

reasons for placing hydrogen at the top of the halogen column of the periodic table (p. 28) omits the most cogent of all—the interchangeability of chlorine and hydrogen in hydrocarbons and hydrocarbon radicals. The conception that sodium is trivalent in  $\text{H—Na=O}$ , attributed to Wanklyn (p. 59), was urged two years earlier (1867) by Wolcott Gibbs. Whenever a chlorine compound presents difficulty, the presence of the group  $\text{—Cl=Cl—}$ , or  $(\text{Cl}_2)^{\text{II}}$ , is suggested (*e. g.*, pp. 58, 61, 64, 67, 111). But the origin of this idea, in which the author frequently takes refuge, is nowhere given. Its use, first by Naquet (1867) for  $\text{K—(Cl)}_2\text{—Ag}$ , and later, on an extensive scale, by Blomstrand and Remsen, and later still by Armstrong (1885) and others is nowhere mentioned. In this connection, the conclusion of more than a page about calomel may be noted: “It is not improbable” that the formula is  $\text{Hg—Cl=Cl—Hg}$ . If the work of Ogg and others, showing that mercury salts in solution give the ion  $\text{Hg}_2^{\text{II}}$ , had not been overlooked, an equally vague vote for the alternative formula  $\text{Cl—Hg=Hg—Cl}$  would probably have been substituted for that actually cast by the author.

In the absence of other recent works on the subject the book may prove interesting to advanced students, but critical reading is required to sift the chaff from the wheat.

ALEXANDER SMITH.

**Antimony.** Its History, Chemistry, Mineralogy, Geology, Metallurgy, Uses, Preparations, Analysis, Production, and Valuation, with Complete Bibliographies. By CHUNG YU WANG, M.A., B.Sc., Mining Engineer and Consulting Geologist. Philadelphia: J. B. Lippincott Company; London: Charles Griffin & Company, Limited. 1909. pp. 2 + 217, illustrated. Price, \$4.00 net.

“A metallurgical work in English by a Chinese author is unusual,” indeed. More books of this character are desirable, whoever may be the authors or whatever may be their nationalities. The book is marred by a few China-isms (perhaps, the reviewer does not know Chinese), but they simply lend color to the quite complete summation of the knowledge of antimony along with the presentation of much that is novel.

The work is arranged in the most orderly and systematic manner, as one would anticipate, when he notes that it is dedicated to Prof. J. F. Kemp, “under whose guidance the author has learned the value and method of scientific research.” One illustration of the completeness of the work will suffice. Seventy-nine pages are given to the metallurgy of the element. These contain a bibliography of 197 references, including the patents of the United States, England, Germany, France, and Belgium. A digest of the causes for the variations in the prices of antimony are given and the volume closes with lists of the principal mines and smelting works of the metal.

In closing the review of this book, a copy of which should be in every library of chemistry, two thoughts of general significance come to the

writer. First, it is hoped that the knowledge of other elements may be brought together in a manner similar to this and Parsons' "Beryllium;" second, that the publishers so arrange the finish of chapters that the books may be revised every few years simply by the addition of the new facts to the end of each chapter. This will avoid recasting of plates and make it financially possible to keep them up to date, for the sale of these books bearing upon such special topics cannot warrant the expenditure incident to the complete resetting of the type or recasting of the plates.

CHAS. BASKERVILLE.

**Tables of Properties of Over Fifteen Hundred Common Inorganic Substances.** By WILHELM SEGERBLOM, A.B., x + 144 pp. Exeter, N. H.: Exeter Book Publishing Co. Price, \$3.00.

The data contained in this book have, according to the author's statement in the preface, been compiled from such reference books as Watts' "Dictionary," Dammer's "Handbook," the Chemiker-Kalender, etc., and therefore the only novelty appears to be the arrangement of the material. The pages are ruled off in rectangles and the names of the metallic constituents of the salts are placed at the top and the names of the acid radicals along the sides of the pages, thereby giving for each salt a square in which is printed a brief description of its properties. The advantages of such an arrangement over the ordinary concise tabular form of presenting similar information as found in the Chemiker-Kalender and the recent Chemical Annual edited by Prof. J. C. Olsen is open to question. A very much larger amount of space is required with the present arrangement and very little more data are given for most of the substances. The plan of grouping together the closely related compounds has certain advantages which will no doubt be appreciated by the teacher, and it is probable that the book may prove as helpful to other students of qualitative analysis as it has to those of the author, but for the chemist who is provided with a Chemiker-Kalender or a Chemical Annual little real use will be found for the present volume.

A. SEIDELL.