

Although most chapters are authoritative statements on the state of the field at the time of publication, a few are not as current as would be desired. Of these, some would be difficult to keep up-to-date since they contain areas which are progressing rapidly. In particular, the generally excellent chapter by Parkhouse on Ig biosynthesis will need constant and significant revisions especially in the sections on cell surface Ig and on hybrid cells. It may well be necessary in the next edition to devote an entire chapter to hybridomas, their development and cellular biology. A chapter on the structure of Ig genes would also seem a necessary and valuable addition which would complement Dr Williamson's carefully constructed chapter on the Origin of Diversity.

Although the book is thoughtfully constructed and edited, and progresses systematically throughout immunochemistry, it is unclear why chapters on collagen and amyloid are included. These are excellent chapters but seem out of place in this text. On the

other hand, if included, perhaps they should be part of a larger section on the immunochemistry of other interesting molecules. The format of the text also leads to the problem that some chapters repeat, or review in detail, information presented in other chapters. This could be remedied by tighter editing and, hopefully, will not be a major problem in the next edition.

In summary this is an excellent text which should be useful to advanced students in immunology and as a reference of the current concepts in immunochemistry. Because of its scope, completeness and the authoritative nature of the individual contributions, this book should become the standard advanced text in immunochemistry, the only conditions being that frequent revisions occur to maintain its immediacy in the more rapidly developing areas, and that the editing eliminate the unnecessary overlap among chapters.

M. W. Fanger

Biochemical Thermodynamics

Studies in Modern Thermodynamics: Volume 1

Edited by M. N. Jones

Elsevier; Amsterdam, New York, 1979

xii + 390 pages. \$73.25, Dfl 165.00

To those who believe that thermodynamic analyses underpin any proper understanding of biochemical phenomena, this volume will come as a godsend. The book contains 11 chapters contributed by internationally recognised experts in the field, each of whom has presented a review of the types of information available, the pitfalls in obtaining it, and the principles underlying its interpretation, with the underlying theme that the interactions between different molecules involved in biochemical systems should and may be expressed quantitatively and rigorously.

Following a brief overview by the editor, topics covered are model studies of the aqueous interactions of low-molecular weight species (F. Franks), confor-

mational changes in proteins, (W. Pfeil and P. L. Privalov), conformational changes in nucleic acids (H.-J. Hinz), thermodynamics of aqueous polysaccharide solutions (D. S. Reid), thermal behaviour of lipid systems and biological membranes (M. N. Jones), ligand binding of gasses to haemoglobin (S. J. Gill), calorimetric studies on blood cells (M. Monti and I. Wadsö), thermochemical studies on bacterial and mammalian cells (G. C. Kresheck), energetics of muscular contraction (A. G. Lowe) and thermodynamics and metabolism (B. Crabtree and D. J. Taylor). The editor is to be congratulated, since, despite the wide variety of topics, there is little overlap, yet, the presentation is integrated and cohesive. If any criticism

is to be made of the balance of the book it might be that there is slight over-emphasis on microcalorimetric studies. One must also regret the use of publication from camera-ready manuscripts, which does nothing to enhance the book's format. Notwithstanding, the articles, which are of a uniformly high standard, have been written in a fashion that will be more than readable for the senior undergraduate and postgraduate audience at which the book is aimed. Especially the

chapters by Franks, by Pfeil and Privalov and by Crabtree and Taylor should be required reading for all biochemists, and the reviewer has no hesitation in recommending this volume for the biochemical library, where it will be an invaluable reference work. The price, however, will keep it out of the hands of the individual purchaser.

Douglas B. Kell

Applications of High Performance Liquid Chromatography

by A. Pryde and M. T. Gilbert

Chapman and Hall; London/John Wiley and Sons; New York, 1979

viii + 256 pages. £10.50

High pressure liquid chromatography (HPLC) is the latest technique to be added to the chromatographer's armamentarium. It has developed and is still developing extremely rapidly as shown by the increasing number of papers published, the wide variety of apparatus, column packing materials and detectors now available and the increasing number of new manufacturers and companies devoted solely to this technique. It is, therefore, not surprising that a book devoted to applications rather than apparatus and techniques should appear and the authors' claim that it is 'opportune to review progress in the applications field'.

The authors appreciate that it is not possible to discuss their main topic without any consideration of the background and so in part I of the book (5 chapters, 53 pages) they discuss very briefly chromatographic parameters, equipment, the practice, and modes of chromatography. The elementary derivation of k' , HETP and peak resolution is clearly set out. However, the discussion of equipment is really of value only to those who want to get a general idea of the apparatus without wishing to use it and I found it particularly annoying to be continuously advised to go elsewhere for fuller information. Under 'modes', all the varying types of chromatography, including ion-pair and soap

chromatography, are satisfactorily defined but these latter techniques are rarely mentioned in the applications although this is probably a reflection of the rate of development in the 18 months which this book has taken to go through the press.

The major part of the book is devoted to applications in pharmaceutical analysis (part II, 54 pages), biochemical analysis (part III, 56 pages), environmental analysis (part IV, 21 pages), miscellaneous (part V, 10 pages) and a number of useful appendices. Each topic is allowed anything from a few lines to two sides of straightforward reporting on one or more separation systems. Most of us specialise these days and whether our field is as 'narrow' as peptides or as broad as clinical biochemistry we can be certain that an extensive review has appeared on the subject within the last year or two or that the manufacturers will supply us with one if we ask for it — and especially if we are thinking of buying their equipment. Hence it is difficult to see to whom one could recommend this book as a good buy as I would much prefer to recommend one of the standard works on the theory and practice of HPLC and to top it up with one or two key topic reviews from the recent literature.

Ivor Smith