Pathogenesis and control of viral infections

This book is the published proceedings of the International Symposium on the Pathogenesis and Control of Viral Infections held in Beijing in April, 1989. The Preface states that the book is aimed as a contribution to the widening of scientific research in the field of viral pathogenesis with special attention to the compromised host and to new viruses, but that its novelty lies in the confrontation and exchange of ideas and results from two scientific worlds that have only recently started to collaborate.

A total of 34 papers presented at the above meeting is included, dealing mainly with aspects of the pathogenesis and control of diseases caused by retroviruses, coxsackieviruses, herpesviruses, respiratory viruses and hepadnaviruses. In addition, there are a number of papers concerned solely with the basic immunology underlying viral infections, and there are even two papers on the pathogenesis of bacterial infections. The papers are roughly grouped under four headings, ‘Diseases Related to Retroviruses’, ‘Viral Infections’, ‘Respiratory Diseases’ and ‘Management of Viral Diseases’.

The diversity of topics covered by the papers included in this book, together with the varied approach—sometimes from a basic research aspect, sometimes from an applied clinical standpoint—makes it difficult to see at whom the book is targeted. This is especially so as there is only an occasional review or overview type of paper, and even these are relatively circumscribed. More widely ranging overviews would undoubtedly put the close detail of most of the papers into greater perspective and alleviate, for the relative non-specialist in the various areas covered, the concentrated experimental data that form the bulk of this book.

However, there are several informative review articles, notably the opening paper on human retrovirus molecular biology by Wong-Staal, the paper on the interferon system by Dianzani, Antonelli and Capobianchi and that on Herpes simplex infections in the immunocompromised host by Aurelian. Even these articles though, are concerned with topics in rapidly-moving areas which soon become dated.

The specialist basic researcher or clinical virologist will probably find two or three papers in this book that provide some valuable information relating to their particular research interest, but it is difficult to escape the impression that the book represents a mere platform for the presentation of data which have found, or will find, more appropriate placement in scientific journals. This impression is accentuated by the parochial flavour of the book; 28 of the 34 articles are from laboratories situated in either Italy or the People’s Republic of China. However, the intermingling of scientific thought and ideas from East and West must be lauded and can only be for the common good in the long run.

R. JENNINGS

Understanding antibacterial action and resistance

This is an excellent book: well-structured, clearly written, copiously illustrated and with well-selected references and a good index. The only misprint of any substance that I spotted is that the labelling of the structures of dicloxacillin and flucloxacillin have been transposed (p. 221).

An introductory chapter plunges the reader directly into the intricacies of bacterial cell-wall synthesis, solute transport, intracellular metabolism and spore formation. Thereafter, the chapters are individually devoted to: the properties of therapeutically useful antibacterial agents; antiseptics, disinfectants and preservatives; and sporidal agents. There are then complementary accounts of resistance mechanisms to each of these antimicrobial categories, with a useful final chapter on the impact of bacterial resistance to remind the reader of the importance of the more academic concerns of the book to the real world beyond the laboratory door.

There are some omissions that one might regret. The text tends to dwell on the generalities of microbial biochemistry to the exclusion of practical therapeutics so that, for instance, there are long and lucid accounts of the access of β-lactam antibiotics to the periplasmic space of gram-negative bacteria and of their interaction with penicillin-binding proteins (PBPs), but nothing to tell the reader which antibiotics easily traverse the outer membrane, or which bind with high affinity to the various PBPs. Similarly, there is no discussion of the fascinating phenomena of ‘tolerance’, ‘persistance’ and Eagle’s optimal dosage effect in the section on resistance to β-lactam agents. Finally, although the discussion of antiseptics and disinfectants naturally includes a consideration of antiviral and antifungal activity, the section on systemically-useful agents is narrowly restricted to antibacterial agents.

But these are minor cavils (it is an occupational hazard of book reviewers to criticize the book they wish had been written rather than the one before them!) and none of these criticisms should deter the potential reader from purchasing this admirable book.

D. GREENWOOD