

Progress in the Science and Technology of the Rare Earths. Volume I. Edited by LEROY EYRING, Department of Chemistry, Arizona State University. The Macmillan Co., 60 Fifth Ave., New York, N. Y. 1964. 532 pp. 16 × 23.5 cm. \$17.50.

"This volume presents the first of a series of surveys" to be prepared on a periodic basis. These articles contain references through 1962. It is intended that "with this volume as a starting point, it will become increasingly facile for scientists to maintain a continuing knowledge of progress in this field." The quotations are taken from the Editor's Introduction.

The book consists of 16 review articles covering a variety of topics as indicated by the titles: Aspects of the Geochemistry of the Rare Earths, Mass Extraction and Separation, The Separation of Rare Earths by Ion Exchange, Liquid-Liquid Extraction of the Rare Earths, Fractionation of Rare Earths by Liquid-Liquid Extraction Using Phosphorus Based Extractants, Solution Chemistry, Recent Soviet Research on the Chemistry of Rare Earth Complexes, Kristallchemie der Oxide der Seltenen Erden, Phase Equilibria Studies in Mixed Systems of Rare Earth and Other Oxides, Crystal Chemistry of Rare Earth Sesquioxides, Aluminates and Silicates, Structural and Physical Properties of Alloys and Intermetallic Compounds, Composes Mineraux et Organiques, Thermodynamic and Magnetic Properties of the Rare Earth Chalcogenides, La Chimie Analytique des Terres Rares, Soviet Research on Analytical Chemistry of the Rare Earths, Uses and Applications.

The book is written for those with experience in the field although most students should be able to follow most of it. The growing amount of information in these areas is clearly demonstrated, and the need for authoritative reviews has been met.

In general the book is well written, and the material is thoroughly documented, (providing 200-300 references for several and at least 100 for most articles). The typographical errors are few. Coordination of the work has eliminated overlap and provided a good balance of material. A Name Index facilitates reference to the information.

The authors are to be commended for their efforts in producing these reviews. Unfortunate delays in printing have yielded a book which met its goal of literature coverage through 1961, but is not current enough to include some of the more recent research such as laser applications. In spite of this limitation, this volume is recommended to all who wish an authoritative treatment of the occurrence, separation, chemistry, and properties of the rare earths, their compounds and alloys.

Karl Vorres

*Department of Chemistry, Purdue University
Lafayette, Indiana*

BOOKS RECEIVED, May 1965

E. J. ARIENS, Editor. "Molecular Pharmacology. The Mode of Action of Biologically Active Compounds." Volume II. Academic Press Inc., 111 Fifth Ave., New York 3, N. Y. 1964. 280 pp. \$10.00.

NICHOLAS D. CHERONIS, JOHN B. ENTRIKIN, and ERNEST M. HODNETT. "Semimicro Qualitative Organic Analysis. The Systematic Identification of Organic Compounds." Third Edition. Interscience Publishers, John Wiley and Sons, Inc., 605 Third Ave., New York 16, N. Y. 1965. 1060 pp. \$29.50.

KENNETH DENBIGH. "Chemical Reactor Theory. An Introduction." Cambridge University Press, 32 East 57th St., New York 22, N. Y. 1965. 184 pp. \$6.50.

ERIC B. FOWLER, Editor. "Radioactive Fallout, Soils, Plants, Foods, Man." American Elsevier Publishing Co., Inc., 52 Vanderbilt Ave., New York 17, N. Y. 1965. 317 pp. \$14.00.

SIDNEY W. FOX, Editor. "The Origins of Prebiological Systems and of Their Molecular Matrices." Academic Press Inc., 111 Fifth Ave., New York 3, N. Y. 1965. 482 pp. \$8.00.

J. A. FRIEND and F. GUTMANN, Honorary Editors. J. W. HAYES, Honorary Assistant Editor. "Proceedings of the First Australian Conference on Electrochemistry held in Sydney, 13-15 February, and Hobart, 18-20 February 1963." The Macmillan Co., 60 Fifth Ave., New York 11, N. Y. 1965. 954 pp. \$30.00.

MAXWELL GORDON, Editor. "Psychopharmacological Agents." Volume I. Academic Press Inc., 111 Fifth Ave., New York 3, N. Y. 1964. 678 pp. \$23.50.

THOMAS J. HUGHEL, Editor. "Liquids: Structure, Properties, Solid Interactions." American Elsevier Publishing Co., Inc., 52 Vanderbilt Ave., New York 17, N. Y. 1965. 384 pp. \$20.00.

J. LEE KAVANAU. "Structure and Function in Biological Membranes." Volume II. Holden-Day, Inc., 728 Montgomery St., San Francisco, Calif. 1965. 760 pp. \$14.75.

HENRY M. LEICESTER. "The Historical Background of Chemistry." John Wiley and Sons, Inc., 605 Third Ave., New York 16, N. Y. 1965. 260 pp. \$1.65.

DANIEL C. MATTIS. "The Theory of Magnetism. An Introduction to the Study of Cooperative Phenomena." Harper and Row, 49 East 33D St., New York 16, N. Y. 1965. 303 pp. \$11.50.

ALFRED J. MOSES. "Nuclear Techniques in Analytical Chemistry." The Macmillan Co., 60 Fifth Ave., New York 11, N. Y. 1965. 142 pp. \$6.50.

MARY L. PETERMANN. "The Physical and Chemical Properties of Ribosomes." American Elsevier Publishing Co., Inc., 52 Vanderbilt Ave., New York 17, N. Y. 1964. 258 pp. \$10.00.

G. N. RAMACHANDRAN, Editor. "Advanced Methods of Crystallography." Academic Press Inc., Ltd., Berkeley Square House, Berkeley Square, London, W1, England. 1964. 279 pp. \$10.50.

H. REISS, Editor. "Progress in Solid State Chemistry." Volume 2. The Macmillan Co., 60 Fifth Ave., New York 11, N. Y. 1965. 475 pp. \$17.50.

ARTHUR F. SCOTT, Editor. "Survey of Progress in Chemistry." Volume 2. Academic Press Inc., 111 Fifth Ave., New York 3, N. Y. 1964. 345 pp. \$7.95.

EGON STAHL, Editor. "Thin-Layer Chromatography. A Laboratory Handbook." Academic Press Inc., 111 Fifth Ave., New York 3, N. Y. 1965. 553 pp. \$17.00.

L. E. SUTTON, Scientific Editor. "Tables of Interatomic Distances and Configuration in Molecules and Ions. Supplement 1956-1959." Special Publication No. 18. The Chemical Society, Burlington House, London, W1, England. 1965. 288 pp. \$12.00.

GEORGE WOLF, Editor. "Recent Research on Carnitine. Its Relation to Lipid Metabolism." The MIT Press, Massachusetts Institute of Technology, Cambridge, Mass. 1965. 210 pp. \$7.50.