

Books Received

The following books have been received by the Editor. Brief and generally uncritical notices are given of works of marginal crystallographic interest; occasionally a book of fundamental interest is included under this heading because of difficulty in finding a suitable reviewer without great delay. Mention here does not necessarily preclude a full review at a later date.

Plenum Press handbooks of high-temperature materials. No. 1. Materials index. By PETER T. B. SHAFFER. **No. 2. Properties index.** By G. V. SAMSONOV. Pp. xx + 740; xii + 418. New York: Plenum Press, 1964. Price \$17.50; \$22.50.

Handbook No. 1 contains data on the general, chemical, electrical, mechanical, nuclear, optical, structural, and thermal properties of approximately 520 refractory materials. The materials discussed include borides, carbides, nitrides, oxides, silicides, and certain elements. It is intended to facilitate data retrieval over a wide field, and there are nearly 700 references. It was originally published by The Carborundum Company in 1963.

Handbook No. 2 is a translation from the Russian, the original having appeared in Moscow in 1963. The author has, however, revised the data for the English edition, which includes many references dated 1962 and some dated 1963. In it the information is arranged by property instead of by chemical composition, and it includes a somewhat wider range of refractories.

The two volumes are complementary, partly because of the converse methods of arrangement adopted, and partly because No. 1 is strong on U.S.A. sources and No. 2 on U.S.S.R. sources, which account for some 500 of the 1300 references. If only one of the pair is to be bought, volume 2 would probably be the choice.

Geometrische Prinzipien beim Gitteraufbau intermetallischer Verbindungen. By GUSTAV E. R. SCHULZE. Pp. [18]. Berlin: Akademie-Verlag, 1963. Price DM 3.95.

This offprint from the *Abhandlungen der Sächsischen Akademie der Wissenschaften zu Leipzig* is described as a contribution to the Golden Jubilee of Laue's discovery of diffraction by crystals. It contains a very useful review and some theoretical considerations on intermetallic compounds of the AB_n types, and particularly of the AB_2 type.

Physics and chemistry of the earth. Volume 5. Edited by L. H. AHRENS, F. PRESS and S. K. RUNCORN. Pp. [vi] + 398. Oxford: Pergamon Press, 1964. Price £ 5.

Volume 5 contains six articles: The significance of the chemical bond for controlling the geochemical distribution of the elements, Part I, by L. H. Ahrens; Recent information of the earth's interior from studies of mantle waves and eigenvibrations, by B. A. Bolt; Geophysical studies of rift valleys, by R. W. Girdler; Geomagnetic micropulsations, by J. A. Jacobs and K. O. Westphal; Chemical thermodynamics in mineral studies, by H. Ramberg; and The geochemistry of the alkali metals, by K. S. Heier and J. A. S. Adams. There are about 800 references, a full author index, and a rather short subject index.

Complexing and hydrothermal ore deposition. By HAROLD C. HELGESON. Pp. xiv + 128. Oxford: Pergamon Press, 1964. Price 60s.

This book gives a coherent picture of the modern concept of hydrothermal ore-forming processes. It treats, from a thermochemical standpoint, the processes by which various ions can be transported in solution and typical minerals can be deposited. There are 206 references, and detailed author and subject indexes.

Advances in organic geochemistry. Proceedings of the International Meeting in Milan, 1962. Edited by UMBERTO COLOMBO and G. D. HOBSON. (International Series of Monographs on Earth Sciences, No. 15). Pp. [x] + 488. Oxford: Pergamon Press, 1964. Price £ 6.

Monograph 15 contains the text of about 40 papers presented at a meeting organized by the European branch of the Organic Geochemistry Group in Milan from 10-12 September 1962. The subjects bulking largest are naturally petroleum and coal, but seven papers deal specifically with analytical techniques, and three papers with the vexed question of the interpretation of the organic matter in carbonaceous meteorites.

Theory of spin relaxation. By W. J. CASPERS. (Monographs in Statistical Physics and Thermodynamics, Volume 6.) Pp. xii + 160. New York: Interscience Publishers, 1964. Price 75s.

As the title implies, this book is almost entirely mathematical. Chapter I gives a review of spin-relaxation phenomena. The author's own contributions to the subject are contained mainly in the rather longer Chapter II on the theory of spin-spin relaxation, and the main part of the book concludes with a short survey of the theory of spin-lattice relaxation. There are six mathematical appendices.

Fundamentals of orbital mechanics. By D. A. POGORELOV. Translated from the Russian by MORRIS FRIEDMAN and edited by JULIUS J. BRANDSTATTER. Pp. viii + 112. San Francisco: Holden-Day, 1964. Price \$5.00.

The theory of Keplerian motion, with applications to space flight.

Optical masers. By O. S. HEAVENS. Pp. viii + 103. London: Methuen, 1964. Price 16/-.

A good introductory account of this new and fascinating field. The techniques and applications relate to solid-state physics rather than to crystallography. Dare one hope that strong coherent sources can be developed for the X-ray region also?