

## BOOK REVIEW

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*Halogen Chemistry*. Vol. 1; edited by V. GUTMANN, Academic Press, London and New York, 1967, xiii + 473 pages, £6.0.0., \$21.00.

This is the first of a three volume series of reviews on halogen chemistry. The market is now being flooded with new review journals and reviews. All of the journals start well with useful reviews from knowledgeable authors, but as material for review becomes exhausted there follows the unnecessary partial repetition of subject between review journals, and a lowering of standards. The editor and publisher of this volume have made a wise choice. They have taken an important field, not in the glamour class but ripe for review, and are limiting their "new journal" to three volumes. Were it that others would do the same! The reviewers have also taken proper note of other reviews in their field, and cover the literature to 1965-1966. They are all useful reviews and valuable collections of information.

The first review, by A. G. Sharpe, entitled "The physical inorganic chemistry of the halogens" (39 pages, 110 refs.) is critical and concerned with the fundamental physical properties, mainly energetic, of the halogen atoms, molecules and simple inorganic compounds. M. F. A. Dove and D. B. Sowerby follow with a detailed review entitled "Isotopic halogen exchange reactions" (92 pages, *ca.* 500 refs.) with numerous tables summarising data ranging in quality from the general observation that exchange does, or does not occur, to detailed kinetic studies. Exchange detected by nuclear magnetic resonance spectral studies is not included. In the third review, L. Stein covers minutely a limited field "Physical and chemical properties of halogen fluorides" (92 pages, 454 refs.) to be followed by A. I. Popov's summary of the present position in the rather difficult and somewhat frustrating field of "Polyhalogen complex ions" (40 pages, 166 refs.). The longest review "Electronic structure and molecular orbital treatment of halogen and noble gas complexes in positive, negative and unidentified oxidation states", (137 pages, *ca.* 750 refs.) comes from one of our most prolific authors Chr. K. Jørgensen, in his familiarly thorough manner. It surveys our present knowledge of electronic energy levels and electronic structures of stable and transitory halides and halide complexes of main Group elements and transition metals. Finally there is a useful short review entitled "Fluoride chemistry of the noble gases" (26 pages, 122 refs.) by H. Selig.

The book is well and clearly set out and printed. It has a comprehensive author index to references in the reviews (31 pages) and a short subject index (11 pages). It is a useful addition to the chemical literature but at £6.0.0. is for the library and the more wealthy "halogen specialist".

J. CHATT