contacts of men with chlamydia-negative NGU is evidence; it is wrong to equate chlamydial infection of Bartholin's ducts with disease of the ducts (first table); although the mechanism of pathogenicity is not understood there is considerable evidence that C. trachomatis is involved as a triggering factor in some cases of Reiter's disease. A pity, therefore, that the authors seem to be so lukewarm about it; as the arguments for and against the need for a chlamydial diagnostic service were discussed, I felt like a cork tossed about in a rough sea. For a moment it seemed that the authors were attempting to give every venereologist a guilt complex for treating NGU without a microbiological diagnosis. Mercifully, in the end, for the most part this is what they advise and practise and are in favour of a limited diagnostic service with which I suppose nobody would disagree.

Despite what the authors say to the contrary, there are useful susceptible non-primate animal models of C. trachomatis genital infection, and rosaramicin has been evaluated clinically. The information is recent and illustrates that although the book is unlikely to have taken long to write and publish, it is already becoming out of date. This is to be expected in a rapidly advancing field but it raises the question of whether the book is worth buying. Despite any criticism put forward, as a concise and thoughtful overview of chlamydial infections and disease, I believe it is. Furthermore, it's not disastrous on the pocket, for when all is said and done, it is only the cost of a good meal out.

D. TAYLOR-ROBINSON

Interferon 3

This is the third volume in a series on the interferon field which began in 1979. As do its predecessors, it contains a collection of reviews on different aspects of the synthesis, actions and potential applications of interferons, each chapter being written by well known contributors. The seven topics are presented from the personal viewpoint of the authors, a style that makes a refreshing change in professional science writing these days. The subjects covered, which range from descriptions of interferon gene-cloning experiments to a survey of clinical trials with human interferons, are thus easily digestible for non-expert readers, without losing any of their scientific quality.

The first contribution is by Jean Lindenmann, one of the co-discoverers (with Isaacs) of interferon in 1957. His article, "The role of interferon in natural resistance", is mainly concerned with the genetics of sensitivity to interferon and of resistance to viral infections in mice. This is followed by Lois Epstein's chapter on interferon-gamma, a form that differs from the other interferon classes in being induced in lymphocytes by mitogenic and antigenic stimuli rather than by viral infections. The title poses the question "Is it really different from the other interferons?", and the article goes on to conclude that the answer must be both yes and no. Such is the pace of the progress in the analysis of the interferons by recombinant DNA technology that parts of this chapter are now out of date; for example, the primary structure of human IFN-γ is now completely known and it is clearly different from the other interferons. Nevertheless, at least some of its biological effects are similar and Dr Epstein's review is a valuable survey of the present state of knowledge concerning these properties of IFN-γ.

In recent years there has been growing interest in the anti-tumour properties of the interferons and the mechanisms by which tumour growth is restricted in vivo. One component of the anti-cellular actions of interferons is the activation of natural killer (NK) cells and this is reviewed in a chapter by Eero Saksela. A number of thought-provoking issues are raised here, such as the possibility that the NK-cell system and interferons themselves have evolved from very early cellular protective mechanisms. These may well predate, in evolutionary terms, the development of immune systems and other complex cellular interactions which now characterise higher organisms. Whatever cell biological mechanisms underlie the actions of the interferons, quite different problems confront the clinician who wishes to use these agents as antiviral or anticancer therapies in man. The present state and future prospects of clinical studies with interferon are surveyed by Thomas Merigan, who concludes that "given the breadth of its effects, it seems impossible that interferon will not find some place in human medicine".
Inevitably, though, progress here will be slow in comparison with some aspects of the interferon field.

In many ways the most enjoyable contribution in this book is that by Charles Weissmann called “The cloning of interferon and other mistakes”. This article is breathtaking in the elegance and achievements of the science it describes and is also written with considerable wit, spiced with the occasional pithy comment. Most fascinating of all is the insight it gives into the events surrounding the impressive biotechnological achievement of bacterial interferon production. A description is presented of the setting up of a commercial enterprise to exploit this development and the reader is permitted a glimpse into life in the genetic engineering jet set.

With the remaining chapters—“Genetic control of the interferon system” by Slate, Ruddle and Tan and “Mechanisms of interferon action: the (2'-5') (A)n synthetase-RNAase L pathway” by Lengyel, the latter being the most biochemically detailed of the articles—this latest collection of personal views on various facets of this field should find a place on the bookshelves of scientists of many disciplines and backgrounds.

M. CLEMENS


This volume is on of a series of almost encyclopaedic tomes concerning immunological topics. Like its predecessors this volume is scholarly, broadly based and produced in a manner more reminiscent of enduring classics than of books on rapidly evolving subjects. Unfortunately, this approach is also reflected in the leisurely speed with which it has apparently come to market. The reference lists betray the long gap that obviously evolved between the submission of many chapters and publication, although only Dr Finkelstein has had the foresight to record this point specifically. Fortunately, this dalliance has affected most of the contributions to this book less seriously than would have been the lot of most immunological texts. In contrast with many areas where speculation has outpaced the available facts, the immunology of infectious agents is based on the methodical, painstaking accumulation of data concerning the structural antigens of different organisms, their immunogenicity and host immune responses in vivo. The chapters on bacterial immunity in general, and the immunology of staphylococcal, streptococcal, and Haemophilus influenzae infections are wholly admirable and there are equally impressive contributions dealing with infections by Neisseria meningitidis, diphtheria, Bordetella pertussis, enterobacteria and Vibrio cholerae. The chapter on the latter by Dr Finkelstein should be singled out as the proper way to weave a vast array of facts in a coherent narrative that stimulates both interest and imagination. All these chapters are restrained in their discussion of biological riddles so that the absence of many publications beyond 1978 is less serious. Certainly our understanding of rheumatic fever has not progressed since Lewis Wannamaker addressed the problem in his chapter on the “Immunology of streptococci”, and the facts so coolly marshalled in the chapters concerning enterobacteria should serve to restrain facile theories about possible relationships between gut infection and reactive forms of immunopathology.

The contributions on infection by Mycobacterium tuberculosus, M. leprae and fungal infections are competent and thoroughly documented accounts of these subjects but are more frequently dealt with in the numerous monographs on immunological topics that have appeared in the last decade. Recent developments in cellular immunity have also overtaken these contributions more swiftly than those dealing with the other subjects in this book; for example, much of the chapter on candida infections concerned with treating this condition has been made irrelevant by the introduction of ketoconazole.

This book is recommended to microbiologists with a particular interest in selective problems of infection and immunity but they should first take care to establish that the microorganism that interests them is included in the volume. Investigators who rightly ruminate about the odd immunopathological consequences of host-parasite relationships will also find much for their comfort. The publishers and editors would be well advised to consider whether volumes with so long an incubation period can fairly be termed modern texts on immunology.

A. M. DENMAN