Book Reviews


Research in immunology is moving ahead at such a rapid pace that it is becoming more and more difficult to keep abreast. Much of the new information is of definite significance for our understanding of basic immunologic principles. Many of the new data also have direct implications for clinical medicine, since they open up interesting possibilities for explaining the pathogenesis of hitherto poorly understood diseases. The reactions of immunity are no longer studied primarily because of their capacity to protect against infectious diseases, but because they take part in tissue-damaging processes as well, leading to immunological diseases such as allergies, autoimmune and immune complex disorders.

It is becoming increasingly difficult to present an up-to-date picture of immunology with its many clinical implications. The present book by Park and Good is, however, an example of a most successful attack on this problem. It gives a concise picture of our actual knowledge of the principles of immunological mechanisms as well as their clinical implications. It is easy to read, presenting the extensive and often complicated information in a simple but yet imaginative way. Thus, it is useful not only to the student of basic immunology, but equally or even more so to the clinician who needs to understand the many immunological phenomena he meets. With the expanding knowledge in immunology new approaches for diagnosis as well as prophylaxis and therapy of several diseases become possible, making it necessary for the medical profession to have available presentations of immunology – preferably like this one.

In any rapidly advancing area and in extensive treatises there may be errors or disputable facts. I have found very few in the book by Park and Good. For example, they claim that the structure of the Forssman antigen is not known which it is. The authors present a theory for the immune response which not all immunologists may agree with, but they clearly state it is a theory and like all theories open to criticism and development.

Read this excellent book before it is outdated.

Lars â. Hanson, Göteborg


The present ‘Handbook’ is the most extensive publication on the subject of antineoplastic and immunosuppressive drugs. It contains all pertinent information concerning the pharmacodynamic, pharmacokinetic, toxic actions and clinical use of these agents. The ‘Handbook’, containing 1,800 pages, 20,000 references and a subject index of 52 pages, will for many years to come be an indispensable source of information for research workers and clinicians working with this type of agents.

Bertil Diamant, Copenhagen
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Four excellent reviews are presented in this volume. R. J. Poljak’s review ‘X-ray diffraction studies of immunoglobulins’ summarizes the important results of his analysis of the Fab fragment of human myeloma protein, which gives a fascinating view of the three-dimensional structure of the immunoglobulin molecule. T. J. J. Kindt reviews in his contribution, entitled ‘Rabbit immunoglobulin allotypes, structure, immunology and genetics’, the developments in this field, from the beginnings to the most recent discoveries, which are of great importance for the understanding of the genetic control of antibody synthesis. W. O. Weigle reviews masterfully ‘The cyclical production of antibody as a regulatory mechanism of the immune response’. This thought-provoking review will certainly lead to discussions and further research work. The last review by A. Coutinho and G. Möller deals with ‘Thymus independent B-cell induction and paralysis’ and is based on the extensive and important research work of the authors. The volume must be warmly recommended.
Paul Kallós, Helsingborg

Pierre Arquembourg: Immunoelectrophoresis. Theory, Methods, Identification, Interpretation; 2nd ed. Karger, Basel 1975. IX + 104 pp., 151 fig., 1 tab.; SFr. 61.-/DM 61.-.
This book describes the classical immunoelectrophoresis ad modum Grabar. The first chapters deal briefly with the theory of gel precipitation reactions, electrophoresis and immunoelectrophoresis. Chapter 4 describes the performance of immunoelectrophoresis, counter-immunoelectrophoresis and different techniques for identification of antigens. It is remarkable that the author recommends a washing, drying and staining technique of at least 48 h although this might be done in 2 h after pressing the gel. The value of the methods in clinical chemistry is demonstrated in the following chapters by numerous examples where major proteins in normal and pathological sera are identified and the immunoelectrophoretic pattern interpreted. An atlas containing 85 examples is included. However, the omission of newer immunoelectrophoretic techniques, such as crossed immunoelectrophoresis, which in many clinical chemical situations are preferable as regards rapid answers, high resolution and quantification, makes this book incomplete.
H. Löwenstein, Copenhagen

Immunologists complain that there are too many conferences to attend and too many proceedings to read. The present volume, which contains the transactions of a Conference on ‘The Phagocytic Cell in Host Resistance’, held in March 1974, is most certainly a much needed contribution to the immunologic literature and should be read by all researchers and clinicians, working in our field. The role of phagocytes (polynuclear leucocytes and macrophages) as a first line defense of the organism against invading pathogenic microorganisms was recognized by Elie Metchnikoff as early as in 1882. Since then, interest has never ceased in this phenomenon. The discovery of the existence of antibodies and their usefulness in diagnosis and therapy of infectious diseases has, however, dominated the field of immunology for decades. The more recent development of immunology,
the new ‘golden era’, concerns the role of lymphocytes and their products, immunoglobulins and lymphokines. The present volume shows, however, that research concerning different aspects of phagocytosis achieved remarkable results of great theoretical and practical importance. The production of phagocytic cells in the bone marrow, their delivery to the blood stream and from there to the site where their action is needed are not discussed in the present volume. Neither are the very first steps of phagocytic activity discussed in detail, namely recognition and contact with the particle to be engulfed and the means by which the particle is taken up by the cell. These processes are, however, quite well known and covered in current textbooks. E. L. Becker points out that ‘chemotaxis is a major, if not the major, mechanism by which polymorphonuclear leucocytes and other phagocytic cells are induced to move to the site of infection’. The metabolic processes which are the basis of the directed locomotion of phagocytic cells are thoroughly and lucidly discussed. The next chapters account for the metabolic activity which follows the ingestion of particulate material and provides means for the killing of bacteria, such as hydrogenper-oxide, superoxide, singlet oxygen, free hydroxyl groups, hypochlorite and thiocyanate (S. J. Klebanoff). Both, the myeloperoxidase-mediated and not myeloperoxidase-mediated but oxygen-dependent microbicidal systems are thoroughly discussed. In ingenious experiments, R. B. Johnston, jr., et al. showed that polymorphs, which at the same time phagocytized bacteria and latex particles coated with superoxide dismutase, had a strikingly reduced bactericidal power. There are, however, other microbicidal systems too, which are presently less well known. J. G. Hirsch stresses in his summing-up that the congenital absence of myeloperoxidase alters host resistance only slightly; furthermore, that certain macrophages do not contain peroxidases but are effectively microbicidal. This is the case of chicken polymorphs too.

A number of presentations clarify the role of complement in phagocytosis (H. J. Müller-Eberhard; M. M. Frank et al.; P. A. Ward; Ch. A. Alper et al.). The role of lymphokines (J. R. David) and of transfer factor (Ch. H. Kirkpatrick et al) is also considered. Of considerable interest are a number of papers concerning phagocytic defects such as chronic granulomatous disease, other defects of the oxidative killing mechanism, abnormal chemotaxis and immunodeficiency diseases (R. B. Baehner; R. K. Root; J. I. Gallin; R. Snyderman; J. Baum). H. R. Hill and P. G. Quie describe a number of cases in which defective neutrophil chemotaxis was associated with extreme hyperimmunoglobulinemia E. Finally, the maturational defects of leucocyte function are thoroughly discussed in papers by M. E. Miller; R. M. Blaese, and by J. A. Bellanti et al.

This is a very stimulating book, the study of which is most rewarding.
Paul Kallós, Helsingborg

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The first edition of this monograph has been published in 1967. Since then, not least through the research work of the author and his associates, many aspects of delayed allergic reactivity have been clarified. The importance of ‘cellular’ (in contrast to antibody-mediated ‘humoral’) reactivity as a defense mechanism in infectious diseases and against the growth and spread of malignant tumors is documented by many new findings. The role of different T cell populations in delayed allergic reactivity has been further clarified. New techniques for in vitro and in vivo investigation of T cell membrane, functions and products have been developed. There are new
developments in the field of the so-called autoallergic diseases, immunotolerance, transplantation immunity, graft versus host reaction, the transfer of delayed reactivity and thymic influence on these processes, too. This makes the enlarged second edition of this excellent monograph, in which the whole field and the vast literature are comprehensively and critically reviewed, most welcome.

Paul Kallós, Helsingborg