reduction of mortality from infectious disease and the need to study the optimum use of antimicrobials and to continue research into the host-parasite relationship. The mid-point of the symposium is a very useful round-table discussion on "Antibiotic use in hospital," chaired by Dr E. J. L. Lowbury, and the final round-table discussion is on "Antibiotics in prospective," an interesting look into the future, chaired by Professor O'Grady. These sessions all have an up-to-date and obviously practical approach, not merely to individual therapy but to antibiotic strategy. They emphasise narrow-spectrum therapy and close laboratory-clinical co-operation in tailoring specific therapy for individual infections. This is seen as the best alternative to broad-spectrum therapy, which has probably promoted the spread of resistance in the past.

The individual papers in the Symposium cover wide ranging topics such as "Untoward reactions to antibiotic therapy" and "The use of antibiotics and resistance," and specific problems such as treatment of urinary-tract and respiratory-tract infections, as seen by both clinicians and microbiologists. More specialised subjects, such as neonatal infection, venereal disease and endocarditis after cardiac surgery, are also covered by experts in these fields.

The symposium will be of interest not only to microbiologists, but also to their clinical colleagues and to those who teach the more senior medical students who already have got some insight into modern antibiotic problems and want to know what we propose to do about them.

A. C. Maddocks

Agents of Bacterial Disease

This is intended to be a basic introductory book for medical students and attempts to cover a large field without becoming unwieldy. The test is crisp and concise, but oversimplification results in some ambiguity and omissions. There are many excellent diagrams and line drawings by which the authors intend that learning should be "primarily visual". It is doubtful, however, whether the rather extravagant use of electron micrographs successfully gives a student insight into the nature of bacteria; this approach must have increased production costs considerably.

Modern concepts of bacterial structure and function are adequately conveyed, except that sex fimbriae (pili) are only briefly mentioned alongside common fimbriae; the role of conjugation deserves more emphasis. The systematic coverage of the major groups of pathogenic bacteria is mostly clear and well balanced, although one would hope that the modern medical student would want to look more deeply into some mechanisms of pathogenicity. A major weakness is in the brief and superficial description of the Gram-negative non-sporing anaerobes.

The authors give a simple and straightforward account of the host defence system—an important aspect that is often neglected in such concise books. It is unfortunate that they do not go on to discuss the role of the host reaction in producing the clinical manifestations of infection. The changing pattern of medical bacteriology is usefully emphasised by the comprehensive section on opportunistic infection and the compromised host situation.

The content and emphasis of this book should be of interest to many medical students, but its presentation as a "student's handbook" with fewer electronmicrographs might have been more appropriate and would have been less expensive.

B. I. Duerden

Principles of immunology

With the rapid development in immunology over the last 10 years have come increasingly more meaningful approaches to medical problems that can be understood in immunological
BOOKS RECEIVED

terms or explored by means of immunological techniques. Given this, there is a need for appropriate text-books to satisfy the requirements of medical training in immunology. This book, compiled by a number of distinguished teachers from the Center for Immunology at the State University of New York, represents a very creditable effort to meet this need. Although the emphasis is on aspects of immunology of clinical interest, the first part of the volume deals with basic immunology (e.g., antibody-antigen interactions, complement, immunoglobulins, antibody formation) in a clear and concise manner, and particular attention is paid to the theory and practice of most routine immunological testing procedures. The second part of the book deals essentially with applications to clinical situations (e.g., parasitic and microbial infestations, blood groups and transplantation and tumour immunology). The book hangs together as a well balanced source of information, is well documented and contains useful references for further reading. It could be recommended as a text book to support a formal course or as an introductory review of the various topics considered.

R. M. E. PARKHOUSE

Advances in the biosciences. II Workshop on virus-cell interactions

This volume comprises papers presented at symposia and workshop conferences sponsored by Schering AG, Berlin. Many volumes after other similar meetings are of limited value because by the time they appear their contents have often been published elsewhere. The current volume, however, is of considerable value. It has appeared within a year of the presentation of material that was highly topical at the time of the meeting, and much of which has not yet been published elsewhere. The recorded discussions provide a valuable addition to the papers and serve to highlight the points of difference and of agreement between different workers.

The volume opens with contributions on early events in infection by reovirus (Silverstein et al.), adenovirus (Dales and Chardonnet) and poliovirus (Habermehl et al.). These all have a different emphasis and serve to highlight many of the imperfectly understood events in this stage of the virus growth-cycle.

There follow two contributions on the role of membranes in virus replication by Caliguiri et al. and by Choppin et al. A minor criticism of the volume is that the discussion of the former paper contains references to work apparently presented by the author at the meeting but not recorded in the published manuscript.

Kerr et al. then present very elegant work on the control of protein synthesis in interferon-treated cells infected with EMC and vaccinia virus. A later paper (Jungwirth et al.) also deals with regulation of protein synthesis by interferon. Both papers present a strongly 'translationalist' view of the effects of interferon but the 'transcriptionalists' do get a voice in the discussion. In fact, it now appears that, although translation is the point of attack in the vaccinia and EMC systems described here, in other systems it may well be transcription.

Other papers deal with the effects of viruses on host-cell metabolism (Defenthal et al.; Rahmsdorf et al.), structural proteins or viruses (Russell et al.; Scholtissek) and transcription of adenovirus RNA (Philipson et al.), while Subak-Sharpe et al. describe the pioneering work on the genetics of herpes viruses.

All the topics are of current interest and importance to virologists. Each is presented with an admirable introductory survey. Unlike many a "book of the meeting" it does represent a worthwhile addition to the libraries of laboratories working in the field.

D. H. WATSON