BOOKS RECEIVED

T and B lymphocytes: recognition and function

The most prescient statement in this book comes in Rolf Zinkernagel’s review of the restriction of cytotoxic T-cell reaction by major histocompatibility-gene complexes: “to unravel the reciprocal regulation of restriction specificity and receptor repertoire for foreign antigens, ultimately it will be necessary to understand the genetic organization and molecular nature of the gene and/or gene products that are involved.” The book records the proceedings of the 1979 ICN-UCLA symposium held in Colorado, March 1979. This is definitely not a book for the immunological tyro or for any reader who is not already conversant in the cryptic terminology adopted by immunological cogniscenti. It is the nearest approach to savouring the atmosphere and discussions of an important immunological meeting that immunologists can achieve short of being an invited participant. The papers are terse and concentrated, presenting an immense amount of data within a very few pages and dealing with highly sophisticated and elaborate techniques. Most familiar immunological problems are aired including the mechanisms by which T cells recognise altered antigens, the genetic restriction of these interactions, and the series of controls that regulate the intensity and persistence of these responses. It is now soberly appreciated that immune reactions involve an elaborate series of lymphocyte interactions and a wide variety of populations, each characterised by a constellation of specific anatomical, biophysical and functional characteristics. There are no simple unitarian theories for answering the persistent questions concerning immune recognition, tolerance and the aberrations that lead to auto-immune disease. The increased sophistication of experimental manoeuvres has done more to delineate the scale of the problem than to provide any definitive answers. This reality underscores the importance of Zinkernagel’s comment and it will be apparent from reading the contributions to this symposium that biochemical analysis is the best hope of unravelling immunological phenomena.

There are several contributions dealing with the structure of lymphocyte membrane and its chemical composition. Just as understanding the basis of antibody specificity depended upon an appreciation of immunoglobulin structure and composition, so the problems of T-cell function are being solved by characterising the membrane proteins in T lymphocytes as a first step to appreciating what endows these structures with antigen-binding specificity. Other sections of the book deal more conventionally with antibody diversity, the facts that determine whether antigen triggers or tolerises responding lymphocytes, and the steps in T-cell maturation. The essential discovery in the physiology of T-cell maturation was the realisation that these cells learn to recognise foreign antigens and self antigens in association. Even this initially biological discovery is now analysed in precise immunochemical terms. Whilst it is clearly impossible to single out individual communications from so vast an assembly of reports in this context, the experiments of Jonathan Uhr and his colleagues are especially striking; they have analysed target cells experimentally infected with vesicular stomatitis virus to dissect the changes that render these susceptible to lysis by cytotoxic T-lymphocytes.

This book therefore has many features to recommend it. There is no point in publishing the proceedings of a symposium unless they appear soon after the event; in this instance the gap was only about 6 months. Because conference proceedings are even more ephemeral than formal scientific papers, the proceedings must be reasonably priced; given that the authors’ typescripts have been processed directly in the interests of rapid production, this book is well produced and, in contrast to most contemporary immunological texts, very reasonably priced. To be of any value, conference proceedings must present fresh information and interpretations and not simply rehash published work; remarkably, most of the information in this text is hitherto
unpublished and conveys the cut and thrust of unfinished debate rather than completed work formally laid to rest in various journals. Above all, a book of over 700 tightly packed pages must entertain as well as instruct; there is enough novel material in the book to achieve both objectives although the workshop reports are so compressed as to be virtually unreadable. In summary, therefore, this is an important book for the professional immunological investigator who needs to be aware of the thrust of current debate and who can absorb immunological data in the same way that those familiar with a foreign language can appreciate a novel in that language. It will leave most others totally bewildered.

A. M. DENMAN

**Microbial disease: the use of the laboratory in diagnosis, therapy and control**


The aim of this book is an admirable one, to fill the gap between bedside and laboratory in the diagnosis, therapy and control of microbial diseases. Unfortunately, this laudable aim is not achieved, partly because of a large number of errors and omissions, and more seriously because it fails to provide practical guidance in just those day-to-day clinical situations in which the need for help is most urgent. To take some examples, the section on pneumonia perpetuates the old and now largely unhelpful distinction between lobar and bronchopneumonia and fails to emphasise the role of the patient's age and background of lung and general disease in determining the likely pathogens and, thus, the rational management. Early antigen-detection methods are not discussed, erythromycin is not mentioned as a suitable agent for *Mycoplasma pneumoniae* infections, and the recommendations for treating *Pneumocystis carinii* infections are out of date.

The section on meningitis is most unbalanced. One of the most common diagnostic problems, that of partially treated bacterial meningitis, is scarcely mentioned, yet the very rare condition of amoebic meningitis is noted five times in this short chapter (and again in a subsequent one). The dose of ampicillin suggested is at least three times too low and would certainly be ineffective, and sulphonamides are recommended in circumstances in which they have largely been abandoned.

A curious remoteness from the real diagnostic issues is especially noticeable in the chapter on PUO and septicaemia. The sections on laboratory investigations include a long paragraph on the NBT test but fail to mention blood smears for malaria, and the serological tests suggested include a number against antigens of organisms that do not in fact cause PUO. A much more important failure is the half-page section on antibiotic therapy before the pathogen or its sensitivity is known. This, the most pressing problem in microbial disease practice, is here dismissed in a few perfunctory paragraphs which include a seriously erroneous recommendation; if an aminoglycoside is used as sole drug in these circumstances, very important groups of organisms, notably streptococci (including pneumococci), will be left untreated. It is hard to imagine a junior doctor finding this section of any value in making a pathway through this particular diagnostic jungle.

Good things there are in plenty in this book. The chapter on accidental and surgical wounds is a model of clarity and sound guidance, although it does less than justice to newer work on rational chemoprophylaxis for certain forms of abdominal and pelvic surgery. I hope too, that the authors do not really mean what they say in an earlier chapter, that they "discourage prophylaxis even when it can be shown to protect the individual patient". The chapters on the genital system, and on the skin and its appendages, are also treated in a fresh and useful way. But highlights such as these do not compensate for the many deficiencies.

A reviewer should not indulge in "nitpicking" since an occasional error or misprint can creep, easily enough, into a book of more than 300 pages. But the errors here are too numerous and too structural. Several have already been mentioned. Among other notable gaffes are a serious misreading of the BTTA antituberculose drug trials and a consequent wrong treatment recommendation, and a perpetuation of the old confusion between infant septicaemia and *E. coli*