

Elementary Analysis

By Richard F. McCoart, Malcolm W. Oliphant and Anne E. Scheerer. (Holden-Day Series in Mathematics.) Pp. xv+251. (San Francisco and London: Holden-Day, Inc., 1964.) 7.95 dollars.

THIS book consists of a careful introductory course to differential and integral calculus. It is intended for a first-year course at a U.S. university and would be useful to sixth forms in Britain and to some extent to first-year students at a university doing a rather pure mathematical ancillary course. Subjects treated include the concept of functions, the ϵ - δ definition of limit, continuity, and introduction to the derivative and the Riemann integral by way of the concept of bounds. None of these subjects is developed very far, but so far as it goes the treatment is clear, careful and unhurried. There are plenty of exercises with answers supplied and some worked examples.

R. L. PERRY

Slow Neutrons

By V. F. Turchin. Translated from the Russian. Pp. vi+304. (Jerusalem: Israel Program for Scientific Translations; London: Oldbourne Press, 1965.) 107s.

THIS book is to be welcomed, for the field of neutron scattering is as yet not easily accessible except through original papers. At the time of its publication in Russian (1963) the book was the only one to treat thoroughly dynamic, inelastic scattering processes; this translation of it is likely to remain a valuable text for many years even though some other books are now available.

Turchin covers the basic neutron-scattering processes from individual nuclei and from condensed systems. He presents the theory necessary for the interpretation of elastic (Bragg) diffraction from crystals, and inelastic scattering both from crystals and from disordered (liquid-like) systems. This latter topic is thoroughly treated by the space-time correlation method.

The sections devoted to the various approximations useful for realistic situations are likely to prove particularly valuable to workers in the field. The section on magnetic scattering is short, but adequate. The second part of the book is entitled "Thermalisation and Diffusion of Neutrons" and discusses briefly the nature of these processes and their significance in reactor calculations. There are many existing better sources for this work, and in general a reader would do well to treat these chapters as introductory.

The standard of translation is high, but the formulae are badly set and difficult to read; the only error that I found, however, was the retention of Russian subscripts in one formula. The direct reproduction from typescript necessarily gives a slightly untidy appearance to the page, but a little more attention to the quality of the mathematical formulae and diagrams would have made the book far more pleasant to read.

W. M. LOMER

General Genetics

By Adrian M. Srb, Ray D. Owen and Robert S. Edgar. Second edition. (A Series of Books in Biology.) Pp. xi+557. (San Francisco and London: W. H. Freeman and Company, 1965.) 50s.

THIS substantially revised, second edition of a most valuable text-book appears thirteen years after the first edition of 1952. The two original authors have been fortunate in securing the collaboration of a third, Dr. R. S. Edgar, a distinguished representative of the new generation of geneticists who, in his work with bacteriophage, has opened a new approach to physiological genetics at the molecular level.

Many things have happened since 1952; they are incorporated in this new edition. Just about that time fine genetic analysis was forcing a replacement of the concept of genes as beads on a string by that of words in a sentence, with each word coding for a protein. Soon

afterwards the Watson-Crick model of DNA gave precise chemical meaning to this picture and suggested the way in which genes are replicated and the colinearity of the fine structure of a gene with the amino-acid sequence of a polypeptide. It took only a few years to confirm the former, but more than ten years to confirm the latter.

Thanks to these early developments and the many others, too well known to need mentioning, on the genetic code and protein synthesis, the biochemical and the genetical approaches to heredity, differentiation, development and evolution have become completely interwoven. Demarcation disputes, unfortunately still rampant, are becoming boring. This book may well help to bury them for good.

There are a few minor errors, such as the legend to Fig. 3-1, on page 67. The treatment of human genetics (Chapter 15) is inadequate and not up to date; better to omit it or treat the subject more significantly. Apart from these minor faults, there is little doubt that this new edition will, as its predecessor, secure many years of deserved success as an introductory text-book of genetics.

G. PONTECORVO

Research in Pesticides

Edited by C. O. Chichester. (Proceedings of the Conference on Research Needs and Approaches to the Use of Agricultural Chemicals from a Public Health Viewpoint, held at the University of California, Davis, October 1-3, 1964.) Pp. xx+380. (New York: Academic Press, Inc.; London: Academic Press, Inc. (London), Ltd., 1965.) 128s.

SINCE the publication of Miss Rachel Carson's book *Silent Spring* in 1962, more words must have been spoken and written about pesticides, and the hazards of their residues in foods or of environmental contamination, than about any other aspect of applied biology. *Research in Pesticides* offers an up-to-date review of the present position on pesticides, not agricultural chemicals as stated in the sub-title, with the exception of legislative control.

At the conference reported in this volume, twenty-six specialists read papers covering a great diversity of aspects of pesticide usage in relation to public health. These aspects, according to the titles of the seven parts into which the conference was divided, cover criteria for public policy in the use of pesticides; approaches in the investigation of pesticidal action (on the pest); whole animal responses to pesticides; ecological systems (fresh water, land drainage, sea water, wildlife, domestic animals, plants); removal or persistence of pesticides (public water, air, soils, foods); alternate methods of pest control; and interpretation of data with respect to human health. Each aspect was covered by two to six papers, followed by one to three formal contributions to a discussion, but on only three occasions was there open discussion from the floor. There is a short, but helpful, topical index.

The great majority of the papers reach a high standard of summary and review, but most authors seem to have been unable to see further ahead than the clear need to amass more data. However, I particularly liked the contributions by O'Brien on target enzymes, Frawley on synergism, Freed on control of plants, Crosby on the international removal of residues, McNew on regulating the interaction of pest and host, and that portion of the open discussion to Part 7 commenting on the interpretation of animal in relation to human toxicology.

The standard of editing is high, but on pp. 52-55 appear three mentions of a contribution on pitfalls in studies of metabolism by Dr. Casida, who was in the audience. No explanation is offered for the omission from print of what seems to have been a very interesting paper. The book will clearly be an excellent reference volume for libraries, but those workers who would find a personal copy valuable, because of their need to take a broad view of pesticides in committee work or scientific administration, may be deterred by the price.

E. A. PARKIN