

from the application of these methods to the gamma globulins have been as great as, if not greater than, in any other field.

There are forty-eight contributions, each followed by a list of references and such discussion as the speakers wanted to include in the book. There are many excellent diagrams and illustrations, some in colour. There is no index, which is a pity because it would have enhanced the value of this important book. Various aspects of the heterogeneity of the structure of immunoglobulins, especially amino-acid sequence differences between homologous and heterologous immunoglobulins, are discussed in detail. The tantalizing question of the heterogeneity of the various immunoglobulins is carefully examined from both genetic and other points of view. The existence, however, of small amounts of carbohydrate in the gamma globulins is to a large extent ignored, despite the fact that they may well play an important part. Important advances in separation methods and antigen-antibody crossed electrophoresis are reported. Mechanisms for the biosynthesis and arrangement of polypeptide chains are discussed in relation to clinical deficiency states. The "take home lesson" given by M. Cohn contains some stimulating ideas on antibody synthesis and enters the new realm of "the molecular biology of expectation". The problems of diversity, evolution and biosynthesis of antibodies are analysed, as are the regulation and differentiation of the immune system.

This book will be of great value to all who are interested in this rapidly developing field. It will undoubtedly catalyse further experimentation to test the imaginative theories expressed and stimulate the cross-fertilization of ideas between chemical and clinical minds, which was undoubtedly at the back of the minds of the organizers of the symposium that preceded the publication of this book.

L. HOUGH

CELL AND TISSUE KINETICS

Cell and Tissue Kinetics

Edited by E. O. Field. Vol. 1, No. 1, January 1968. (Oxford and Edinburgh: Blackwell Scientific Publications.) 30s. per copy.

THE advent of a new journal at a time when library shelves are bursting needs more than a little justification. Dr E. O. Field, editor of *Cell and Tissue Kinetics*, makes a good case in an introductory editorial to the first number. An increasing number of scientists are interesting themselves from different points of view in the facts of cellular proliferation and population kinetics and in the controlling regulatory systems. The need, according to Dr Field, is for a journal in which the papers dealing with the many and varied aspects of the field can be brought together, so that workers in different disciplines can more easily know what their fellow scientists are doing and writing about.

The new journal has a large editorial board, composed of distinguished biologists, medical physicists, radiobiologists, biochemists, immunologists, geneticists and others; the wide range of their research interests indicates the breadth and depth of the problem. From the general biological point of view (and from the narrower point of view of a medical man) one of the most fascinating and complex of all problems is the way in which organisms, from the simplest to the most highly organized, regulate themselves; how tissues differentiate and grow and what feed-back or other mechanisms control their growth. There can be no doubt, however, that highly effective mechanisms have been developed in the course of evolution which are nicely adjusted to maintain bodily homeostasis. To take a single example, the cellular and chemical constituents of mammalian blood are maintained within

narrow limits. How this is accomplished is only partly understood. But if any of the mechanisms fail, the most serious consequences may result. Medical men and women are only too familiar with the consequences of the unrestrained growth of cells, and no one will disagree with Dr Field in his statement that an understanding of normal regulating mechanisms and feed-back systems is a prerequisite of an understanding of the failures in control of tissue proliferation that result in neoplasia.

If the new journal makes some contribution to the fuller understanding of the cancer problem, it will more than justify its founding. There is very much more involved in cell and tissue kinetics than a quest for knowledge.

J. V. DACIE

HANDLING VIRUSES

Methods in Virology

Vol. 2. Edited by Karl Maramorosch and Hilary Koprowski. Pp. xvi+682. (New York: Academic Press; London: Academic Press (London), 1967.) 261s.

THE best way to learn a new method of handling a virus is at the bench beside the person who has developed or improved the technique, and this approach has been, and still is, an important way of disseminating knowledge about viruses; but it is, of course, applicable to only a very small number of people. The next best thing is to ask an acknowledged expert to write down how he does his experiments, and to make this experience available to those who wish to learn. The second approach has been adopted to produce a four volume treatise, the second volume of which has now been published. The main theme of this volume is the use of physical methods for handling, separating and purifying viruses, but attention is also given to methods for the preparation, separation and titration of viral nucleic acids. The approach cuts through the normal division of viruses into bacterial, plant or animal viruses, several authors illustrating the relevance of their particular technique by providing examples of its use with viruses derived from different sources. The contributions range from barely a page with two references to more than seventy pages with eight pages of references, but a more useful parameter would indicate the scale at which the viruses were being studied, which ranges from hundreds of litres of material for the production of vaccines to micro-analytical quantities used in finger-printing the breakdown products of viral nucleic acids.

This is in no sense light reading, nor does it provide the answers to every question a student of a new method might wish to put to his teachers, but it is unlikely that such a mass of detailed information on analytical and preparative studies on viruses has ever been assembled before.

J. S. PORTERFIELD

THIRD BRAZIER

The Electrical Activity of the Nervous System

A Textbook for Students. By Mary A. B. Brazier. Third edition. Pp. xiv+317+8 plates. (London: Pitman Medical Publishing Co., 1968.) 45s.

THERE has been little change in the third edition of Dr Brazier's book, which comes eight years after the second edition. It is intended for students, and for these it may provide slightly unorthodox but entertaining additional reading matter in neurophysiology. Its strongest features lie in the figures and the bibliographies given at the end of each chapter. On the negative side, both general and