BOOK REVIEWS

Annual Review of Biochemistry. Volume 27. J. MURRAY LUCK, Editor, Stanford University, FRANK W. ALLEN, Associate Editor, University of California, and GORDON MACKINNEY, Associate Editor, University of California. Annual Reviews, Inc., Grant Avenue, Palo Alto, California. 1958. vii + 775 pp. 16 × 23 cm. Price, $7.00 (U.S.A.), $7.50 (elsewhere).

The latest volume in this distinguished series opens with a stimulating prefatory essay, "Impressions of an Organic Chemist in Biochemistry," by H. T. Clarke. In the chapters that follow, many of the areas of biochemistry regularly covered in previous volumes are again treated comprehensively; in nearly all instances, the literature until November, 1957, has been included. The chapter on carbohydrate chemistry, by R. E. Reeves, has a valuable discussion of the conformational problems in this field, and recent advances in carbohydrate metabolism are ably covered by M. F. Utter. This volume lacks a chapter on protein chemistry; in the area of protein metabolism, excellent chapters have been written on proteolytic enzymes (G. H. Dixon, H. Neurath and J.-F. Pechère), on amino acid metabolism (M. J. Coon and W. G. Robinson), and on protein biosynthesis (H. Chantrenne). In other areas of intermediate metabolism, G. Popják has contributed a fine discussion of cholesterol biosynthesis, and a splendid summary of new knowledge about the enzymology of nucleic acids has been prepared by L. A. Heppel and J. C. Rabinowitz. G. Schramm has written an excellent chapter on the biochemistry of viruses. Other subjects regularly treated in this series and included in the present volume are: biological oxidations (J. B. Neilands), vitamins (in four parts: (1) H. P. Broquist, (2) C. H. Lushbough and B. S. Schweigert, (3) H. P. Sarett and A. B. Morrison, (4) S. R. Ames), nutrition (N. S. Scrimshaw, G. Arroyave and R. Bressani), biochemistry of cancer (H. E. Skipper and L. L. Bennett, Jr.), and metabolism of drugs (B. B. Brodie, J. R. Gillette and B. N. La Du).

The volume contains, in addition, several special chapters of exceptional merit, notably those of O. K. Behrens and W. W. Bromer (biochemistry of protein hormones) and by E. B. Chain (chemistry and biochemistry of antibiotics). H. L. A. Tarr has collected recent information about the biochemistry of fishes, and W. Shive and C. G. Skinner have prepared a review on metabolic antagonists. The volume concludes with a chapter, by J. A. Stekol, containing summaries of recent biochemical papers in Soviet journals.

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YALE UNIVERSITY JOSEPH S. FRUTON
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Nouveau Traité de Chimie Minérale. Vol. XII. Vanadium–Niobium–Tantale–Protactinium. Edited by PAUL PASCAL, Membre de l'Institut, Professeur honoraire à la Sorbonne. Masson et Cie., 120 Boulevard Saint-Germain, Paris 6, France. 1958. xxxix + 692 pp. 17.5 × 26 cm. Price, broché, 6.000 fr.; cartonné toile, 7.000 fr.

This volume of Pascal's treatise deals with the elements of Group Vb and, with the exception of a brief introduction, textual material was written by authors other than the editor. Vanadium is treated by André Morette in 275 pages, niobium and tantalum by Foex and Rohmer in 336, and protoactinium is covered in 64 pages by Haissinsky and Bouissieres.

Only protoactinium can be used for comparison with Gmelin, which has an earlier date of publication. Despite a difference of 16 years in this respect, a more comprehensive treatment is noted in Gmelin for most areas. The historical background of the elements is not too extensive in this volume of Pascal. While over nine pages of such material may be found in Gmelin for protoactinium, Pascal has little over a page. Factors of time and format would necessarily indicate a larger number of pages to be expected in Pascal than in the treatise by Mellor, and this volume of Pascal does contain 461 more pages than devoted by the former to the four elements concerned.

, A criticism may be made as to the dates of literature searches made for this volume. Some 33 bibliographies are presented at intervals throughout the text, and the dates of the searches are given for each. In five instances, supplementary searches were made after the original searches to bring the material up to date, but for 20 of these bibliographies no further searches were made beyond 1955. A few indicate that the literature was covered to the latter part of 1957, but most of the bibliographies indicate a gap of nearly two years from the latest literature search to the date of publication in 1958. It is felt that for a particular volume within the treatise, all sections should be based upon searches made to a single point of time.

This volume of the treatise and volumes published previously have areas which are open to criticism, but aside from minor errors in the translation of foreign works and use of older terminology in some cases, generally high standards have been maintained for the work. The format, style and binding are of high quality. Bibliographic devices are most useful for rapid location of references. While the treatise may not be considered to equal or surpass Gmelin as a comprehensive reference tool in all areas, it does and will have the advantage of being more recent. A good use has been made of the newer theories proposed since the publication of the older comprehensive works, and when the set will be completed in 1960, it promises to become a most important addition to the reference sources available in the field of inorganic chemistry.

CHEMISTRY-PHARMACY LIBRARY
UNIVERSITY OF FLORIDA ROGER V. KRUMM
GAINESVILLE, FLORIDA

The Kinetics of Vinyl Polymerization by Radical Mechanisms. By C. H. BAMFORD, M.A., Ph.D., Sc.D., Courtaulds Ltd., Research Laboratory, Maidenhead, Berks., W. G. BARB, B.Sc., Ph.D., Yarsley Research Laboratories Ltd., Chessington, Surrey, A. D. JENKINS, B.Sc., Ph.D., F.R.I.C., Courtaulds Ltd., Research Laboratory, Maidenhead, Berks., P. F. ONYON, B.Sc., Ph.D., D.I.C., F.R.I.C., College of Technology, Birmingham, Warwicks. Academic Press, Inc., 111 Fifth Avenue, New York 3, N. Y. 1958. xii + 318 pp. 15 × 23 cm. Price, $8.80.

The subject of radical-initiated vinyl polymerization, although largely developed in the past thirty years, exhibits one of the most satisfactory applications of chemical kinetics to the interpretation of chemical reactions. The results of this work have very many important technical and commercial applications. Furthermore we have here a scientific subject which is approaching, but has not quite reached, the well rounded beauty of the classical sciences.

Many fine treatments of this subject have appeared either as parts of books on polymer chemistry or on chemical kinetics. A few books, *e.g.*, that of Burnett, are devoted exclusively to the mechanism and kinetics of polymer reactions.

This work by Bamford, *et al.*, will find a useful place in the library of polymer chemistry and chemical kinetics. It tries to steer an intermediate course between conciseness and comprehensiveness by the criterion of critical choice. The reviewer found places, *e.g.*, the initiation rate, where he felt that the treatment was insufficiently comprehensive; in other situations, especially Chapter 7, he felt that the treatment was not sufficiently concise or simple. Yet the over-all impression is very good and the book can be highly recommended for all interested in the subject.

DEPARTMENT OF CHEMISTRY
PRINCETON UNIVERSITY ARTHUR TOBOLSKY
PRINCETON, N.J.