other textbooks. A clear example of this is for instance the way in which disease symptoms and movement of viruses through the hosts are presented in relationship to the growth patterns of mono- or dicotelydons. Another good example can be found in the chapter on transmission of virus by insects, were the feeding behaviour and the relevant anatomy of the insects are clearly described.

Compared with the previous edition the main differences are found in the chapters dealing with virus architecture, organization and expression of plant virus genomes and replication of viruses in protoplasts. In all these fields progress has been rapid and an enormous amount of data has appeared in the last 10 years. Presentation of too much details might have led to confusion of the reader. Matthews has succeeded in presenting a coherent general picture together with enough details on the different virus groups to avoid overgeneralization.

This book reflects the profound knowledge of plant virology acquired by Matthews during his more than 30 years research in this field. It represents an unique fusion between the older knowledge of phytopathology with the more recent understanding of the molecular biology of plant viruses.

The only disadvantage about this book is its price. For a well-illustrated book of this size, the price is not unreasonable. However, one has to realise that this is not a book for just reading once and putting it back on the shelf in the library, it is a book that people will want to keep close at hand. Therefore a cheap student edition is urgently needed. It is to be hoped that the publisher will produce this as soon as possible so that more people can profit from this excellent book.

L. van Vloten-Doting

Handbook of Enzyme Inhibitors (1965–1977)

by M.K. Jain

John Wiley & Sons; New York, 1982
ix + 447 pages. £73.50

The title of this book is almost (but not quite) self-explanatory. It contains information gleaned from over 6000 pages published in about 30 journals during the relevant years. The first 380 pages contain an alphabetical list of inhibitors followed by the enzyme being inhibited and its source, the type of inhibition observed (e.g., competitive), the inhibition constant, the reference (all authors but only first page given) and sometimes a short comment (up to three lines). The next 65 pages contain an alphabetical list of enzymes and the names of the ligands to be found in Part I, which inhibit them.

It is a staggering achievement for one person to have compiled such a list. There are, however, several questions one could ask: (1) Has it been done well, which really means is it comprehensive and easy to use? (2) What use is it? (3) Is it worth £73.50?

As far as I can tell the answer to both parts of (1) is yes. For example, there are 13 examples of RNA polymerase inhibition by alpha-amanitin; clofibrate has 17 references including bile acid output, cholesterol synthesis, fatty acid synthesis, HMG CoA reductase, lipid synthesis, sterol synthesis and triglyceride levels; prostaglandins have over 50 references. While the total number of papers using these as inhibitors for a particular metabolic investigation may be 10 or 100 times these numbers, the papers listed are these which discuss the interaction from an enzymological standpoint. The two alphabetical lists are very straightforward to consult.

The question of what use is it is a little more dif-

ficult to answer. The author (compiler?) points out in his preface that not *all* the information is available through abstracting and indexing services. For example, his occasional two or three lines of comment will often enable a decision on whether a particular paper is relevant or not to be taken, where a title alone might not suffice. Since, however, most of the journals used are readily available, this is likely to save only minutes at mosst.

Many potential readers are likely to have more limited horizons than the 2000 or so enzymes index here, although it may occasionally be useful for someone about to use, say, citrate or imidazole buffer for the first time to check that it is not already known to inhibit the enzyme of interest.

It will not take much sensitivity to realise that I am working towards no as an answer to the third question. I do not think that even libraries will be able to afford this book. Surely 16 pence per page is extravagant. Is there really no technology available for reproducing (and distributing) such printed matter more cheaply? A book like this gains almost nothing from the luxury of typesetting and photographic reproduction from the original typescript would (presumably) prevent words like 'nurospora' and 'chciken' appearing.

Alan D.B. Malcolm

Flavour '81

3rd Weurman Symposium. Proceedings of the International Conference, Munich, April 28–30, 1981

Edited by P. Schreier

Walter de Gruyter; Berlin, New York, 1981
xiv + 780 pages. DM 198.00 (approx. £50)

The consumer recognises essentially only three qualities in his food – appearance, texture and flavour. The enormous importance of the flavour of foods in our diet is self-evident – one may possibly overeat an especially attractive food, undereat when it is unattractive and flavour is often the main factor controlling which particular brand of food is purchased. Hence the great interest by food scientists and food manufacturers in flavour.

The situation can be put another way – some 2000 substances, both extracts of foodstuffs and synthetic materials are currently used to flavour foods.

This book is devoted to methodology as exemplified by the section headings – Sensory Methodology, Application of Sensory Methods, Instrumental Analysis, Formation of Flavour, and Molecular Aspects.

Since more than 50 papers were presented they cannot be reviewed individually but some aspects will supply an insight into the type of research in progress.

Apart from the more obvious investigations of the ingredients of desirable natural flavours and the more difficult problem of ascertaining the relative contributions made by the various compounds present, there is the possibility of mimicking 'nature' (if processes such as baking may be included in that description) as illustrated by the chapter entitled 'Formation of flavour components from proline and hydroxyproline with glucose and maltose'.

Another approach is exemplified by 'Possibilities of biotechnological production of aroma substances by plant tissue cultures' and 'Microbial formation of flavours'.

The other side of the picture is the development