

Organic Reactions

Vol. 11. Edited by Arthur C. Cope, Roger Adams, A. H. Blatt, Virgil Bookelheide, T. L. Cairns, David Y. Curtin and Carl Niemann. Pp. vii + 501. (New York and London: John Wiley and Sons, Inc., 1960.) 96s.

THE outstanding success of this invaluable series has been due in no small measure to Prof. Roger Adams, who has been editor-in-chief since the issue of the first volume in 1942. The publication of Volume 11 now brings a new editor-in-chief in the person of Prof. Arthur C. Cope, a former member of the editorial board who has been professor of organic chemistry and head of the Department of Chemistry at the Massachusetts Institute of Technology for the past fifteen years. Fortunately, Prof. Adams's services will still be available, since he retains a seat on the editorial board.

The plan and physical make-up of the present volume follows the familiar pattern, which has the great merit of bringing the experimental procedures of important type-reactions into line with critical views and reference tables. Five important types of reaction find treatment in Volume 11: the Beckmann rearrangement; the Demjanov and Tiffeneau-Demjanov ring expansions; arylation of unsaturated compounds by diazonium salts; the Favorskii rearrangement of haloketones; and finally, olefins from amines: the Hofmann elimination reaction and amine oxide pyrolysis.

Besides its own subject index, Volume 11 contains an author index and a chapter index covering Volumes 1-11.

JOHN READ

Iterative Arrays of Logical Circuits

By Frederick C. Hennie, III. (M.I.T. Press Research Monographs.) Pp. x + 242. (Cambridge, Mass.: Massachusetts Institute of Technology Press; New York and London: John Wiley and Sons, Inc., 1961.) 40s.

THE use of logic networks having an iterative structure represents an attempt to simplify the description of very large systems and reduce the design effort required to produce them. Given one of a comparatively small number of alternative regular interconnexion patterns, the behaviour of an iterative system is determined by the behaviour of a single element (or cell), the boundary conditions and primary input signals. The study of iterative logic systems forms a comparatively new art; for example, Caldwell (1958) has one short chapter on one-dimensional iterative networks which deals with a few special cases.

With a growing interest in self-organizing and self-reproducing systems it becomes natural to inquire into the more general properties of iterative networks and to try to formulate techniques for analysis and synthesis. This book represents one of the first attempts to do this; it sets a standard for the formal description of iterative systems and makes an important contribution to the theory. Although it only (in the author's words) attempts to answer a few questions about the analysis and synthesis of iterative arrays, the questions are well chosen and timely, and the tests devised to answer the questions form the groundwork for future work.

The book consists of 11 chapters. It is essentially a copy of the author's Ph.D. thesis submitted to the Massachusetts Institute of Technology in May 1961. It is extremely well written, and I recommend it to workers in the field.

N. E. WISEMAN

Advances in Food Research

Vol. 10. Edited by C. O. Chichester, E. M. Mraak and G. F. Stewart. Pp. xiii + 488. (New York: Academic Press, Inc.; London: Academic Press, Inc. (London), Ltd., 1960.) 13 dollars.

HERE once more are the long discursive articles—52 pages of "Protein Chemistry and Food Research" with 141 references, 109 pages of "Biochemistry of Meat Hydration" with nearly 500 references. Here are admirable reviews gathering together all the known facts about the aroma and flavour of Japanese soy sauce and about paralytic shellfish poison. There are also articles about potato chip technology and about sauerkraut, in which it is perhaps just possible to detect the seam between the learned science of the references and the expert knowledge of the technology.

In one article, after twenty pages of heavy prose, the authors draw breath and write: "the following section discusses certain problems meriting special consideration with particular emphasis on those with a more practical objective. Those purely basic ones do not require much discussion. They require facilities, financial support, freedom and encouragement". More than these, they require brains and thought, most particularly thought by the distinguished editors, or the next title of the perpetually pregnant "Advances in" series will be "Advances in Advances".

MAGNUS PYKE

Annual Review of Physiology

Vol. 23. Edited by Victor E. Hall, in association with Frederick A. Fuhrman and Arthur C. Giese. Pp. v + 674. (Palo Alto, Calif.: Annual Reviews, Inc.; and the American Physiological Society, 1961. On sale by Annual Reviews, Inc.) 7 dollars.

THE twenty-third volume of the *Annual Review of Physiology* maintains the tradition of its predecessors. There are twenty-one articles, averaging about thirty pages each, summarizing recent literature up to the summer of 1960 in different physiological fields. A dozen or more of these are discussed every year—respiration, the digestive system, the adenohypophysis and adrenal cortex, reproduction, peripheral circulation, heart, excitation and conduction, the somatic, visceral and higher functions of the nervous system (always in that order), and excretion. Other subjects which are discussed this year, but not every year, include transport through biological membranes, liver, skin, hearing and muscles. There are articles dealing with the comparative physiology of photoperiodicity and transmitter substances. There is a useful cumulative index of the last five volumes.

It is an interesting fact that the introductory chapter of reminiscences and general discussion is by a well-known pharmacologist—Prof. Carl F. Schmidt, who has written on "Pharmacology in a Changing World". He gives an interesting account of the way that pharmacology has grown recently and made important contributions both to physiology and to clinical medicine. This year has seen the first International Meeting of Pharmacologists and the first *Annual Review of Pharmacology*, and there is a danger that pharmacology may lose its links with physiology. The fact that a committee of physiologists has invited Carl Schmidt to write the opening chapter of the present book shows that the two subjects are still good friends.

J. H. GADDUM