

BOOK REVIEWS

GETTING ACQUAINTED WITH MINERALS, 2d ed., by GEORGE LETCHWORTH ENGLISH AND DAVID E. JENSEN. 363 pages. McGraw-Hill Book Company, Inc., New York, N. Y. \$6.95.

"Getting Acquainted with Minerals," first published twenty-four years ago by George Letchworth English, and long out of print, has been superbly brought up to date in this second edition by David E. Jensen, of Ward's Scientific Establishment, Rochester, New York.

Part I, about one-third of the book, is an excellent elementary introduction to mineralogy, with clearly written sections on crystallography, chemistry, and physics. Part II, descriptions of minerals, arranged alphabetically, includes all the common minerals, and takes up another third; it is followed by a section on Dana's Classification, and a listing of the elements as represented by their more important minerals. Part III includes a brief but adequate account of rocks, and a table for identification of minerals by luster, hardness, color, and other characteristics. Finally, an index of some 1,200 entries makes the immense amount of information in this book immediately accessible. Three hundred and fifty-five excellent illustrations—photographs of minerals, drawings of crystals, and scenes of mineralogical activity—embellish the text.

It is stated in the preface that within the last twenty years mineral collecting has become the third among so-called hobbies in this country, with some three million amateur mineralogists. It is indeed gratifying that there is available for their guidance and instruction a book that is both scientifically accurate and a pleasure to read.

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NENDO-KOBUTSO (CLAY MINERALS) by TOSHIO SUDO. No. 178 of the Iwanami Series, 4th edition, 273 pages plus 4 fold-in tables, and 1 fold-in plate, $4\frac{1}{2} \times 6\frac{3}{4}$ ", cloth bound. Publisher: Iwanami-Shoten, Tokyo, Japan. 1958 (in Japanese). Price 340 yen; about \$1.00.

This little volume is essentially another reprint of the first edition (1953) with an additional chapter of 31 pages summarizing briefly the important recent developments in clay mineralogy. The new references are appended to the bibliography.

The author plans a revision of the work that will provide a much more comprehensive summary of the current status of clay mineralogy and its problems. For an outline of subject matter of chapters 1 to 6 see the review of the first edition, *Am. Mineral.*, **39**, p. 685, 1954.

EARL INGERSON
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CONSTITUTION OF BINARY ALLOYS, by MAX HANSEN. Prepared with the cooperation of KURT ANDERKO. 1305 pages plus 40 diagrams. McGraw-Hill Book Company, New York, 1958. Price: \$32.50.

A first edition of this appeared as "Aufbau der Zweistofflegierungen" in the late thirties. The book would have been more aptly titled "Handbook and Constitution of Binary Alloys" since it served as a reference work for 20 years for metallurgists, solid state physicists, crystallographers and others interested in the constitution of binary alloys. Even without translation the original work was deemed valuable enough to be off-set printed in the early forties and distributed in the United States.

The revised edition has added all the material of the last twenty years and critically

evaluated all earlier diagrams as well in view of later findings. This has resulted in almost a doubling of the size of the book so that the present edition includes 1382 systems and 740 diagrams. Dr. Hansen spent several years at Armour Research Foundation following World War II and in the reviewer's opinion added clarity to the book in the translation. The sponsorship by the United States Air Force through the Wright Air Development Center made possible the publication of the book in its present form.

The thoroughness with which the German or English compile such a volume is well demonstrated in this book. About 9800 literature references are cited and the reviewer knows from personal experience that these references were not simply added to the bibliography but were critically examined before drawing the final diagram which appears in the book. As examples, the system Ag-Al has 35 references, the Fe-C has 135 and the last one in the book Zn-Zr has two references.

All diagrams have been re-drawn so that temperature is plotted versus atomic per cent rather than weight per cent as in the first edition. Also, "The presentation of data concerning the constitution of binary alloys system would be incomplete if crystallographic data were not considered systematically. As compared with the older work, not only the symmetry of the intermediate phases is given but their lattice spacings as well. Furthermore the literature dealing with the variation of lattice parameters of primary solid solutions has also been considered."

This book has far more exhaustive treatment of subject matter than its mineralogical counterpart—Phrase Diagrams for Ceramists (The American Ceramic Society, 1956). It is a monumental work and destined to be on every technical reference book shelf for the next 25 years.

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MINÉRAUX D'URANIUM DU HAUT KATANGA. Introduction by J. F. VAES; mineral descriptions by C. GUILLEMIN; and photographs by A. DESTAS. 81 pp. Published by "Les Amis du Musée Royal du Congo Belge," 13, Chaussée de Louvain, Tervuren, Belgium. 1958. Price 240 francs.

This paper bound book has 16 pages on the mode of formation and the associations of the secondary uranium minerals at Haut Katanga, followed by descriptions of these minerals, including optical and x-ray data. However, the most remarkable feature is the inclusion of 27 color plates (10×15 cm.). These photographs are beautifully reproduced, and anyone interested in minerals will be delighted with this feature.

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SELECTED ELECTRON MICROGRAPHS OF CLAYS AND OTHER FINE-GRAINED MINERALS, by THOMAS F. BATES. Circular No. 51, Mineral Industries Experiment Station, College of Mineral Industries, The Pennsylvania State University. 61 pages, 8½×11 inches. Price \$2.00.

This circular contains 101 reproductions of electron micrographs, with brief descriptions and comments, as follows: Kaolin group, 1-31; serpentine group, 32-44; illite group, 45-58; montmorillonite group, 59-77; vanadium minerals, 78-88; others, 89-101. A list of references is included.

These excellent reproductions should be of value to all who are working on clay minerals, and any mineralogist will find them of interest.

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