und zum Flexner-Jobling-Tumor erscheint der Gehalt des Ascitestumors an Diphosphopyridinnucleotid sehr hoch.

Einzelheiten über die Reihenfolge der isolierten Verbindungen sind aus der Fig. 1 ersichtlich.

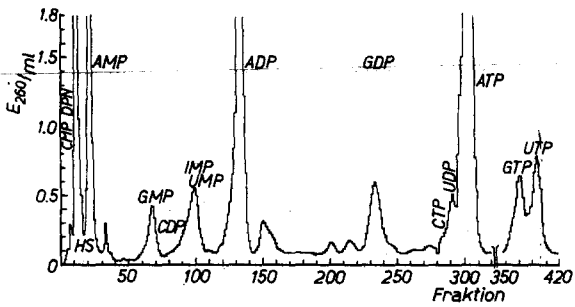

Fig. 1. Als Ordinate ist die UV-Absorption bei 260 mμ (d = 10 mm) der auf der Abszissenachse aufgetragenen Fraktionen angegeben. Die Fraktionen wurden mittels eines automatischen Fraktionssammlers getrennt. Jede Fraktion hatte ein Volumen von 4 ml. Die Fraktionen wurden mit langsam ansteigenden Konzentrationen von 0 → 4 N HCOOH (1–140) und von 4 N HCOOH → 4 N HCOOH + 1 N $HCOONH_4$ (141 bis Schluss) eluiert. Folgende Abkürzungen wurden verwandt: MP Monophosphat; DP Diphosphat; TP Triphosphat; A Adenosin; G Guanosin; C Cytidin; U Uridin; I Inosin; DPN Diphosphopyridinnucleotid. Die den Masstab überschreitenden Extinktionswerte einzelner Fraktionen waren: DPN: 1.9, 4.05, 2.68; AMP: 4.16, 5.77, 2.19; ADP: 2.06, 2.70, 3.07, 2.83, 2.07; ATP: 1.89, 2.22, 2.60, 2.70, 2.80, 2.60, 2.40, 1.935.

Dem Anna Fuller-Fund sowie der Deutschen Forschungsgemeinschaft sei für die Ermöglichung der Untersuchungen ergebenst gedankt.

LITERATUR

1 R. B. HURLBERT, *Fed. Proc.*, 11 (1952) 234.
2 R. B. HURLBERT, *ibid.*, 12 (1953) 222.
3 H. SCHMITZ, V. R. POTTER UND R. B. HURLBERT, *Proc. Amer. Assoc. Cancer Res.*, 1 (1953) 47.
4 H. SCHMITZ, V. R. POTTER, R. B. HURLBERT UND D. M. WHITE, *Cancer Res.*, 14 (1954) 66.
5 E. E. B. SMITH UND G. T. MILLS, *Biochim. Biophys. Acta*, 13 (1954) 386.
6 R. B. HURLBERT UND V. R. POTTER, *J. biol. Chem.*, im Druck.
7 H. SCHMITZ, *Naturwissenschaften*, 41 (1954) 120.
8 R. BERGKVIST UND A. DEUTSCH, *Acta Chem. Scand.*, 7 (1953) 1307.
9 R. B. HURLBERT, H. SCHMITZ, A. BRUMM UND V. R. POTTER, *J. biol. Chem.*, im Druck.
10 H. SCHMITZ, R. B. HURLBERT UND V. R. POTTER, *J. biol. Chem.*, im Druck.

Eingegangen am 14. März 1954

BOOK REVIEWS

General Chemistry. An Introduction to Descriptive Chemistry and Modern Chemical Theory, by LINUS PAULING. Sec. Edition, W. H. Freeman and Comp., San Francisco 1953, 710 pp., 193 figs. + 2 color plates, price $ 6.00.

In recent times no other single book has exerted a greater influence on the conceptions of chemists than *The Nature of the Chemical Bond* by L. PAULING. The book *General Chemistry* by the same author provides an introduction to modern chemistry in the form of a textbook, suitable for first year college students who will major in chemistry, or others with a special interest in chemistry; no previous knowledge of chemistry is assumed.

Under European conditions it is not necessary to make provisions for students who have no previous knowledge of chemistry. Here this textbook will be eminently suited for students entering the Faculties of Science and of Medicine as an intermediate between the textbooks used at schools and the teaching at the University. Though much of the factual information will already be known to them, the new contents will provide them with a suitable background for the adaptation of the conceptions of modern chemistry.

There is no doubt that *General Chemistry*, just as the book by the same author *College Chemistry*, a still more restricted introductory text, has already, and no doubt will continue to exert an important influence on the teaching of chemistry at the pre-university level.

The general outline of the contents does not deviate so very much from other books of the same kind; the difference lies in the trend and in the stressing everywhere of the relation between chemical and physical properties and molecular and atomic structure.

After 11 introductory chapters on atomic structure, the periodic law, molecular and electronic structure and valence, systematic descriptive inorganic chemistry are treated from p. 264–568 intermingled with chapters on the main subjects of physical chemistry. Organic and biochemistry are treated in chapters 28 and 29 whereas the last chapters are devoted to the chemistry of silicon, thermochemistry and oxidation-reduction equilibria with a concluding chapter on nuclear chemistry. Each chapter contains an ample number of well chosen exercises, which form an essential supplement to the text.

The author has certainly succeeded in writing an eminently well equilibrated modern elementary textbook of chemistry. The already well-known illustrations with a more personal artistic touch than the usual line drawings certainly add to the intellectual delight which the study of this book will no doubt provide to students and teachers alike, as it has done so to the reviewer.

J. A. A. KETELAAR (Amsterdam)

Advances in Virus Research. Vol. 1. Editors M. A. LAUFFER and K. M. SMITH. Academic Press, New York 1953, 362 pp., 28 illus., $ 8.00.

As each new review journal is established we ask three questions: Is it necessary? Is it well organised? Does it cover a reasonably well defined field?

Hitherto viruses have been dealt with in journals primarily concerned with biochemistry, microbiology, proteins, enzymes or plant physiology. No doubt they will still get passing reference there but the scale and scope of *Advances in Virus Research* shows that a new coordinating point is now needed. To the first question the answer is therefore; Yes.

To the second question the answer is, unfortunately: No. Many of the articles contain pieces of such muddled English that there is no reason to think the volume has been edited and there are so many typographical mistakes that it is difficult to believe that it has even been proof-read. Furthermore, the articles have clearly been written with quite different objects. The first, by EPSTEIN, is a superficial account of the non-lysogenic bacterial viruses. This article is matched by the brisk canter that SHARP takes round the animal viruses: if he had allowed himself three more pages he could have tucked the plant viruses in too! At the other extreme lies HENLE's masterly account of the influenza viruses; it runs to 86 pages and is a good factual monograph rather than a review. The remaining five are more conventional. Three are almost completely biological; BENNETT on virus interactions, MELNICK on poliomyelitis and BLACK on insect transmission of plant viruses. The last is of especial interest because the multiplication of some viruses in both insects and plants had seemed improbable but is now generally accepted. BERGOLD discusses the insect viruses and concludes with an attempt to popularise a Linnean style binomial nomenclature for them. The time does not yet seem to be ripe for the setting up of a system of nomenclature that implies, as this does, a general classification, for we do not yet know enough properties, intrinsic to the virus, to base an effective classification on. Finally MARKHAM discusses virus nucleic acids; this may seem at first sight too chemical a theme for this review but he confines himself mainly to those aspects of nucleic acid separation and chemistry that could have an immediate effect on the separation and identification of viruses.

The answer to the third question is therefore: Yes. And we wish the new review Journal well but hope the Editors will establish a firmer grip on it.

N. W. PIRIE (Harpenden)

RECTIFICATION

Crystalline Catalase from Rat Liver

Drs. V. KENNEDY, LLOYD H. NEWMAN AND F. FRIEDBERG feel obliged to report that their note, entitled "A Convenient Method for Preparing Crystalline Catalase from Rat Liver", which has appeared in this journal, Vol. 12 (1953) 487, is erroneous.

The crystalline material obtained is hemoglobin and not catalase, as activity studies indicate.