BOOKS RECEIVED

Principles of biochemical tests in diagnostic microbiology

Despite changing trends in diagnostic microbiology, such as the introduction of rapid diagnostic aids, the careful performance of well-tried biochemical tests continues to be of central importance in the identification of medically important bacteria. The professional microbiologist is well provided with laboratory manuals and reference texts. However, as the authors point out, teachers and students of microbiology often find difficulty in obtaining, from a single source, information on the historical background and biochemical principles of diagnostic tests. This little book is intended to provide such a source of information. Although a few chapters are less complete than they might have been, the authors have in the main succeeded in compiling informative and easily readable summaries of 26 commonly used biochemical tests. The chemical mechanisms of some tests are still not fully understood, and we must remember that the bacteriologist is often faced with the problem of having to determine a particular biochemical activity in relatively complex growth media using simple indicator systems. The book will be of value not only to teachers of science students and medical-laboratory technologists but also to medical microbiologists who are daily concerned with maintaining a high degree of reproducibility and sensitivity of the tests that form the basis of diagnostic microbiology.

J. P. ARBUTHNOTT

Lymphocytes and their interactions: recent observations

Formal review articles are difficult to write and are usually difficult to read. There is, nevertheless, a need to provide a general view of different areas in immunology, and this is being met to an increasing extent by convening special symposia and publishing the papers presented. These publications usually take one of two forms. In the commoner form, a series of papers is presented that in due course are published in scientific journals; the main advantage of this is to make information available earlier and to group articles dealing with related topics together. In the rarer form, the articles are a “Cook’s tour” through the literature or a synopsis of a particular group’s approach to research.

Both sorts of articles appear in this book. There is an excellent exposition on the work of Feldmann’s group at University College, London, on the interaction between T cells, B cells and macrophages. They describe their evidence from in-vitro systems that T cells make a distinctive factor which, combined with antigen, adheres to macrophages, and that complexes of the factor with antigen on the surface of the macrophage are the stimulus to B cells to make antibody. There is also a clear description of T suppressor cells and a summary of the evidence that the specific factor made by T cells in their system is an IgM antibody.

A shorter article by Hadden and Johnson summarises the evidence that cyclic GMP and cations determine lymphocyte activation and division, while cyclic AMP has the opposite effect. Other articles deal with a miscellany of topics, many of them clinical, in a briefer fashion. There is a summary of the immunological defects in NZB mice, which are a model for the human disease systemic lupus erythematosus. There are several articles drawing attention to the heterogeneity of T cells and B cells in man, as assessed by markers, and tantalising data about the raised incidence of antibodies to lymphocytes in the relatives and spouses of patients with systemic lupus erythematosus and inflammatory bowel disease.
Publications of the present sort suffer from three disadvantages—first, there is the scatter of topics and the limited amount of information; second, the information rapidly becomes out-of-date, because the data are subsequently published in a more definitive form; and, third, the high cost renders the information relatively inaccessible. Nevertheless, this volume may tempt a clinician with an interest in research to become an immunologist.

G. L. ASHERSON

Tumour virus infections and immunity

This book contains the proceedings of a symposium held in Philadelphia during two days in April 1975. It contains 16 chapters covering a range of topics in the field of tumour-virus interactions with animal cells in vitro and in vivo, but is mainly concerned with the immunological phenomena associated with these interactions. The RNA tumour-viruses and herpes viruses receive most attention, and only one chapter is devoted to a small DNA tumour-virus. In this, Croce deals with the association of SV40 genome with human chromosome 7. An obvious disadvantage of a collection of contributions such as this is that almost all the data will have been published elsewhere before the book appears. Nevertheless, the information is often presented in a more assimilable form and in association with contributions that augment and complement each other. It is a book for the specialist and more particularly the specialist on the immunological aspects of tumour virology. A welcome inclusion, not often encountered in books of this type, is a useful index.

I. A. MACPHERSON

Modern methods in medical microbiology. Systems and trends

Compared with other aspects of pathology, especially chemical pathology and haematology, many of the techniques used routinely in medical microbiology have changed little since the early days of this century. Recently, however, efforts have been made by microbiologists and others in various parts of the world to harness developments in the physical sciences to the needs of microbiology. This has come about partly because of increasing numbers of specimens sent to hospital and public health laboratories and partly because of a growing appreciation of the need for better control and standardisation of routine procedures.

"Modern methods in medical microbiology" is based on the proceedings of a symposium held in November 1974 and sponsored mainly by the Eastern Pennsylvania Branch of the American Society of Microbiology. It has been written essentially for clinical microbiologists and technicians with the object of providing clear practical descriptions of new methods in clinical microbiology, advice on how to evaluate them and how to decide which ones to use in particular circumstances. It is claimed that the book covers major new developments that may contribute to future advances, and that it defines their limitations and comparative advantages. How far these aims have been achieved is a matter of judgement, and judgement is difficult at the present time in such a rapidly developing field. Even so, this book would seem to serve a useful purpose if only to indicate where frontiers are being expanded.

The contributions vary a good deal in quality and especially in their standard of writing. Some of the earlier ones tend to be parochial and antecedental but others are of considerably more general interest and wider relevance.

After an interesting introduction by John C. Sherris which laudably stresses the need to maintain clinical relevance in medical microbiology, the book is divided into four parts. The first deals with the role of regulating agencies in the USA, in particular how the Food and