Book Reviews


ImmunoLOGY is an empirical study of the specific altered reactivity of the organism following previous exposure to a foreign substance. Such altered reactivity may be protective (specific immunity) or harmful (hypersensitivity). Apart from protection, Jenner noted in 1798 altered skin reactivity when a milkmaid, previously infected with vaccinia, was exposed to variola (quoted by A. C. Allison in this Bulletin)—long before antibodies were recognized—and such reactions were systematically described by Zinssen in 1921 (quoted by G. B. Mackaness). But the far greater convenience of antibodies for detailed study led to a tendency to neglect such reactions, and the tendency for antibody (humoral) and delayed type hypersensitivity (cell-mediated immunity) reactions to exist in parallel led to failure of recognition of the role of the latter in the developing understanding of immunity and hypersensitivity.

In the past 25 years, perhaps as a result of the stimulus of the work of Landsteiner and Chase who introduced the term 'delayed-type' hypersensitivity, and who showed it to be a function of cells rather than of serum, things have moved fast, and this type of reaction is thought to have profound importance in many branches of biology and medicine. This really excellent series of reviews is most strongly recommended as a means of keeping abreast of this important and fast-moving field. No facile assumptions are made, and, though most of the reviews are excellently written, this is not easy reading. But the excitement of real clashes of opinion often break through the disciplined presentation of data, and evidence for contradictory views is clearly given. Even the validity of the basic duality of humoral and cell-mediated immunity is questioned, when the possible role of macrophage cytophilic antibody in delayed hypersensitivity is presented by D. S. Nelson and S. V. Boyden; but A. Szenberg and N. L. Warner strongly state the case for this duality. Most of this meticulous science is based on the very unsatisfactory end-point of an almost unquantitatable slow skin reaction, but good planning can utilize this in achieving many valid experimental situations by such studies as hapten specificity (P. G. H. Gell and R. A. Wolstencroft), antigen-mediated depression (G. L. Asherson), passive transfer, etc. Progress of in vitro tests is reported by D. C. Dumonde, and elsewhere. (Some account of the problems of application of such studies to human material would have been a valuable addition.)

Reviews of the histology by J. L. Turk and by W. G. Spector, and the fascinating role of adjuvants (R. G. White) in experimental situations, are valuable preludes to the subsequent more applied reviews, of particular interest to clinical readers. Here the critical review of the role of cell-mediated reactions in bacterial (G. B. Mackaness) and viral (A. C. Allison) immunity, autoimmune disease (I. M. Roitt and D. Doniach), resistance to tumours (P. Alexander and G. H. Fairley), and transplantation immunity (L. Brent and P. B. Medawar)—amongst several others—will provide sources of data and references, in a form in which balanced objectivity has not concealed all the underlying enthusiasm of workers discussing their own field of endeavour.

Professor P. G. H. Gell and all his colleagues are to be heartily congratulated.


This is the third edition in the series devoted to recent advances in animal virology. As Professor Michael Stoker says in the introduction, a comparison with the earlier reviews, Viruses and Medicine (1953) and Current Virus Research (1959), shows how great has been the advance in virology in the period since the first edition. There is less in this edition about specific disease and newly discovered viruses, though chapters on both these aspects are included. Instead, there is more about viral nucleic acids and viral synthesis. An understanding of the mechanisms of virus multiplication is fundamental to further progress in virology, and several aspects of this are discussed and will be of special interest to clinicians because the process of virus multiplication is intimately concerned in the pathogenesis and symptoms of disease. Two chapters are devoted to this general topic—one by F. Kingsley Sanders, on virus multiplication in vitro in relation to pathogenesis, and the second by D. C. Burke and J. J. Skehel, on the interferons, throws light on the possible role of these substances in terminating infection. There is also less in this edition about immunization; indeed, the subject is only touched upon in one chapter (rubella), but there is a useful chapter by G. Appleyard on chemotherapy of viral infection. Despite the accumulation of much new knowledge on anti-viral agents and their action, little progress has been made in the practical