BOOKS RECEIVED

Antibiotic interactions

This book is intended for undergraduate medical students but it is also hoped that it will be useful for student microbiologists and MLSOs and those preparing for primary examinations of the Royal Colleges. It perhaps fulfils best the first of these intentions, having too little fundamental microbiology to answer the complete need of undergraduate scientists and trainee scientific officers.

It consists of some 400 MCQs, mostly in the popular “five choice completion” format. It has three major sections, the first on microbial biology and host defences, the second on micro-organisms of medical importance, and the third on microbial diseases and clinical microbiology. The short fourth section gives examples of other types of MCQ. The questions appear to be sound and reasonable in range, and the answers mostly clearly correct. An attractive feature is that the correct answer is accompanied by a brief paragraph of explanation and immediately follows, overleaf, the question. This arrangement makes self-assessment particularly easy, and the book is to be recommended as a revision aid for the student of medical microbiology.

IAN PHILLIPS

Beta-lactamases

The editors of this admirable volume have aimed to please the widest possible audience and, by a wise choice from among the many aspects of research on β-lactamases, have certainly succeeded. Naturally, not all contributions will be of equal interest to the medical microbiologist. Several of the early chapters on the structure and mode of action of these enzymes will probably not excite many non-specialists, but attention to Hamilton-Miller’s historical introduction, and Sykes and Mathews’s chapter on detection, assay and immunology would repay the effort. On the other hand, most of us would benefit from the part of the volume in which the β-lactamases of specific groups of bacteria are discussed, and especially the chapters on organisms important in human disease. These include Staphylococcus aureus, mycobacteria, gram-negative bacilli, Pseudomonas aeruginosa and anaerobes. Inevitably with a subject that maintains undiminished momentum, not all important developments are included and, at the other extreme, the general reader might have been helped by a simple account of the classification of β-lactamases rather than by mere references to publications. In general, however, the subjects included are well balanced, though clearly not intended for the absolute beginner.

The final chapter on the biological function of β-lactamases tries to persuade the reader that “β-lactamases are present in the bacteria not primarily to hydrolyse penicillins, but [that] this function is random and secondary”. Epiphenomenon or not, the role of β-lactamases in resistance is what will interest most medical microbiologists and they will find much in this book to sustain that interest.

IAN PHILLIPS

Topics in antibiotic chemistry

This volume contains two reviews: on the mechanisms of action of nalidixic acid and its
congeners, and on new \( \beta \)-lactam compounds. The first is a clear and succinct survey of recent studies with nalidixic acid. Although this is a structurally simple compound, it is only in the last few years that some understanding has begun to emerge of its mechanism of action at subcellular level. The review is clearly divided into readable sections and there are interesting descriptions of recent studies, especially on the target sites.

The second part comprises an extensive review of new groups of \( \beta \)-lactam antibiotics, including clavulanic acid, 1-oxacephalosporins, carbapenem derivatives, and the nocardicines. The methods of synthesis of each group are covered in considerable detail, accompanied by pages of chemical formulae. There are also sections on structure-activity relationships and mechanisms of action but very little on the microbiological activity of the compounds or their potential use. This section should provide a valuable reference for antibiotic chemists but the strong chemical bias of the information suggests an otherwise limited readership, except possibly as bedtime reading for insomniacs.

**BOOKS RECEIVED**

ROSAMUND WILLIAMS

**Interferon 1979**


This book represents something of a new concept in review writing. It is neither a research journal nor an annual publication to summarise the field comprehensively. Rather, it comprises a collection of papers by six different authors, well known in their particular fields, who present their personal views on specific aspects of research into the biology and clinical potential of the interferons. It is the first of what is intended to become a series of such “state of the art” surveys on interferon. Subsequent volumes are promised at approximately yearly intervals. This approach is highly commendable in that it brings together new material from widely different areas of activity, which will be of interest to virologists, immunologists, biochemists and clinical and experimental oncologists.

The first chapter, by Kari Cantell, poses the question “why is interferon not in clinical use today?” The direct answer to this, in fact, occupies only little over a page but covers many topics of relevance to the question, including large-scale production and purification of interferon, a summary of its pharmacokinetics, and a very useful survey of the accumulating clinical results from treatment of viral and neoplastic diseases.

The possibility that interferon may be useful in a variety of pathological situations arises from the wide range of biological effects that occur as part of the cell’s response to this hormone-like agent. These are summarised in the chapter by William E. Stewart II, a long-time proponent of the many “non-antiviral” actions that interferon has. Two chapters deal with detailed molecular mechanisms by which interferon exerts its effects. Robert M. Friedman considers aspects of the interaction of interferon molecules with cell surfaces and the changes that occur in the plasma membrane. Michel Revel describes the intracellular pathways by which an antiviral state may be established. This article is long (55 pages, excluding references) and very detailed. Some points are rather laboured and the overall message could be hard to discern for non-specialists. However, this chapter contains a most comprehensive and up-to-date (if somewhat personalised) review on these topics and I enjoyed reading it, most of all the contributions. The remaining chapter is on genetic aspects of interferon production and action in the mouse, by Edward De Maeyer and Jacqueline De Maeyer-Guignard; it was marred by excessive use of abbreviations (SDP for strain distribution pattern, RI for recombinant inbred, etc.).

Each chapter has a selection of references to original literature, including some 1979 publications. There are a few errors of printing, probably inevitable in a rapidly produced work of this kind. There is no index.

In summary, the publishers are to be congratulated on the rapid production of a comparatively cheap collection of pertinent reviews. It is to be hoped that other companies will follow this example of eliminating the long delays that usually handicap such ventures and lead to