
NEW BOOK

Modern Advances in Inorganic Chemistry. By E. B. MAXTED. Printed in Great Britain at the University Press, Oxford. 1947. 296 pages.

This book, like "Modern Aspects of Inorganic Chemistry" by Emeléus and Anderson, is a survey of some special topics within the sphere of present-day inorganic chemistry. The author begins by explaining that inorganic chemistry no longer is systematized entirely within the framework of the periodic system, but has been enlarged "in a revolutionary manner by an increased knowledge of atomic structure and by the application of the newer theories of matter and energy." He then proceeds to summarize, within the next eighty pages, the nature and the fields of application of these newer theories. There follows a sixty-four page section devoted to hydrogen and its isotopes, including the ortho and para forms of hydrogen. Chapter 3 surveys the recent chemistry of the halogens, with particular reference to the inter-halogen compounds and the more recently discovered oxides of these elements. A short chapter then is devoted to the chemistry of hafnium and a longer one to masurium and rhenium. Some reactions in discharge tubes are then considered in detail, and the final two chapters are concerned with the preparation and uses of artificial radioactive elements and the transuranic elements. The Appendix contains tables of electronic configurations of the elements, a table of abundances and packing fractions of the naturally-occurring isotopes, and some data on atomic radii.

One might wish for a comprehensive volume of inorganic chemistry which would treat all of its aspects as readably as Maxted has done here. In the absence of such an exhaustive work, however, a great deal of interesting information may be gained about the selected topics from the surveys given here. The chapter on hafnium constitutes a handbook on the discovery and behavior of this interesting element, and the following chapter on rhenium is as complete as one would expect in the 8th edition of Gmelin. However, it appears that the author wrote the different sections at different times because some of the chapters contain references principally to work done during the 1930's, whereas the chapters on radioactivity and the transuranic elements go up through 1945. As a result, the four pages of what is written about masurium are in large part brought into question by the preparation of element 43 by Perrier and Segré, as the author has been quick to acknowledge on an insert added after the printing. No critical and final summary of the chemistry of elements 43 and 61 can be made, of course, until the various claims and counter-claims have been settled by some definitive body.

The discussion of artificially radioactive elements purposely is limited to a discussion of the light elements as representative examples of the entire field, and, therefore, constitutes a treatment different from that accorded the previous subjects. However, the material is well presented and should serve as an interesting introduction to radiochemistry for those who would like to take it up from the chemical viewpoint.

This book should appeal particularly to those who have been away from inorganic chemistry for some time and would like to survey some recent advances in order to learn how things now are done. The physical introduction

naturally will be of service to college students, and particularly to those who are taking up a course in advanced inorganic chemistry with deficient preparation. In combination with Wells' "Structural Inorganic Chemistry" and the volume by Emeléus and Anderson referred to above, it presents a good account of what has happened since the "revolution" in inorganic chemistry.

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BOOKS RECEIVED

March 10, 1949—April 10, 1949

CECIL E. BOORD, WALLACE R. BRODE AND ROY G. BOSBERT. "Laboratory Outlines and Notebook for Organic Chemistry." 2nd Edition. John Wiley and Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. 1949. 282 pp. \$3.00.

HERBERT E. CARTER, Editor-in-Chief. "Biochemical Preparations." Volume I. John Wiley and Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. 76 pp. \$2.50.

LOUIS F. FIESER AND MARY FIESER. "Natural Products Related to Phenanthrene." Reinhold Publishing Corporation, 330 West 42nd St., New York, N. Y. 1949. 704 pp. \$10.00.

WILLIAM H. HATCHER. "An Introduction to Chemical Science." 2nd Edition. John Wiley and Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. 1949. 449 pp. \$4.00.

L. F. HEWITT. "Oxidation-Reduction Potentials in Bacteriology and Biochemistry." Fifth Edition. Published by the London County Council and may be purchased either directly or through any Bookseller, from Staples Press Ltd., 14, Great Smith St., Victoria St., Westminster, S. W. 1, London. 1948. 130 pp. Price, 4s. 6d. By post 4s. 6d.

OSEE HUGHES. "Introductory Foods." Revised Edition. The Macmillan Company, 60 Fifth Avenue, New York, N. Y. 1949. 575 pp. \$4.25.

WILLI MACHU. "Chemie und Chemische Technologie." Springer-Verlag in Wien 1, Mölkerbastei 5, Germany. 1949. 758 pp. \$9.60.

F. RADT, Editor-in-Chief. "Elsevier's Encyclopaedia of Organic Chemistry." Series III, Vol. 12B, Part I. Elsevier Publishing Company, Inc., 215 Fourth Avenue, New York 3, N. Y. 344 pp. Subs. Price, \$24.00; Series Price, \$28.00; Single Price, \$32.00.

ANTHONY M. SCHWARTZ AND JAMES W. PERRY. "Surface Active Agents." Interscience Publishers, Inc., 215 Fourth Avenue, New York 3, N. Y. 1949. 579 pp. \$10.00.

HARRY BOYER WEISER. "Colloid Chemistry." 2nd Edition. John Wiley and Sons, Inc., 440 Fourth Avenue, New York 16, N. Y. 1939, 1949. 444 pp. \$5.50.