in order to enjoy the fruits of the latter. For these chapters are in the best sense original papers and represent a method of presenting original results which our journals have abandoned not from preference, but from expediency. The plates are excellent, the practice of printing legends several pages away from the plate is regrettable. Apart from this minor criticism, both the printing and layout are pleasing. For those investigators and students who are really concerned to learn about recent studies in the field, this volume will be invaluable.

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Comprehensive Inorganic Chemistry. Volume IV. Edited by M. CANNON SNEED, Professor Emeritus of Chemistry, School of Chemistry, University of Minnesota, and ROBERT C. BRASTED, Associate Professor of Chemistry, School of Chemistry, University of Minnesota. Part I. Zinc, Cadmium and Mercury. By HOWARD M. CYR and THE EDITORS. Part II. Scandium, Yttrium, and the Lanthanide Series. By THOMAS D. O'BRIEN and THE EDITORS. D. Van Nostrand Company, Inc., 120 Alexander Street, Princeton, New Jersey. 1955. x + 193 pp. 16 × 23.5 cm. Price, $5.00.

This book is the fourth of an eleven-volume reference work on the chemical elements and their inorganic compounds under the editorship of M. Cannon Sneed and Robert C. Brasted. The stated purpose of this work is to provide a ready reference for the chemist, neglecting fullness of treatment for extensive treatment. The authors of this volume have achieved this end in their comprehensive handling of the elements discussed.

In the introduction to the chapters on zinc, chromium and mercury the Group IIB elements are compared with each other, with the Group IB elements, and with Group IIA elements in the standard manner. The relationships are correlated with patterns deduced from the periodic system. The general treatment of scandium, yttrium and the lanthanides in the introduction to this section of the book is also standard. There is a discussion of their chemical resemblance on the basis of the similarity in electronic structure of these elements.

Several useful tables in the two introductory sections present properties of the metals, their standard redox potentials, some thermodynamic values, and a list of their naturally occurring and artifically induced radioactive isotopes.

The history, occurrence and metallurgy of the elements are fully discussed in the text. Their chemical and physical properties and uses are listed. Important uses derived from some of these properties are detailed. For example, the alloying properties of zinc and cadmium and the solubility of metals in mercury receive rather extensive treatment. Since a principal use of zinc is to protect iron against corrosion, a brief but useful discussion of some of the theories of corrosion as well as methods of protecting metals against this phenomenon is included.

Because of the similarity of the rare earth elements, attention is given to the various methods of purification and separation. Fractional crystallization, extraction, thermal stability and volatility, complex formation and chromatography are discussed briefly.

A comprehensive list of the inorganic compounds of the elements is also presented in the text. The method of preparation, the chemical and physical properties and the uses of the more important compounds are presented.

The material presented in the section of the book dealing with the Group IIB elements should be of considerable utility as a reference for those engaged in the commercial handling of these metals. The more fundamental discussion of scandium, yttrium and the lanthanide series should make this section of the book a useful reference to the advanced chemical student.

In several instances references are omitted (*e.g.*, see pp. 56–58). Such omissions are serious since an important function of the book is to serve as a reference to a more detailed discussion of specific items.

There are other omissions. For example, the usefulness of mercury as a cathode electrode is not mentioned. This is an important use that deserves some attention.

The statement that radioactive isotopes of mercury are formed by nuclear fission on page 94 is in error.

The few criticisms listed above must not detract attention from the fact that the purpose of the book is admirably attained. This book satisfies the need for a comprehensive and extensive treatment of the chemical field which is not serviced by the text book and the encyclopedic chemical reference book.

IONICS, INC.
152 SIXTH STREET JACK A. MARINSKY
CAMBRIDGE, MASSACHUSETTS

BOOKS RECEIVED

March 10, 1956–April 10, 1956

G. DEICHA. "Les Lacunes des Cristaux et Leurs Inclusions Fluides. Signification dans la Génèse des Gites Minéraux et des Roches." Masson et Cie, Éditeurs, Libraires de l'Académie de Médecine, 120 Boulevard Saint-Germain, Paris VI, France. 1955. 126 pp. 950 fr.

JACQUES ERRERA. "Chimie Physique Nucléaire Appliquée." Masson et Cie, Éditeurs, Libraires de l'Académie de Médecine, 120 Boulevard Saint-Germain, Paris VI, France. 1956. 226 pp. 2.100 fr.

KURT MITCHEL, Editor. "Die Wissenschaftliche und Angewandte Photographie." Fünfter Band. "Die Technik der Negativ- und Positivverfahren." By Edwin Mutter. Springer-Verlag, Mölkerbastei 5, Wien 1, Austria. 1955. 396 pp. Ganzleinen US $15.70.

ANTONIO NASINI, GIULIO NATA, AND MARIO MILONE, Organizers of the Symposium. "Simposio Internazionale di Chimica Macromolecolare." (International Union of Pure and Applied Chemistry. International Symposium on Macromolecular Chemistry.) Interscience Publishers, Inc., 250 Fifth Avenue, New York 1, N. Y. 1955. 954 pp. $19.20.

J. SURUGUE. "Techniques Générales du Laboratoire de Physique." Volume 1, 2nd Edition. Centre National de la Recherche Scientifique Service des Publications, 13 Quai Anatole France, Paris 7, France. 1955. 671 pp. frs. 2.400.

ARTHUR I. VOGEL. "A Text-book of Practical Organic Chemistry including Qualitative Organic Analysis." Longmans, Green and Co., 55 Fifth Avenue, New York 3, N. Y. 1956. 1188 pp. 60/-.