementa philosophiæ practicæ, instrumentalis, et theoreticæ*, 3 vols 8vo, which has had a great number of editions, because in most of the universities of Germany the professors take this work for the text of their lessons. 4. *Selecta juris naturæ et gentium*. 5. *Miscellanea sacra*, 3 vols 4to. 6. *Isagoge historico-theologica ad theologiam universam, singulasque ejus partes*, 2 vols 4to; which is much valued by the Lutherans. 7. A treatise on atheism and superstition.

BUDDESDALE, or BETTISDALE, a town of Suffolk in England, seated in a dale or valley, and its street takes in a good part of Ricking, all which together make up the town; for of itself it is but a hamlet, having a small chapel, and an endowed grammar-school, to which belong certain scholarships, assigned to Bennet or Corpus Christi college in Cambridge, being the gift of Sir Nicholas Bacon, lord keeper of the great seal. E. Long. 1. 8. N. Lat. 52. 25. Buddesdale ‖ Budgell.

BUDDING, in *Gardening*. See ENGRAFTING.

BUDDLE, in *Metallurgy*, a large square frame of boards, used in washing metallic ores.

BUDDLEIA. See BOTANY *Index*.

BUDELICH, a town of Germany, in the duchy of the Rhine, belonging to Prussia. It is seated on the little river Traen, in E. Long. 6. 55. N. Lat. 49. 52.

BUDGE-BARRELS, among engineers, small barrels well hooped, with only one head; on the other end is nailed a piece of leather, to draw together upon strings like a purse. Their use is for carrying powder along with a gun or mortar; being less dangerous, and easier carried, than whole barrels. They are likewise used upon a battery of mortars for holding meal powder.

BUDGELL, EUSTACE, Esq. an ingenious and polite writer, was the son of Gilbert Budgell, doctor of divinity; and was born at St Thomas, near Exeter, about the year 1685. He was educated at Christ-church college, Oxford; from which he removed to the Inner Temple, London: but instead of studying the law, for which his father intended him, he applied to polite literature; kept company with the genteelest persons in town; and particularly contracted a strict intimacy with the ingenious Mr Addison, who was first cousin to his mother, and who, on his being made secretary to Lord Wharton, lord lieutenant of Ireland, took him with him as one of the clerks of his office. Mr Budgell, who was about 20 years of age, and had read the classics, and the works of the best English, French, and Italian authors, now became concerned with Sir Richard Steele and Mr Addison in writing the Tatler, as he had, soon after, a share in writing the Spectators, where all the papers written by him are marked with an X; and when that work was completed, he had likewise a hand in the Guardian, where his performances are marked with an asterisk. He was afterwards made under secretary to Mr Addison, chief secretary to the lords justices of Ireland, and deputy clerk of the council. Soon after, he was chosen a member of the Irish parliament; and in 1717, Mr Addison, having become principal secretary of state in England, procured him the place of accountant and comptroller general of the revenue in Ireland. But the next year, the duke of Bolton being appointed lord-lieutenant, Mr Budgell wrote a lampoon against Mr Webster, his secretary, in which his grace himself was not spared; and upon all occasions treated that gentleman with the utmost contempt. This imprudent step was the primary cause of his ruin: for the duke of Bolton, in support of his secretary, got him removed from the post of accountant-general; upon which, returning to England, he, contrary to the advice of Mr Addison, published his case in a pamphlet, entitled, "A letter to the lord * * *, from Eustace Budgell, Esq. accountant-general," &c. Mr Addison had now resigned the seals, and was retired into the country for the sake of his health: Mr Budgell

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Budgell & Budoa.

Budgell had also lost several other powerful friends, who had been taken off by death; particularly the lord Halifax and the earl of Sunderland: he, however, made several attempts to succeed at court, but was constantly kept down by the duke of Bolton. In the year 1720 he lost 20,000l. by the South-sea scheme, and afterwards spent 5000l. more in unsuccessful attempts to get into parliament. This completed his ruin. He at length employed himself in writing pamphlets against the ministry, and wrote many papers in the Craftsman. In 1733, he began a weekly pamphlet, called *The Bee;* which he continued for above 100 numbers, printed in eight volumes 8vo. During the progress of this work, Dr Tindal's death happened, by whose will Mr Budgell had 2000l. left him; and the world being surprised at such a gift from a man entirely unrelated to him, to the exclusion of the next heir, a nephew, and the continuator of Rapin's history of England, immediately imputed it to his making the will himself. Thus the satirist:

Let Budgell charge low Grub-street on my quill,
And write whate'er he please except my will.

It was thought he had some hand in publishing Dr Tindal's Christianity as old as the Creation; for he often talked of another additional volume on the same subject, but never published it. After the cessation of the Bee, Mr Budgell became so involved in law-suits, that he was reduced to a very unhappy situation. He got himself called to the bar, and attended for some time in the courts of law; but finding himself unable to make any progress, and being distrest to the utmost, he determined at length to make away with himself. Accordingly, in the year 1736, he took a boat at Somerset-stairs, after filling his pockets with stones; ordered the waterman to shoot the bridge; and, while the boat was going under, threw himself into the river. He had several days before been visibly distracted in his mind. Upon his bureau was found a slip of paper, on which were these words:

What Cato did, and Addison approv'd,
Cannot be wrong.

Besides the above works, he wrote a Translation of Theophrastus's Characters. He was never married; but left one natural daughter, who afterwards assumed his name, and became an actress in Drury-lane.

BUDINUS, in *Ancient Geography*, a mountain of Sarmatia Europæa, from which the more northern spring of the Borysthenes is said to take its rise, according to Ptolemy. But this is contradicted by later accounts. Now *Podolia*.

BUDNÆANS, in ecclesiastical history, so called from the name of their leader, Simon Budnæus. They not only denied all kind of religious worship to Jesus Christ, but asserted, that he was not begotten by any extraordinary act of divine power; being born, like other men, in a natural way. Budnæus was deposed from his ministerial functions in the year 1584, and publicly excommunicated, with all his disciples; but afterwards abandoning his peculiar sentiments, he was readmitted to the communion of the Socinian sect. Crellius ascribes the origin of the above opinion to Adam Neuser.

BUDOA, a maritime town of Dalmatia, with a bishop's see, subject to Austria. It is seated between the gulf of Cattaro and the city of Dulogno, on the coast of Albania; and is an important fortress where the Venetians formerly kept a strong garrison. In 1667, it suffered greatly by an earthquake: and in 1686 was besieged by Soliman, basha of Scutari; but General Cornaro obliged him to raise the siege. E. Long. 19. 22. N. Lat. 42. 12.

BUDRIO, a town of Italy, in the Bolognese. The adjacent fields produce large quantities of fine hemp, which renders the town of more consequence than larger places. E. Long. 11. 35. N. Lat. 44. 27.

BUDUN, is the name of one of the Ceylonese gods: he is supposed to have arrived at supremacy, after successive transmigrations, from the lowest state of an insect, through the various species of living animals. There have been three deities of this name, each of which is supposed to reign as long as a bird removes a hill of sand, half a mile high, and six miles round, by a single grain in a thousand years. See SAKRADAWENDRA.

BUDWEIS, a royal city of Bohemia in Germany. It is pretty large and well built, surrounded with strong walls, fortified with a good rampart, and might be made an important place. It was taken by the king of Prussia in 1744, but he did not keep it very long. E. Long. 14. 19. N. Lat. 42. 15.

BUDZIAC TARTARY, lies on the rivers Neister, Bog, and Nieper; having Poland and Russia on the north, Little Tartary on the east, the Black sea on the south, and Bessarabia on the west. The chief town is Oczakow. It is subject to Turkey.

BUENA VISTA, one of the Cape de Verd islands, lying in N. Lat. 15. 56. It is also called *Bonvista* and *Bonnevue;* but the first is the true appellation, the others being only abbreviations and corruptions of the original name, which signifies a *good prospect*, intimating the beautiful appearance it makes to ships at sea. This island is reckoned near 20 leagues in circumference, and is distinguished on the north side by a ridge of white rocks that bound it. The coast that stretches east and north-west is terminated with sundry banks to the sea; but the interior part is chiefly mountainous. From the northern point there is a large ridge of rocks projecting near a whole league into the sea, against which the waves break with incredible fury. Another point of rocks stretches into the sea on the southern point of the island eastward, a league and a half beyond that point; and in that bay is the best road for shipping.

BUENOS AYRES, a country of South America, belonging to the Spaniards. This name, given from the pleasantness of the climate, is extended to all that country lying between Tucuman on the east, Paraguay on the north, and Terra Magellanica on the south, or to the vertex of that triangular point of land which composes South America. The country is watered by the great river La Plata; first discovered in 1515 by Juan Diaz de Solis, who with two of his attendants was massacred by the natives; and partly subdued by Sebastian Gaboto, who gave the great river the appellation of *La Plata*, from the abundance of the precious metals he procured from the inhabitants, imagining them to be the produce of the country, though in fact the

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they were brought from Peru.—No country in the world abounds more in horned cattle and horses than Buenos Ayres, where the greatest expence of a horse or cow is in the catching it, and they are frequently to be had at the small price of two or three rials. In such abundance are these useful animals, that the hide alone is deemed of any value, as this constitutes a main article in the trade of the country. All rove wild in the fields; but they are now become more difficult of access, the terrible havock made among them having taught the cautious brutes to keep at a greater distance. All kinds of fish are in the same abundance; the fruits produced by every quarter of the globe grow up here in the utmost perfection; and for the salubrity of the air, a finer country cannot be imagined. The principal cities are Buenos Ayres the capital, Monte Video, Corienteo, and Santa Fe. See BUENOS AYRES, SUPPLEMENT.

BUENOS AYRES, Neustra Sennora de, the capital of the country called *Buenos Ayres*, in South America, was founded in the year 1535, under the direction of Don Pedro de Mendoza, at that time governor. It stands on a point called *Cape Blanco*, on the south side of the Plata, fronting a small river, in S. Lat. 34° 34′ 38″, according to the observations of Father Feville. The situation is in a fine plain, rising by a gentle ascent from the river; and truly paradisaical, whether we regard the temperature of the climate, the fertility of the soil, or that beautiful verdure which overspreads the whole face of the country, of which the inhabitants have a prospect as far as the eye can reach. The city is very considerable in extent, containing according to some 40,000, according to others 60,000 inhabitants. The streets are straight, broad, and pretty equal in the heights and dimensions of the buildings; one very handsome square adorns it, the front being a castle in which the governor holds his court, and presides over a garrison of 3000 soldiers. The city was taken by the British in 1806, but retaken by the inhabitants a few weeks after.

BUFALMACO, BORAMICO, an Italian painter; the first who put labels to the mouths of his figures, with sentences; since followed by bad masters, but more frequently in caricature engravings. He died in 1340.

BUFF, in commerce, a sort of leather prepared from the skin of the buffalo; which dressed with oil, after the manner of shammy, makes what we call *buff-skin*. This makes a very considerable article in the French, English, and Dutch commerce at Constantinople, Smyrna, and all along the coast of Africa. The skins of elks, oxen, and other like animals, when prepared after the same manner as that of the buffalo, are likewise called *buffs*.

Of buff-skin, or buff-leather, are made a sort of coats for the horse or *gens d'armes* of France, bandaliers, belts, pouches, and gloves.

In France, there are several manufactories designed for the dressing of those sorts of hides, particularly at Corbeil, near Paris; at Niort, at Lyons, at Rome, at Etanepus, at Cone.

BUFFALO, in *Zoology*. See BOS.

BUFFET was ancieatly a little apartment, separated from the rest of the room by slender wooden columns, for the disposing of china, glass-ware, &c. It is now properly a large table in a dining-room, called also a *side-board*, for the plate, glasses, bottles, basons, &c. to be placed on, as well for the service of the table as for magnificence. In houses of persons of distinction in France, the buffet is a detached room, decorated with pictures relative to the subject, with fountains, cisterns, and vases. It is commonly faced with marble or bronze. Buffet || Buffon.

BUFFIER, CLAUDE, a French writer, born in 1661, became a Jesuit in 1679, and died at Paris in 1737. There are many works of this author, which show deep penetration and accurate judgment; the principal of which is, *Un Cours des Sciences*, &c. that is, "a Course of Sciences upon principles new and simple, in order to form the language, the understanding, and the heart, 1732," in folio. This collection includes an excellent "French grammar upon a new plan; a philosophic and practical treatise upon eloquence; an art of poetry," which, however, is not reckoned the best part of this miscellany; "elements of metaphysics; an examination into vulgar prejudices; a treatise of civil society; and an exposition of the proofs of religion:" all full of reflections, just as well as new. He was the author of other works, in verse and prose, of which no great account is had; and it is remarkable, that his style in both is rather easy than accurate and correct, notwithstanding the precepts in his "Grammar," which is really philosophic.

BUFFON, GEORGE LOUIS LE CLERC, COUNT OF, a celebrated naturalist, was born at Montbard, in Burgundy, the 9th of September 1707: his father was a counsellor of the parliament of Dijon, and the son was destined to the same office, if science had not drawn him away from the law. He studied at Dijon; and his eager activity, his acuteness, penetration, and robust constitution, fitted him to pursue business and pleasure with equal ardour. His early passion was for astronomy, and the young Le Clerc was never without Euclid in his pocket. At the age of twenty, he went with an English nobleman and his governor to Italy; but he overlooked the choicest remains of art, and, amidst the ruins of an elegant and luxurious people, he first felt the charms of natural history, whose zealous and successful admirer he afterwards proved. On his return to France, he fought, on some occasional quarrel, with an Englishman, whom he wounded, and was obliged to retire to Paris. He there translated Newton's Fluxions from the Latin, and Hales's Statics from the English, into the French language. He afterwards came to England, at the age of 25; and this journey concluded his travels: he staid there about three months. At the age of 21, he succeeded to the estate of his mother, which was valued at about 300,000 livres (above 12,000l. sterling); and he was one of those whose easy or affluent circumstances urge on to literary pursuits, and clear the path of some of its thorns. Perhaps this was the period of his retirement to Montbard, where he spent much time, and where his leisure was little interrupted: while in the capital, his office of intendant of the king's garden and cabinet engaged much of his time. He loved much company, and was partial to the fair; but he loved glory more. He spent 14 hours every day in study; and, when we examine the extent of his knowledge, and the number of his works, we wonder at his having executed so much

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Buffon, Buffoon.

much even in this time. At five in the morning he retired to a pavilion in his vast gardens, and he was then inaccessible. This was, as Prince Henry of Prussia called it, *the cradle of natural history;* but she was indifferently accommodated. The walls were naked: an old writing-table, with pen, ink, and paper, and an elbow chair of black leather, were the only furniture of his study. His manuscripts were in a cabinet in another building, and he went occasionally from one to the other. The eras of Buffon's works are pretty well known. When each was finished it was put aside, in order that he might forget it, and he then returned to it with the severity of a critic. He was anxious to have it perspicuous; and if those to whom he read his works hesitated a moment, he changed the passage. The works of others he at last read like Magliabechi, the titles, the contents, and the most interesting parts; but he read M. Neckar's Compte Rendu, and the Administration of the Finances, at length; he spoke of them also with no little enthusiasm. His favourite authors were Fenelon, Montesquieu, and Richardson.

M. de Buffon's conversation was unadorned, ra ely animated, but sometimes very cheerful. He was exact in his dress, particularly in dressing his hair. He sat long at table, and then seemed at his ease. His conversation was, at this time, unembarrassed, and his guests had frequently occasion to notice some happy turn of phrase, or some deep reflection. His complaisance was very considerable: he loved praise, and even praised himself; but it was with so much frankness, and with so little contempt of others, that it was never disagreeable. Indeed, when we consider the extent of his reputation, the credit of his works, and the attention with which they were always received, we do not wonder that he was sensible of his own value. It would perhaps have displayed a stronger mind to have concealed it. His father lived to 93, and almost adored his son; his grandfather to 87; and the subject of the present article exceeded only 80. He died in April 1788. Fifty-six stones were found in his bladder; but if he had consented to the operation, he might probably have lived longer. He left one son; who near a high tower in the gardens of Montbard has placed a low column, with the following inscription:

Excelsæ Turri
Humilis Columna,
Parenti suo
Fil. Buffon.

This son fell a victim to the tyranny of Robespierre during the late revolution in France.

BUFFOON, a droll, or mimic, who diverts the public by his pleasantries and follies. Menage after Salmasius, derives the word from *buffo;* a name given to those who appeared on the Roman theatre with their cheeks blown up; that, receiving blows thereon, they might make the greater noise, and set the people a laughing. Others, as Rhodiginus, make the origin of buffoonery more venerable; deriving it from a feast instituted in Attica by King Erectheus, called *buphonia.*

Buffoons are the same with what we otherwise find denominated *scurræ, gelasiani, mimilogi, ministelli, goliardi, joculatores,* &c. whose chief scene is laid at the tables of great men. Gallienus never sat down to meat without a second table of buffoons by him; Tillemont also renders *pantomimes* by buffoons. In which sense he observes, the shows of the buffoons were taken away by Domitian, restored by Nerva, and finally abolished by Trajan.

BUFONIA, TOAD-GRASS. See BOTANY *Index.*

BUFONITA, in *Natural History,* the toad-stone. This has been received not only among the list of native stones by the generality of authors, but even has held a place among the gems, and is still worn in rings by some people; though undoubtedly it is an extraneous fossil. There has been a strong opinion in the world, that it was found in the head of an old toad; and that this animal voided it at the mouth, on being put on a red cloth. The general colour of the bufonitæ is a deep dusky brown; but it varies greatly in this respect in several specimens, some of which are quite black, others of an extremely pale simple brown, a chesnut colour, liver colour, black-gray, or whitish. The bufonitæ are usually found immersed in beds of stone; and so little doubt is there of what they have originally been, viz. the petrified teeth of the *lupus piscis,* or wolf-fish, that part of the jaw of the fish has sometimes been found with the teeth petrified in it. The bufonitæ are said to be cordial and astringent; many other fanciful virtues are ascribed to them, which the present practice has rejected.

BUG, or BUGG. See CIMEX, ENTOMOLOGY *Index.*

Cheap, easy, and clean mixture for effectually destroying BUGGS. Take of the highest rectified spirit of wine, (viz. lamp-spirits) that will burn all away dry, and leave not the least moisture behind it, half a pint; new distilled oil, or spirit, of turpentine, half a pint: mix them together; and break into it, in small bits, half an ounce of camphire, which will dissolve it in a few minutes; shake them well together; and with a piece of sponge, or a brush dipt in some of it, wet very well the bed or furniture wherein these vermin harbour and breed, and it will infallibly kill and destroy both them and their nits, although they swarm never so much. But then the bed and furniture must be well and thoroughly wet with it (the dust upon them being first brushed and shaken off), by which means it will neither soil, stain, nor in the least hurt, the finest silk or damask bed that is. The quantity here ordered of this mixture (that costs but about a shilling) will rid any one bed whatever, though it swarms with buggs. If any buggs should happen to appear after once using it, it will only be for want of well wetting the lacing, &c. of the bed, or the folding of the linens or curtains near the rings, or the joints or holes in and about the bed or head-board, wherein the buggs and nits nestle and breed; and then their being wetted all again with more of the same mixture, which dries in as fast as you use it, pouring some of it into the joints and holes where the brush or sponge cannot reach, will never fail absolutely to destroy them all. Some beds that have much wood-work can hardly be thoroughly cleared without being first taken down; but others that can be drawn out, or that you can get well behind, to be done as it should be, may. The smell this mixture occasions will be all gone in two or three days; which yet

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Bug
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ggers.

yet is very wholesome, and to many people agreeable. Remember always to shake the mixture together very well whenever you use it, which must be in the day-time, not by candle-light, lest the subtlety of the mixture should catch the flame as you are using it, and occasion damage.

Early in the spring, even in February, the larva of this insect begins to burst from the egg; and it is at this season that attention is so very requisite. The bed ought to be stripped of all its furniture, which should be washed, and even boiled, if linen; if stuff, it should be hot-pressed. The bedstead should be taken to pieces, dusted, and washed with spirit of wine in the joints; for in those parts the females lay their eggs. This done, the joints, crevices, cavities, &c. should be well filled with the best soft soap mixed with verdigris and Scots snuff. On this substance, the larva, if any escape the cleansing, or any, which is common in old houses, creep into the bedstead, will feed at first, and of course be destroyed: this last will effect the purpose in houses where these vermin are not so numerous, by repeating the operation every three months.—

uels in rica.

Professor Kalm † mentions, that, from repeated trials, he has been convinced, that sulphur, if it be properly employed, entirely destroys bugs, and their eggs in beds or walls, though they were ten times more numerous than the ants on an ant-hill. His translator, Dr Forster, adds, that a still more effectual remedy is, to wash all the infected furniture with a solution of arsenic. See further the article CIMICIFUGA.

BUGEY, a province of France, bounded on the east by Savoy, on the west by Bresse, on the south by Dauphiny, and on the north by the territory of Gex and the Franche Compte. It is about 40 miles long and 25 broad. Though it is a country full of hills and rivers, yet it is fertile in some places, the rivers abound in trouts, and there is plenty of all sorts of game. The chief places are Belley the capital, Seisel, St Rambert, Fort L'Ecluse, and Chateau Neuf.

BUGGERS, (*Bulgarii*) anciently signified a kind of heretics, otherwise called *Paterini*, *Cathari*, and *Albigenses*.

The word is formed of the French *Bougres*, and that from *Bougria* or *Bulgaria*, the country where they chiefly appeared. Among other errors they held that men ought to believe no scripture but the New Testament; that baptism was not necessary to infants; that husbands who conversed with their wives could not be saved; and that an oath was absolutely unlawful. They were strenuously refuted by Fr. Robert, a Dominican, surnamed the *Bugger*, as having formerly made profession of this heresy.

The Buggers are mentioned by Matthew Paris, in the reign of Henry III. under the name of *Bugares*. *Circa dies autem illos invaluit hæretica pravitas eorum qui vulgariter dicuntur Paterini et Bugares, de quorum erroribus malo tacere quam loqui.*

BUGGER, or BUGGERER, came afterwards to be used for a sodomite; it being one of the imputations laid, right or wrong, on the Bulgarian heretics, that they taught, or at least practised, this abominable crime.

BUGGER (*Bulgarius*), is also a denomination given to usurers; usury being a vice to which the same heretics are said to have been much addicted.

BUGGERY, or SODOMY, is defined by Sir Edward Coke to be a carnal copulation against nature, either by a confusion of species, that is to say, either a man or woman with a brute beast; or sexes, as a man with a man, or a man unnaturally with a woman. It is said this sin against God and nature was first brought into England by the Lombards. As to its punishment, the voice of nature and of reason, and the express law of God ‡, determines it to be capital. Of this we have a signal instance, long before the Jewish dispensation, by the destruction of two cities by fire from heaven; so that this is an universal, not merely a provincial, precept. Our ancient law, in some measure, imitated this punishment, by commanding such miscreants to be burnt to death; though Fleta says, they should be buried alive; either of which punishments was indifferently used for this crime among the ancient Goths. But now the general punishment of all felonies is the same, namely, by hanging: and this offence (being in the times of Popery only subject to ecclesiastical censures) was made felony without benefit of clergy by statute 25 Hen. VIII. c. 6. revived and confirmed by 5 Eliz. c. 17. And the rule of law herein is, that, if both parties are arrived at the years of discretion, *agentes et consentientes pari pœna plectantur*, "both are liable to the same punishment."

Buggery
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Buglose.

‡ Levit. xx. 13, 14.

BUGIA, a province of the kingdom of Algiers in Africa. It is almost surrounded with mountains; and is divided into three parts, Benijubar, Auraz, and Labez. These mountains are peopled with the most ancient Arabs, Moors, or Saracens. The province is very fertile in corn.

BUGIA, by the Africans called *Bugeiah*, a maritime town of Africa, in the kingdom of Algiers, and once the capital of the province of that name. It is supposed to be the *Saldæ* of Strabo, built by the Romans. It hath a handsome port formed by a narrow neck of land running into the sea: a great part of whose promontory was formerly faced with a wall of hewn stone; where was likewise an aqueduct, which supplied the port with water, discharging it into a capacious basin; all which now lie in ruins. The city itself is built on the ruins of a large one, at the foot of a high mountain that looks towards the north-east; a great part of whose walls run up quite to the top of it; where there is also a castle that commands the whole town, besides two others at the bottom, built for a security to the port. The inhabitants drive a considerable trade in ploughshares, mattocks, and other iron tools, which they manufacture from the neighbouring mines. The town is watered by a large river, supposed to be the Nasava of Ptolemy. The place is populous; and hath a considerable market for iron work, oil, and wax, which is carried on with great tranquillity; but is no sooner over than the whole place is in an uproar, so that the day seldom concludes without some flagrant instance of barbarity. E. Long. 4. N. Lat. 35. 30.

BUGIE, a town of Egypt, situated on the western shore of the Red sea almost opposite to Ziden, the port town to Mecca, and about 100 miles west of it. E. Long. 36. N. Lat. 22. 15.

BUGLE. See AJUGA, BOTANY *Index*.

BUGLOSS. See ANCHUSA, BOTANY *Index*.

Viper's BUGLOSS. See ECHIUM, BOTANY *Index*.

BUILDING,

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Building
Bukharia.

BUILDING, a fabric erected by art, either for devotion, magnificence, or conveniency.

BUILDING is also used for the art of constructing and raising an edifice; in which sense it comprehends as well the expences as the invention and execution of the design. See ARCHITECTURE.

The modern buildings are much more commodious, as well as beautiful, than those of former times. Of old they used to dwell in houses, most of them with a blind staircase, low ceilings, and dark windows; the rooms built at random, without any thing of contrivance, and often with steps from one to another; so that one would think the people of former ages were afraid of light and fresh air: whereas the genius of our times is altogether for light staircases, fine sash-windows, and lofty ceilings. And such has been our builders industry in point of compactness and uniformity, that a house after the new way will afford, on the same quantity of ground, almost double the conveniences which could be had from an old one.

By act 11 Geo. I. and 4 Geo. III. for the regulation of building within the weekly bills of mortality, and in other places therein specified, party walls are required to be erected of brick or stone, which shall be two bricks and a half thick in the cellar, two bricks thick upwards to the garret floor, &c. and other limitations are enacted respecting the disposition of the timbers, &c. And every building is to be surveyed; and the person who offends against the statute in any of the particulars recited, is liable to a forfeit of 25l. to be levied by warrant of justices of the peace. The other principal statutes relating to building are 19 Car. II. c. 3. 22 Car. II. c. 11. 5 Eliz. c. 4. 35 Eliz. c. 6. 6 Ann. c. 31. 7 Ann. c. 17. 33 Geo. II. c. 30. and 6 Geo. III. c. 37.

BUILDING of Ships. See *SHIP-Building.*

BUILTH, or BEALT, a town of South Wales in Brecknockshire, pleasantly seated on the river Wye, over which there is a wooden bridge that leads into Radnorshire. W. Long. 3. 10. N. Lat. 52. 8.

BUIS, a territory of France, in Dauphiny. It is a small mountainous country, but pretty fertile; and Buis and Nions are the principal places.

BUKARI, a small well-built town of Hungarian Dalmatia, situated on the Golfo di Bikeriza, in E. Long. 20. 53. N. Lat. 45. 20.

BUKHARIA, a general name for all that vast tract of land lying between Karazm and the *great Kobi*, or sandy desert bordering on China. It derives its name of *Bukharia* from the Mogul word *Bukhar*, which signifies a learned man; it being formerly the custom for those who wanted instruction in the languages and sciences to go into Bukharia. Hence this name appears to have been given to it by the Moguls who under Jenghiz Khan conquered the country. It is nearly the same with that called by the Arabs *Mawaralnahr*, which is little other than a translation of the word *Transoxana*, the name formerly given to those provinces.

This region is divided into Great and Little Bukharia.

Great Bukharia (which seems to comprehend the *Sogdiana* and *Bactriana* of the ancient Greeks and Romans, with their dependencies) is situated between the 34th and 46th degrees of north latitude, and between the 76th and 92d degrees of east longitude. It is bounded on the north by the river *Sir*, which separates it from the dominions of the *Eluths* or Kalmucs the kingdom of *Kashgar* in Little Bukharia, on the east; by the dominions of the great Mogul and Persia on the south; and by the country of Karazm on the west: being about 770 miles long from west to east, and 730 miles broad from south to north. It is an exceeding rich and fertile country; the mountains abound with the richest mines; the valleys are of an astonishing fertility in all sorts of fruit and pulse; the fields are covered with grass the height of a man; the rivers abound with excellent fish; and wood, which is scarce over all Grand Tartary, is here in great plenty. But all these benefits are of little use to the Tartar inhabitants, who are naturally so lazy, that they would rather go rob and kill their neighbours than apply themselves to improve the benefits which nature so liberally offers them. This country is divided into three large provinces, viz. Bukharia proper, Samarcand, and Balk; each of which generally has its proper khan. The province of Bukharia proper is the most western of the three; having on the west Karasm, on the north a desert called by the Arabs *Gusnah*, on the east the province of Samarcand, and on the south the river Amu. It may be about 390 miles long, and 320 broad. The towns are Bukhara, Zam, Wardanzi, Karakul, Sisnjbala, Karshi, Zaruji, Nersem, Karmina, &c.

Little Bukharia is so called, not because it is less in dimensions than the other, for in reality it is larger; but because it is inferior to it as to the number and beauty of its cities, goodness of the soil, &c. It is surrounded by deserts; it has on the west, Great Bukharia; on the north, the country of the Kalmucs; on the east, that of the Moguls subject to China; on the south, Thibet, and the north-west corner of China. It is situated between the 93d and 118th degrees of east longitude, and between 35° 30′ and 45° of north latitude; being in length from east to west about 850 miles, and in breadth from north to south 580: but if its dimensions be taken according to its semicircular course from the south to the north-east, its length will be 1200 miles. It is sufficiently populous and fertile: but the great elevation of its land, joined to the height of the mountains which bound it in several parts, particularly towards the south, renders it much colder than from its situation might naturally be expected. It is very rich in mines of gold and silver; but the inhabitants reap little benefit from them, because neither the Eluths nor Kalmucs, who are masters of the country, nor the Bukhars, care to work in them. Nevertheless, they gather abundance of gold from the beds of the torrents formed by the melting of the snow in the spring; and from hence comes all that gold dust which the Bukhars carry into India, China, and Siberia. Much musk is likewise found in this country; and all sorts of precious stones, even diamonds; but the inhabitants have not the art of either cutting or polishing them.

The inhabitants both of Great and Little Bukharia, are generally those people called *Bukhars*. They are commonly sun-burnt and black-haired; although some of them are very fair, handsome, and well made. They do not want politeness, and are addicted to commerce;

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Bukharia. merce; which they carry on with China, the Indies, Persia, and Russia: but those who deal with them will be sure of being overreached, if they do not take great care. The habits of the men differ very little from those of the Tartars. Their girdles are like those of the Poles. The garments of the women differ in nothing from those of the men, and are commonly quilted with cotton. They wear bobs in their ears 12 inches long; part and twist their hair in tresses, which they lengthen with black ribbands embroidered with gold or silver, and with great tassels of silk and silver, which hang down to their heels; three other tufts of a smaller size cover their breasts. Both sexes carry about with them prayers written by their priests, which they keep in a small leathern purse by way of relics. The girls, and some of the women, tinge their nails red with the juice of an herb called by them *kena*: they dry and pulverize it; then mixing it with powdered alum, expose it in the air for 24 hours before they use it, and the colour lasts a long time. Both sexes wear close breeches, and boots of Russia leather, very light, and without heels, or leather soles; putting on galloches, or high-headed slippers like the Turks, when they go abroad. They wear also the same sort of bonnets and covering for the head; only the women set off theirs with trinkets, small pieces of money, and Chinese pearls. Wives are distinguished from maids by a long piece of linen worn under their bonnets; which, folding round the neck, they tie in a knot behind, so that one end of it hangs down to the waist.

The Bukhar houses are of stone, and pretty good; but their moveables consist mostly of some China trunks plated with iron. Upon these, in the day-time, they spread the quilts they have made use of at night, and cover them with a cotton carpet of various colours. They have likewise a curtain sprigged with flowers and various figures; also a sort of bedstead half a yard high, and four yards long, which is hidden in the day-time with a carpet. They are very neat about their victuals; which are dressed in the master's chamber by his slaves, whom the Bukhars either take or buy from the Russians, Kalmucs, or other neighbours. For this purpose there are in the chamber, according to the largeness of the family, several iron pots, set in a kind of range near a chimney. Some have little ovens, made, like the rest of the walls, with a stiff clay or bricks. Their utensils consist of some plates and porringers made of cagua wood or of china, and some copper vessels. A piece of coloured calicoe serves them instead of a table-cloth and napkins. They use neither chairs nor tables, knives nor forks; but sit cross-legged on the ground; and the meat being served up, they pull it to pieces with their fingers. Their spoons resemble our wooden ladles. Their usual food is minced meats, of which they make pies of the form of a half moon: these serve for provisions when the Bukhars go long journeys, especially in winter. They carry them in a bag, having first exposed them to the frost; and when boiled in water, they make very good broth. Tea is their common drink, of which they have a black sort prepared with milk, salt, and butter; eating bread with it, when they have any.

As the Bukhars buy their wives, paying for them more or less according to their handsomeness; so the surest way to be rich is to have many daughters. The persons to be married must not see or speak to each other from the time of their contract to the day of marriage. This is celebrated with three days feasting, as they do great annual festivals. The evening before the wedding, a company of young girls meet at the bride's house and divert themselves till midnight, playing, dancing, and singing. Next morning the guests assemble, and help her to prepare for the ceremony. Then, notice being given to the bridegroom, he arrives soon after, accompanied by ten or twelve of his relations and friends. These are followed by some playing on flutes, and by an *Abus* (a kind of priest), who sings, while he beats two little timbrels. The bridegroom then makes a horse race; which being ended, he distributes the prizes, six, eight, or twelve, in number, according to his ability. They consist of damasks, sables, fox-skins, calico, or the like. The parties do not see each other while the marriage ceremony is performing, but answer at a distance to the questions asked by the priest. As soon as it is over, the bridegroom returns home with his company; and after dinner carries them to the bride's house, and obtains leave to speak to her. This done, he goes back, and returns again in the evening, when he finds her in bed; and in presence of all the women, lays himself down by her in his clothes, but only for a moment. The same farce is acted for three days successively; but the third night he passes with her entirely, and the next day carries her home.

Although the prevailing religion throughout all Little Bukharia is the Mahometan, yet all others enjoy a perfect toleration. The Bukhars say, that God first communicated the Koran to mankind by Moses and the prophets; that afterwards Mahomet explained, and drew a moral from it, which they are obliged to receive and practise. They hold Christ to be a prophet, but have no notion of his sufferings. Yet they believe in the resurrection, but cannot be persuaded that any mortal shall be eternally damned: on the contrary, they believe, that as the daemons led them into sin, so the punishment will fall on them. They believe, moreover, that at the last day every thing but God will be annihilated; and, consequently, that all creatures, the devil, angels, and Christ himself, will die. Likewise, that, after the resurrection, all men, excepting a few of the elect, will be purified or chastised by fire, every one according to his sins, which, will be weighed in the balance. They say there will be eight different paradises for the good; and seven hells, where sinners are to be purified by fire; that those who will suffer most, are liars, cheats, and others of that kind: that the elect who do not feel the fire will be chosen from the good; viz. one out of 100 men, and one out of 1000 women; which little troop will be carried into one of the paradises, where they shall enjoy all manner of felicity, till it shall please God to create a new world. It is a sin, according to them, to say, that God is in heaven. God, say they, is everywhere; and therefore it derogates from his omnipresence to say that he is confined to any particular place. They keep an annual fast of 30 days, from the middle of July to the middle of August, during which time they taste nothing all day; but eat twice in the night, at sunset and midnight;

nor

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Bukharia ‖ Bulam.

nor do they drink any thing but tea, all strong liquors being forbidden. Whoever transgresses these ordinances is obliged to emancipate his most valuable slave, or to give an entertainment to 60 people: he is likewise to receive 85 strokes on the back with a leathern strap called *dura*. The common people, however, do not observe this fast exactly, and workmen are allowed to eat in the day time. The Bukhars say prayers five times a-day; before morning, towards noon, after noon, at sunset, and in the third hour of the night.

Jenghis Khan, who conquered both the Bukharias from the Arabs, left the empire of them to his son Jagatay Khan. He died in the year 1240, and left the government to his son Kara Kulaku, and of Little Bukharia to Amul Khoja Khan. A long succession of khans is enumerated in each of these families, but their history is uninteresting. They are long since extinct, and the Kalmuc Tartars are masters of the country. See BUKHARA, SUPPLEMENT.

BUL, in the ancient Hebrew chronology, the eighth month of the ecclesiastical, and the second of the civil, year: it has since been called *Marshevan*, and answers to our October.

BULAC, a town of Egypt, situated on the eastern shore of the river Nile, about two miles west of Grand Cairo, of which it is the port town, and contains about 4000 families. It is a place of great trade, as all the vessels going up and down the Nile make some stay here. It is also at this place that they cut the banks of the river every year, in order to fill their canals and overflow the neighbouring ground, without which the soil would produce neither grain nor herbage. E. Long. 32. N. Lat. 30.

BULAFO, a musical instrument, consisting of several pipes of wood tied together with thongs of leather, so as to form a small interstice between each pipe. It is used by the negroes of Guinea.

BULAM, or BULAMA, an island on the western coast of Africa, at the mouth of the Rio Grande, in N. Lat. 11° and W. Long. 15°. This island, which is about 18 leagues long, and four broad, forms part of a cluster of islands, which have been known by the name of *Bissagos*, and are supposed to be the Hesperides of the ancients.

This island was purchased in 1792 by a society instituted for similar purposes with those of the Sierra Leone association. The sum of 9000l. was subscribed for the establishment of the colony, and the management of it is intrusted to a committee who sailed from Spithead in April 1792, and having arrived at Bulama, took possession of the new purchase, and left a body of settlers consisting of 49 men, 13 women, and 25 children, under a superintendant, with a supply of stores and provisions necessary for an infant settlement. The following account of the climate, soil, and productions of Bulama, drawn up by Mr Johansen, gives a flattering picture of this island. The climate, says he, on the whole, may be deemed salubrious, and will become more so in proportion to the increase of cultivation. The mornings and evenings are temperate and pleasant; the middle of the day is hot, but the fine sea breeze which then sets in tends greatly to cool and refresh the air. The heat of the sun is not so excessive or intolerable as has been generally supposed; indeed nature has most admirably adapted our mechanical and physical qualities to the exigencies of different regions; a man, who is the inhabitant of every climate, may, in some measure, render himself indigenous to every one. Here the only danger arises from too sudden an exposure to the operation of the vertical rays of the sun, or an excess of labour; both of which the first settlers ought most studiously to avoid.

"It appears from Mr Beaver's observations at noon between the 20th of July 1792, and the 28th of April 1793, that the thermometer, when lowest, was at 74, the medium heat 85; and that it never exceeded 96 except at one time when it rose to 100, during a calm that occurred in the interval between the north-east breeze in the morning and the south-west in the evening of the 19th of February 1793. The difference between the heat of noon and that of the morning and evening is from 20 to 30 degrees. On the 23d of October 1792, hail of the size of a pin's head fell during two minutes, although not a cloud was to be seen during this phenomenon. The mercury in the thermometer then stood at 85; the wind was at north-east in the morning and south-west in the evening.

"Immediately after sunset a dew constantly begins to fall, which induces some to light a fire in their houses; they at the same time put on warmer clothing. There is little or no twilight; and night and day are nearly equal: the earth has therefore time to cool during twelve hours absence of the sun.

"None of these terrible and destructive hurricanes so frequently experienced in the West Indies are to be met with here. The *tornadoes*, which arise chiefly from the eastern point of the compass, are but of short duration, seldom lasting above an hour, and may be readily foreseen some time previously to their commencement. They occur at the beginning and close of the wet season, and are highly beneficial, as they purify the air, and dispel the noxious vapours with which it would otherwise abound.

"The rains set in about the latter end of May or the beginning of June, and discontinue in October or November. They do not fall every day, for there is often a considerable interval of clear weather, during which the atmosphere is beautifully serene; the showers in the first and last months occur but seldom; and are far from being violent; while, on the other hand, they sometimes resemble torrents, more especially towards the middle of the season. During the whole of this period, Europeans should, if possible, confine themselves to their habitations, as the rains prove injurious to health, more especially, if those exposed to them neglect to wipe their bodies dry, and to change their clothes immediately on their return home. It is deemed prudent also not to dig the earth until the expiration of a month after the return of fair weather, as this is considered to be unhealthy.

"During the continuance of the dry season, a dew falls during the night, in sufficient quantity to answer all the purposes of vegetation.

"Every stranger is generally here, as well as in the West Indies, subject to a fever or *seasoning* on his arrival. This is not infectious; it proceeds perhaps from an increased perspiration and a sudden extension of the pores of the human body, in consequence of the heat, by which means it is rendered more liable to imbibe the abundant exhalations that arise from the animal, vegetable,

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Bulama. getable, and mineral kingdoms; but even this, slight as it is, might doubtless be avoided by means of a proper regimen, and a short seclusion from the full action of the open air, more especially at noon, and during the evening, till the climate has been rendered familiar.

"Bulama is admirably adapted for all the purposes of an extensive commerce, being not only happily situated at the mouth of the Rio Grande, but in the vicinity of several other navigable rivers; so that a trade with the internal parts of Africa is thereby greatly facilitated. The landing is remarkably easy and safe, there being no surge; the ebb and flow is regular, and there is an increase of 16 feet of water at spring tide. The bay opposite the Great Bulama is adorned with a number of islands, covered with trees, and forms a most excellent harbour, sufficiently capacious to contain the whole navy of Great Britain, which might ride there in safety. The settlement in general is well supplied with water. A number of springs have been lately discovered in different places; and besides a draw-well in the fort which was erected for the defence of the colony, there is a small stream, which runs into Elewsis bay, near the new settlement called *Hesper Elewsis:* this is admirably situated for the supply of shipping.

"The island is beautifully surrounded and interspersed with woods: lofty fruit and forest trees, mostly free from underwood and brambles, form a verdant belt, in some places two or three miles broad, which entirely encircles it, in such a manner as to represent a plantation artificially formed around a park. Within this the fields are regularly divided by trees, so as to resemble the hedge-rows in England. The beach has in some places the appearance of gravel walks; it is fringed with mangrove-trees, which forming a line with the high-water mark dip their branches into the sea, and thus afford nourishment to the oysters that often adhere to their extremities.

"The soil is abundantly rich and deep; stones do not here impede the labours of the farmer; and indeed none have hitherto been discovered, but a small sort, resembling pieces of ore, which are to be met with on the shore. There are many *savannahs* or natural meadows, so extensive that the eye can scarcely descry their boundaries. These are admirably adapted for the rearing of stock and feeding of cattle of every kind.

"Cotton, indigo, rice, and coffee, grow spontaneously on this coast; the sugar cane is indigenous to many parts of Africa, and might be cultivated here by the labour of freemen, in equal perfection, and to much greater advantage than in the exhausted islands of the West Indies. All kinds of tropical productions, such as pine-apples, limes, oranges, grapes, plums, cassada, guava, Indian wheat, the papaw, water-melon, musk-melon, the pumkin, tamarind, banana, and numbers of other delicious fruits, also flourish here. The adjoining territories produce many valuable sorts of spices, gums, and materials for dyeing: all of which, it is but fair to suppose, might be readily cultivated in a kindred climate and a congenial soil.

"The neighbouring seas abound with a variety of fish, highly agreeable to the palate. The lion, tyger, jackal, &c. are natives of the continent; but in Bulama no animals have been discovered, the wolf, some buffaloes, a few elephants, and a species of the deer, excepted. Bulama Bulb.

"The woods abound with doves, guinea fowls, and a variety of birds, celebrated for the beauty of their plumage." The settlement was abandoned a short time after it was formed.

BULARCHUS, a Greek painter; the first who introduced (among the Greeks at least) different colours in the same picture. He flourished in 740 B. C.

BULB, in the anatomy of plants, a kind of large bud, generally produced under the ground, upon or near the root of certain herbaceous plants, hence denominated *bulbous*.

A bulb is defined by Linnæus to be a species of hybernaculum, produced upon the descending caudex or root; consisting of stipulæ, petioli, the rudiments of the former leaves, and scales or bark.

To elucidate this definition, it is proper to remark, that every bud contains, in miniature or embryo, a plant, in every respect similar to the parent upon which it is seated. Plants therefore are perpetuated in the buds, as well as in the seeds; and the species may be renewed with equal efficacy in either way.

The tender rudiments of the future vegetable, of which the bud is composed, are inclosed, and during the severities of winter defended from cold and other external injuries, by a hard bark or rind, which generally consists of a number of scales placed over each other like tiles, and fastened together by means of a tenacious, resinous, and frequently odoriferous, substance. Thus defended, the buds remain upon different parts of the mother plant till the ensuing spring; and are, therefore, with great propriety, denominated by Linnæus the *hybernaculum* or winter-quarters of the future vegetable.

With respect to their place, buds are situated either upon the stem and branches, or upon the roots: the former are styled *gemmæ*, or buds properly so called; but as they subsist several years by their roots, may be furnished with the other species of *hybernaculum* called bulbs, which, according to the definition, are seated upon the descending *caudex* or root.

Again, trees which are perennial, with a woody and durable stem or trunk, have generally proper buds or gemmæ, but no bulbs.

In bulbous plants, as the tulip, onion, or lily, what we generally call the *root*, is in fact a bulb or hybernaculum, which incloses and secures the embryo or future shoot.

At the lower part of this bulb may be observed a fleshy knob or tubercle, from whence proceed a number of fibres or threads. This knob, with the fibres attached to and hanging from it, is, properly speaking, the true root; the upper part being only the cradle or nursery of the future stem, which after the bulb has repaired a certain number of times, it perishes; but not till it has produced at its sides a number of smaller bulbs or suckers for perpetuating the species.

One part of Linnæus's definition still remains obscure. The bulb, says he, is composed of the remains or rudiments of the former leaves of the plant; *è rudimento foliorum præteritorum*.

It is easy to comprehend that buds contain the rudiments of the future leaves; but how can bulbs be said

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lithus
Bull.

der, or in the kidneys and bladder, of an ox. See Bos.

BULK *of a* SHIP, the whole content in the hold for the stowage of goods.

BULK-Heads are partitions made athwart the ship with boards, by which one part is divided from the other; as the great cabin, gun-room, bread-room, and several other divisions. The *bulk-head afore* is the partition between the forecastle and gratings in the head.

BULL, DR JOHN, a celebrated musician, and composer, was born in Somersetshire about the year 1563, and, it is said, was of the Somerset family. He was educated under Blitheman. In 1586, he was admitted at Oxford to the degree of bachelor of music, having practised in that faculty 14 years; and in 1592, was created doctor in the university of Cambridge. In 1591, he was appointed organist of the queen's chapel, in the room of his master, Blitheman.

Bull was the first Gresham professor of music, and was appointed to that station upon the special recommendation of Queen Elizabeth. However skilful he might be in his profession, it seems he was not able to read his lectures in Latin; and therefore, by a special provision in the ordinances respecting the Gresham professors, made anno 1597, it is declared, that because Dr Bull is recommended to the place of music-professor by the queen's most excellent majesty, being not able to speak Latin, his lectures are permitted to be altogether English, so long as he shall continue music-professor there.

In the year 1601, he went abroad for the recovery of his health, which at that time was declining; and during his absence was permitted to substitute, as his deputy, a son of William Bird, named *Thomas*. He travelled incognito into France and Germany; and Wood takes occasion to relate a story of him while abroad, which the reader shall have in his own words.

"Dr Bull hearing of a famous musician belonging to a cathedral in St Omer's, he applied himself, as a novice, to him, to learn something of his faculty, and to see and admire his works. This musician, after some discourse had passed between them, conducted Bull to a vestry or music-school joining to the cathedral, and showed him a lesson or song of 40 parts; and then made a vaunting challenge to any person in the world to add one part more to them, supposing it to be so complete and full, that it was impossible for any mortal man to correct or add to it. Bull thereupon, desiring the use of pen, ink, and ruled paper, such as we call *musical paper*, prayed the musician to lock him up in the said school for two or three hours; which being done, not without great disdain by the musician, Bull, in that time or less, added 40 more parts to the said lesson or song. The musician thereupon being called in, he viewed it, tried it, and retried it; at length he burst out into a great ecstasy, and swore by the great God, that he that added these 40 parts must be either the devil or Dr Bull. Whereupon Bull making himself known, the musician fell down and adored him. Afterwards, continuing there and in those parts for a time, he became so much admired, that he was courted to accept of any place of preferment suitable to his profession, either within the dominions of the emperor, the king of France, or Spain; but the tidings of these transactions coming to the English court, Queen Elizabeth commanded him home." *Fasti*, anno 1586.

Bull.

Dr Ward, who has given the life of Dr Bull, in his lives of the Gresham professors, relates, that upon the decease of Queen Elizabeth he became chief organist to King James, and had the honour of entertaining his majesty and Prince Henry at Merchant Taylors hall with his performance on the organ. The same author proceeds to relate, that in 1613 Bull quitted England and went to reside in the Netherlands, where he was admitted into the service of the archduke. He suggests, as the reason of Bull's retirement, that the science began to sink in the reign of King James; which he infers from that want of court-patronage, which it seems, induced the musicians of that day to dedicate their works to one another. But surely Bull had none of these reasons to complain of being slighted that others had. He was in the service of the chapel, and at the head of the prince's musicians; and in the year 1604 his salary for the chapel duty had been augmented. The circumstances of his departure from England may be collected from the following entry now to be seen in the cheque book: "1613, John Bull, doctor of music, went beyond seas without license, and was admitted into the archduke's service, and entered into paie there about Mich. and Peter Hopkins a base from Paul's was sworn into his place the 27th of December following. His wages from Mich. unto the day of the swearing of the said Peter Hopkins was disposed of by the deane of his majesty's chapel." Wood says, that Dr Bull died at Hamburgh; others have said at Lubeck.

The only works of Bull in print are lessons in the "Parthenia, or the maidenhead of the first music that ever was printed for the virginals." An anthem of his, "Deliver me, O God, is to be found in Bernard's collection of church-music. Dr Ward has given a long list of compositions of Dr Bull in manuscript in the collection of the late Dr Pepusch, by which it appears that he was equally excellent in vocal and instrumental harmony. By some of the lessons in the Parthenia it seems that he was possessed of a power of execution on the harpsichord far beyond what is generally conceived of the masters of that time. As to his lessons, they were, in the estimation of Dr Pepusch, not only for the harmony and contrivance, but for air and modulation, so excellent, that he scrupled not to prefer them to those of Couperin, Scarlatti, and others of the modern composers for the harpsichord.

BULL, *George*, bishop of St David's, was born at Wells, in 1634; and educated at Exeter college, in Oxford. The first benefice he enjoyed was that of St George's, near Bristol, whence he rose successively to be rector of Suddington in Gloucestershire, prebendary of Gloucester, archdeacon of Llandaff, and in 1705 bishop of St David's. This dignity he enjoyed about four years, and died in 1709. During the usurpation of Cromwell, he adhered steadily, though still with great prudence, to the forms of the church of England; and in the reign of James II. preached very strenuously against the errors of Popery. He wrote, 1. A defence of the Nicene faith. 2. Apostolical harmony. 3. Primitive apostolical tradition; and other works.

BULL. See BOS, MAMMALIA *Index*.

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Bolithus || Bull.

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BULK *of a* SHIP, the whole cont
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BULK-Heads are partitions made
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Bull. arena, they can mention the place where he was reared. This arena is a kind of circus surrounded by about a dozen of seats, rising one above another; the highest of which only is covered. The boxes occupy the lower part of the edifice. In some cities, Valladolid for example, which have no place particularly set apart for these combats, the principal square is converted into a theatre. The balconies of the houses are widened, so as to project over the streets which end there; and it is really a very interesting sight to see the different classes of people assembled round this square, waiting for the signal when the entertainment is to commence, and exhibiting every external sign of impatience and joy. The spectacle commences by a kind of procession around the square, in which appear, both on horseback and on foot, the combatants who are to attack the fierce animal; after which two alguazils, dressed in perukes and black robes, advance with great gravity on horseback; who go and ask from the president of the entertainment an order for it to commence. A signal is immediately given; and the animal, which was before shut up in a kind of hovel with a door opening into the square, soon makes his appearance. The officers of justice, who have nothing to do with the bull, prudently hasten to retire, and their flight is a prelude to the cruel pleasure which the spectators are about to enjoy. The bull, however, is received with loud shouts, and almost stunned by the noisy expressions of their joy. He has to contest first against the picadores, combatants on horseback, who, dressed according to the ancient Spanish manner, and as it were fixed to their saddles, wait for him, each being armed with a long lance. This exercise, which requires strength, courage, and dexterity, is not considered as disgraceful. Formerly the greatest lords did not disdain to practise it; even at present some of the hidalgos solicit for the honour of fighting the bull on horseback, and they are then previously presented to the people, under the auspices of a patron, who is commonly one of the principal personages at court.

The picadores, whoever they may be, open the scene. It often happens that the bull, without being provoked, darts upon them, and every body entertains a favourable opinion of his courage. If, notwithstanding the sharp-pointed weapon which defends his attack, he returns immediately to the charge, their shouts are redoubled, as their joy is converted into enthusiasm; but if the bull, struck with terror, appears pacific, and avoids his persecutors, by walking round the square in a timid manner, he is hooted at and hissed by the whole spectators, and all those near whom he passes load him with blows and reproaches. He seems then to be a common enemy, who has some great crime to expiate; or a victim, in the sacrifice of which all the people are interested. If nothing can awaken his courage, he is judged unworthy of being tormented by men; the cry of *perros*, *perros*, brings forth new enemies against him, and large dogs are let loose upon him, which seize him by the neck and ears in a furious manner. The animal then finds the use of those weapons with which nature has furnished him; he tosses the dogs into the air, who fall down stunned, and sometimes mangled; they however recover, renew the combat, and generally finish by overcoming their adversary, who thus perishes ignobly. If, on the other hand, he presents himself with a good grace, he runs a longer and nobler, but a much more painful career. The first act of the tragedy belongs to the combatants on horseback; this is the most animated and bloody of all the scenes, and often the most disgusting. The irritated animal braves the pointed steel which makes deep wounds in his neck, attacks with fury the innocent horse who carries his enemy, rips up his sides, and overturns him together with his rider. The latter, then dismounted and disarmed, would be exposed to imminent danger, did not combatants on foot, called *chulos*, come to divert the bull's attention, and to provoke him, by shaking before him different pieces of cloth of various colours. It is, however, at their own risk that they thus save the dismounted horseman; for the bull sometimes pursues them, and they have then need for all their agility. They often escape from him by letting fall in his way the piece of stuff which was their only arms, and against which the deceived animal expends all his fury. Sometimes he does not accept this substitute, and the combatant has no other resource but to throw himself speedily over a barrier, six feet high, which incloses the interior part of the arena. In some places this barrier is double, and the intermediate space forms a kind of circular gallery, behind which the pursued torreadore is in safety. But when the barrier is single, the bull attempts to jump over it, and often succeeds. The reader may easily imagine in what consternation the nearest of the spectators then are; their haste to get out of the way, and to crowd to the upper benches, becomes often more fatal to them than even the fury of the bull, who, stumbling at every step, on account of the narrowness of the place and the inequality of the ground, thinks rather of his own safety than of revenge, and besides soon falls under the blows which are given him from all quarters. Bull.

Except in such cases, which are very rare, he immediately returns. His adversary recovered, has had time to get up; he immediately remounts his horse, provided the latter is not killed or rendered unfit for service, and the attack commences; but he is often obliged to change his horse several times. Expressions cannot then be found to celebrate these acts of prowess, which for several days become the favourite topic of conversation. The horses, very affecting models of patience, courage, and docility, may be seen treading under their feet their own bloody entrails, which drop from their sides half torn open, and yet obeying, for some time after, the hand which conducts them to new tortures. Spectators of delicacy are then filled with disgust, which converts their pleasure into pain. A new act is however preparing, which reconciles them to the entertainment. As soon as it is concluded that the bull has been sufficiently tormented by the combatants on horseback, they retire and leave him to be irritated by those on foot. The latter, who are called *banderilleros*, go before the animal; and the moment he darts upon them they plunge into his neck, two by two, a kind of darts called *banderillas*, the points of which are hooked, and which are ornamented with small streamers made of coloured paper. The fury of the bull is now redoubled; he roars, tosses his head, and the vain efforts which he makes serve only to increase

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the dogs into the air, who fall down
sometimes mangled; they however reco
combat, and generally finish by overcon

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Bull. of his parishioners, in consideration of his having tithes of calves and pigs, &c.

Bull-Frog. See RANA, ERPETOLOGY *Index.*

Bull-Head, or *Miller's Thumb.* See COTTUS, ICHTHYOLOGY *Index.*

BULL, among ecclesiastics, a written letter dispatched, by order of the pope, from the Roman chancery; and sealed with lead, being written on parchment, by which it is partly distinguished from a brief; see the article BRIEF.—It is a kind of apostolical rescript, or edict; and is chiefly in use in matters of justice or grace. If the former be the intention of the bull, the lead is hung by a hempen cord; if the latter, by a silken thread. It is this pendent lead, or seal, which is, properly speaking, the bull, and which is impressed on one side with the heads of St Peter and St Paul, and on the other with the name of the pope and the year of his pontificate. The bull is written in an old, round, Gothic letter, and is divided into five parts, the narrative of the fact, the conception, the clause, the date, and the salutation, in which the pope styles himself *servus servorum*, i. e. the servant of servants. These instruments, besides the lead hanging to them, have a cross, with some texts of scripture, or religious motto, about it. Bulls are granted for the consecration of bishops, the promotion to benefices, and the celebration of jubilees, &c.

Bull in Cœna Domini, a particular bull read every year, on the day of the Lord's supper or Maundy Thursday, in the pope's presence, containing excommunications and anathemas against heretics, and all who disturb or oppose the jurisdiction of the holy see. After the reading of the bull, the pope throws a burning torch in the public place, to denote the thunder of this anathema.

Golden Bull, an edict, or imperial constitution, made by the emperor Charles IV. reputed to be the magna charta, or the fundamental law of the German empire.

It is called *golden*, because it has a golden seal, in the form of a pope's bull, tied with yellow and red cords of silk: upon one side is the emperor represented sitting on his throne, and on the other the capitol of Rome. It is also called *Caroline*, on Charles IV.'s account. Till the publication of the golden bull, the form and ceremony of the election of an emperor were dubious and undetermined, and the number of the electors not fixed. This solemn edict regulated the functions, rights, privileges, and pre-eminences of the electors. The original, which is in Latin, on vellum, is preserved at Francfort: this ordonnance, containing 30 articles or chapters, was approved of by all the princes of the empire, and remains still in force.

Silver Bulls were not in so frequent use; though we do not want instances of them.

Leaden Bulls were sent by the emperors of Constantinople to despots, patriarchs, and princes; and the like were also used by the grandees of the Imperial court, as well as by the kings of France, Sicily, &c. and by bishops, patriarchs, and popes. It is to be observed, that the leaden bulls of these last had, on one side, the name of the pope or bishop inscribed. Polydore Virgil makes Pope Stephen III. the first who used leaden bulls, about the year 772. But others find instances of them as early as Silvester, Leo I. and Gregory the great. The latter popes, besides their own names, strike the figures of St Peter and St Paul on their bulls, a practice first introduced by Pope Paschal II. But why, in these bulls, the figure of St Paul is on the right, and that of St Peter on the left side, is a question, which has occasioned many conjectures and disputes. Bull ‖ Bullæ.

Waxen Bulls are said to have been first brought into England by the Normans. They were in frequent use among the Greek emperors, who thus sealed letters to their wives, mothers, and sons. Of these there were two sorts, one red, and the other green.

BULLA, or DIPPER, in *Conchology*; a genus belonging to the order of vermes testacea. It is an animal of the snail kind: the shell consists of one valve, convoluted, and without any prickles; the aperture is narrowish, oblong, longitudinal, and entire at the base; the columella is smooth and oblique. There are 23 species; four of them found in the British seas; the rest chiefly natives of the Asiatic and Atlantic oceans. See CONCHOLOGY *Index.*

BULLÆ, in antiquity, a kind of ornaments much in use among the ancient Romans. Mr Whittaker* is of opinion that they were originally formed of leather among all ranks of people; and it is certain that they continued so to the last among the commonalty. He also imagines, that at first the bulla was intended as an amulet rather than an ornament; as a proof of which he tells us that the bullæ were frequently impressed with the figure of the sexual parts. It is universally asserted by the critics, that the bullæ were made hollow for the reception of an amulet; but this Mr Whittaker contradicts from the figure of a golden one lately found at Manchester, which had no aperture whereby an amulet could have been introduced.—Pliny refers the original of the bulla to the elder Tarquin, who gave one with the pretexta to his son, because at the age of 14 he had with his own hand killed an enemy; and in imitation of him it was afterwards assumed by other patricians. Others affirm that the bulla was given by that king to the sons of all the patricians who had borne civil offices. Lastly, others allege, that Romulus first introduced the bulla, and gave it to Tullus Hostilius, the first child born of the rape of the Sabines.—As to the form of the bullæ, Mr Whittaker informs us that they were originally made in the shape of hearts; but they did not always retain the form of a heart, any more than they were always made of leather. As the wealth of the state and the riches of individuals increased, the young patrician distinguished himself by a bulla of gold, while the common people wore the amulet of their ancestors. The figure of the heart then became so generally round, some even having the impression of an heart upon them, that there are not many of the original form to be found in the cabinets of the curious. The form is naturally varied from a complete circle to that of a segment; and this was the shape of the above-mentioned bulla found at Manchester. When the youth arrived at 15 years of age, they hung up their bullæ about the necks of their gods lares. We are further informed, that the bullæ were not only hung about the necks of young men, but of horses also. We may add, that bullæ were sometimes allowed to statues; whence the phrase *statuæ bullatæ*.

* *History of Manchester* vol. i. p. 79.

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Bull. of his parishioners, in consideration of calves and pigs, &c.

Bull-Frog. See RANA, ERPET

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Silver and gold, whether coined or uncoined (though used for a common measure of other things), are no less a commodity than wine, tobacco, or cloth; and may, in many cases, be exported as much to the national advantage as any other commodity.

BULLOCK, the same with an ox, or gelded bull. See Bos, MAMALLIA *Index*.

BULTER, a term used to denote the refuse of meal after dressing, or the cloth wherein it is dressed, otherwise called the *bulter-cloth*.

BULWARK, in the ancient fortification. See RAMPART.

BUMICILLI, a religious sect of Mahometans in Egypt and Barbary, who pretend to fight with devils, and commonly appear in a fright and covered with wounds and bruises. About the full moon they counterfeit a combat in the presence of all the people, which lasts for two or three hours, and is performed with assagaias or javelins, till they fall down quite spent.

BUNDLE, a collection of things wrapped up together. Of baste-ropes, harness-plates, and glovers knives, ten make a bundle; of Hamburgh yarn, 20 skeans; of basket-rods, three feet the band.

BUNDLECUND, a province in Hindostan. See SUPPLEMENT.

BUNEL, PETER, a native of Thoulouse, was one of the most elegant writers of the Latin tongue in the 16th century, but was still more conspicuous for the regularity of his manners. He did not seek either for riches or lucrative employments; but, contented with the bare necessaries of life, applied himself wholly to the improvement of his mind. He died at Turin in 1547, aged 47; and has left behind him some Latin epistles, which are written with the utmost purity. The magistrates of Thoulouse have a bust of him in marble, placed in their town-house. The most correct edition of his Letters is that of Henry Stephens in 1581.

BUNGAY, a market town of Suffolk, situated on the river Wavenny, about 32 miles north-east of Bury. E. Long. 1. 35. N. Lat. 52. 35.

BUNIAS, in *Botany*, a genus of the 39th natural order, *Siliquosæ*, belonging to the tetradynamia class of plants, for which there is no English name. The silicula is deciduous, four-sided, muricated, or shagreened with unequal pointed angles. There are eight species; all of them annual plants, but none of them possessed of any remarkable property.

BUNIUM, *Pig-nut*, or *Earth-nut*. See BOTANY *Index*.

BUNT *of a* SAIL, the middle part of it, formed designedly into a bag or cavity, that the sail may gather more wind. It is used mostly in topsails, because the courses are generally cut square, or with but small allowance for bunt or compass. The bunt holds much leeward wind; that is, it hangs much to leeward.

BUNT-Lines, are small lines made fast to the bottom of the sails, in the middle part of the bolt-rope, to a cringle, and are so reeved through a small block, seized to the yard. Their use is to trice up the bunt of the sail, for the better furling it up.

BUNTING. See EMBERIZA, ORNITHOLOGY *Index*.

BUNTINGFORD, a town of Hertfordshire, with a market on Mondays, and two fairs, on June 29th, and November 30th, for pedlars wares. It is a good thoroughfare town, distant 31 miles north from London. W. Long. 0. 6. N. Lat. 51. 55.

Bunting-
ford
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Buoys.

BUNTZEL, or BUNTZLAU, a town of Silesia, in the duchy of Jauer. The greatest part of the houses are built with stone, and there were formerly rich mines in the neighbourhood. It is in the common road to Leipsic; and the trade is in earthen ware, of which great quantities are made. E. Long. 15. 50. N. Lat. 51. 12.

BUNYAN, JOHN, author of the Pilgrim's Progress, was born at Elstow, near Bedford, in 1628. He was the son of a tinker; and, in the early part of his life, was a great reprobate, and a soldier in the parliament army: but being at length deeply struck with a sense of his guilt, he laid aside his profligate courses, became remarkable for his sobriety, and applied himself to obtain some degree of learning. About the year 1655, he was admitted a member of a Baptist congregation at Bedford, and was soon after chosen their preacher: but, in 1660, being taken up, and tried for presuming to preach, he was cruelly sentenced to perpetual banishment; and in the mean time committed to jail, where necessity obliged him to learn to make long-tagged thread-laces for his support: to add to his distress, he had a wife and several children, among whom was a daughter who was blind. In this unjust and cruel confinement he was detained twelve years and a half, and during that time wrote many of his tracts; but he was at length discharged by the humane interposition of Dr Barlow. When King James's declaration for liberty of conscience was published, he was chosen pastor of a congregation at Bedford. He at length died of a fever at London, on the 31st of August 1688, aged 60. He also wrote an allegory, called The Holy War. His Pilgrim's Progress has been translated into most European languages; and his works have been collected together, and printed in two volumes folio.

BUONACARSI, or PIERINO DEL VAGA. See PIERINO.

BUOY, in sea affairs, a sort of close cask, or block of wood, fastened by a rope to the anchor, to determine the place where the anchor is situated, that the ship may not come too near it, to entangle her cable about the stock or the flukes of it.

BUOYS are of various kinds; as,

Can-Buoys: these are in the form of a cone; and of this construction are all the buoys which are floated over dangerous banks and shallows, as a warning to passing ships, that they may avoid them. They are extremely large that they may be seen at a distance; and are fastened by strong chains to the anchors which are sunk for this purpose at such places.

Nun-Buoys are shaped like the middle frustum of two cones, abutting upon one common base, being casks which are large in the middle, and tapering nearly to a point at each end.

Wooden-Buoys are solid pieces of timber, sometimes in the shape of a cylinder, and sometimes in that of a nun-buoy; they are furnished with one or two holes, in which to fix a short piece of rope, whose two ends, being spliced together, make a sort of circle or ring, called the *strop*.

Cable-Buoys, are common casks employed to buoy up the cables in different places from rocky ground. In

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phalia, and bishopric of Paderborn. the river Alme, five miles south of Long. 8. 25. N. Lat. 61. 35.

BURFORD, a town of Oxfordshir ascent on the river Windrush, is a l chiefly noted for the making of saddl near it, noted for horse-races, are of to the town. *Burford* is an earldom St Albans. *It is* 23 miles west-north-w and 85 west of London. Population W. *Long.* 1. 43. N. Lat. 51. 40.

BURG, BURGH, or DUN, in north See DUN.

BURG, a town of Lincolnshire, seate miles south-east of Boston. Populatic E. Long. 0. 5. N. Lat. 53. 12.

BURG, a town of the Dutch Neth phen, seated on the Old Issel, 18 mil guen. E. Long. 6. 12. N. Lat. 52. c

BURG-Castle, or *Borough-castle*, edge of the county of Suffolk, thr Yarmouth, where the rivers Yare a It was formerly a delightful place; t ruins of its walls remain, near which often dug up.

BURGAGE, or *Tenure* in *BURG* king, or other person, is lord of an in which the tenements are held by a is indeed only a kind of town soccage cage*, by which other lands are hol a rural nature. A borough is disting towns by the *right of sending membe* and where *the right of election is by* that alone is a proof of the antiquity Tenure in burgage, therefore, or bu where houses, or lands which were for houses in an ancient borough, are hel common soccage, by a certain establi they seem to have withstood the shock encroachments, principally on account ficancy, which made it not worth whil to an alteration of tenure, as 100 of th would scarce have amounted to a knigh the owners of them, being chiefly artifi engaged in trade, could not with any to be put on such a military establishment chivalry was. The free soccage, the these tenements are held, seems to be p of Saxon liberty; which may also acco variety of customs affecting many of th held in ancient burgage; the princip markable of which is that called *Borou* the article *BOROUGH-English*.

* See *Soccage*.

BURGAU, in *Natural History*, the species of sea-snail, of the lunar or round It is very beautifully lined with a coat, of the mother-of-pearl; and the artif out, to use under the name of mother-o some call it, after the name of the she from, *burgaudine*.

BURGAUDINE, the name given b artificers to what we call mother-of-pe works, they do not use the common nacre but the lining of the American burgau.

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Burglary & Burgos.

ous, though there was no actual breaking: for the law will not suffer itself to be trifled with by such evasions, especially under the cloak of legal process. As for the *entry*, any the least degree of it, with any part of the body, or with an instrument held in the hand, is sufficient: as, to step over the threshold, to put a hand or hook in at a window to draw out goods, or a pistol to demand one's money, are all of them burglarious entries. The entry may be before the breaking, as well as after; for by statute 12 Anne, c. 7. if a person enters into the dwelling-house of another, without breaking in, either by day or by night, with an intent to commit felony, or, being in such house, shall commit any felony; and shall in the night break out of the same; this is declared to be burglary.

4. As to the *intent*; it is clear that such breaking and entry must be with a felonious intent, otherwise it is only a trespass. And it is the same, whether such intention be actually carried into execution, or only demonstrated by some attempt or overt act, of which the jury is to judge.

Burglary is a felony at common law, but within the benefit of clergy. Burglary in any house belonging to the plate-glass company, with intent to steal the stock or utensils, is by statute 13 Geo. III. c. 3. declared to be single felony, and punished with transportation seven years.

BURGOMASTER, BURGHERMASTER, *Bourgermester*, or *Burgmester*, the chief magistrate of the great towns in Flanders, Holland, and Germany. The power and jurisdiction of the burgomaster are not the same in all places, every town having its particular customs and regulations: at Amsterdam there are four chosen by the voices of all those people in the senate who have either been burgomasters or echevins. They dispose of all under offices that fall in their time, keep the key of the bank, and enjoy a salary but of 500 guilders; all feasts, public entertainments, &c. being defrayed out of the common treasury. The word is formed from the two Flemish words, *borger*, *burgess*, or *citizen*; and *mester*, *master*. Some express it in Latin by *consul*, others by *senator*.—Mr Brenau observes, that *burghermaster* in Holland, answers to what is called *alderman* and *sheriff* in England, *attorney* at Compeigne, *capitoul* at Thoulouse, *consul* in Languedoc, &c.

BURGOO, or BURGOUT, a sea-faring dish, made of whole oatmeal, or groats, boiled in water till they burst; then mixed with butter. It is a cheap and strengthening diet. Burgoo, otherwise called *loblolly*, is held by Cockburn very proper to correct that thickness of humours and costiveness to which the other diet of sailors much disposes them. Yet the burgoo victualling is the least liked of all their provisions, because of the scanty allowance of butter to it. The same author thinks it might be worth the consideration of those to whom the care of the seamen is committed, to contrive to render this food more agreeable to them.

BURGOS, a city of Spain, the capital of Old Castile, with an archbishop's see, erected in 1574. It is surrounded with mountains, which render the air very cold nine months in the year, and the other three excessively hot. It is seated on the declivity of a hill, on the top of which there is a strong castle, and the lower part of the town is watered by the river Alançon. The principal avenue to the city is by a handsome bridge over this river, which leads to a beautiful gate, adorned with the statues of several kings of Spain. The town is large and populous; but the houses are ill built, and the streets are narrow and dirty, except some few, especially that which leads to the cathedral. There are several squares adorned with fountains and statues. The great square in the middle of the city is surrounded with fine houses, with piazzas to each. The cathedral church is a masterpiece of Gothic architecture, and one of the finest in all Spain. The church of the Augustines is remarkable for its beautiful and rich chapel of the holy crucifix. There are several fine convents and nunneries; one of which last contains 150 nuns, who must all be of noble extraction. They have likewise a royal hospital, very richly endowed; and at this place they speak the best Castilian, that is, the purest Spanish, in the kingdom. W. Long. 4. 7. N. Lat. 42. 20.

Burgos & Burial.

BURGUNDIONES, a part or branch of the Vindili or Wandili. Cluverius places them about the Warta, a river of Poland: though the conjectures on the seat of these people are doubtful; and no wonder, because the Roman expeditions terminated at the Elbe. They afterwards removed to the Cisalbin Germany, and at length to Celtic Gaul, and gave name to the duchy and county of Burgundy.

BURGUNDY, a late province or government of France, which now forms the three departments, of Cote d'Or, Saone and Loire, and Yonne. It contains, besides the government of Burgundy, La Bresse, La Bugey, and the district of Gex; having Champagne on the north, Lyonnois on the south, Franche Compte on the east, and Nivernois and Bourbonnois on the west. Its length from north to south is about 45 leagues, and its breadth from east to west about 30. It is very fertile in corn, wine, fruit, and tobacco; being watered by the Seine, the Dehune, which falls into the Saone, the Brebince or Bourbince, the Armançon, the Ouche, and the Tille. There are some noted mineral springs in it, with subterraneous lakes, and plenty of ochre. For a long time it had dukes of its own, subordinate to the crown of France; but at last, Louis XI. upon the failure of the heirs male, seized upon it, and annexed it to his crown. The principal places are Dijon, Auxerre, Autun, Bourbon l'Ancy, &c.

BURIAL, the interment of a deceased person.

The rites of burial are looked upon in all countries, and at all times, as a debt so sacred, that such as neglected to discharge it were thought accursed: hence the Romans called them *justa*, and the Greeks ἐντομα, δικαια, ὁσια, words implying the inviolable obligation which nature has laid upon the living to take care of the obsequies of the dead. Nor are we to wonder that the ancient Greeks and Romans were extremely solicitous about the interment of their deceased friends, since they were strongly persuaded that their souls could not be admitted into the Elysian fields till their bodies were committed to the earth; and if it happened that they never obtained the rites of burial, they were excluded from the happy mansions for the term of 100 years. For this reason it was considered as a duty

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Burglary

Burgoo.

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who have either been burgomasters o
dispose of all under offices that fall i
the key of the bank, and enjoy a
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surrounded with mountains, which re
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DIRECTIONS FOR PLACING THE PLATES OF VOL. IV.

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