

BOOK REVIEWS

ELEMENTS OF OPTICAL MINERALOGY. PART 2. DESCRIPTIONS OF MINERALS. *Second edition.* N. H. WINCHELL AND A. N. WINCHELL. 424+XVI pages with 333 text figures. Entirely rewritten and much enlarged by A. N. Winchell. John Wiley & Sons, Inc., *New York*, 1927, Price \$5.50.

The student of optical mineralogy will find, upon careful examination, marked changes in this second edition compared with the earlier work published in 1909. By the omission of "Principles and Methods" which has appeared in a separate volume (Part 1. See *Am. Mineral.*, 8, p. 36) about one hundred additional pages are made available for the descriptions of minerals. This represents an expansion in the descriptive portion of the text of about thirty per cent. The order of presentation, likewise, has been changed from an alphabetical arrangement to the Dana system, which is also essentially the order recommended by the Committee on Nomenclature and Classification of the Mineralogical Society of America.

The text throughout is very liberally illustrated, many of the older cuts have been replaced by better ones and over one hundred additional figures have been added to clarify the descriptive portion. Some idea of the liberal employment of figures may be gained by a casual glance through the sixty-four pages devoted to the discussion of the feldspars. In this portion alone seventy-three figures and diagrams are used to help the student visualize the relationships existing between the optical and chemical properties of the various members of this group.

The book is more than a mere compilation of existing data as in many of the major isomorphous groups the author has attempted, in the light of recent investigations, to offer new interpretations and correlations between composition and optical properties. The book is well written, up-to-date, and should be frequently consulted by every advanced student of optical mineralogy.

W. F. H.

THE OPTIC AND MICROSCOPIC CHARACTERS OF ARTIFICIAL MINERALS. A. N. WINCHELL. *No. 4, Science Series, University of Wisconsin Studies*, Madison, Wisconsin. 215+XV pages. 1927.

This is a companion text to the one reviewed above. While the former records the optical properties of all natural minerals, this book contains like information on all artificial, inorganic compounds (referred to as artificial minerals in the text) in so far as these properties have been recorded in the literature. The order of presentation is the same as in the author's "Descriptions of Minerals," namely, the arrangement followed by Dana. Determinative tables for identifying these artificial compounds by optical and other properties, with cross references, constitute the last 35 pages of the book. The tables are based upon the isotropic or anisotropic character of the compound and arranged in order of increasing index of refraction.

By bringing together in a systematic manner into one volume the optical data which formerly were rather widely scattered the author has rendered a service for which petrographers, mineralogists and chemists will be exceedingly thankful.

W. F. H.

THE NATURE, ORIGIN, AND INTERPRETATION OF THE ETCH FIGURES ON CRYSTALS. A. P. HONESS. XIII+171 pages, with 16 figures and 79 original photographs of etch figures. John Wiley and Sons, New York, 1927.

This is the first comprehensive treatise on etch figures to be published in the United States, for American mineralogists have generally paid but little attention to this field of investigation. The value of the etch method in the accurate classification of crystals as to symmetry, and especially in connection with X-ray analysis and other methods of study, is well presented.

The history of the development of the etch method is first discussed, and naturally the splendid contributions of Baumhauer and Becke are emphasized. Then follow chapters in which the following are some of the subjects considered: the production and examination of etch figures; the effect of changes in temperature and solvent on the form of the figure; growth, interpretation, and distribution of etch figures; anomalous etch figures; and the importance of the etch figure in isomorphism. A very considerable portion of the text is devoted to a report on the author's study of the etch figures on the following minerals: cuprite, apophyllite, wulfenite, apatite, endlichite, tourmaline, celestite, barite, anglesite, and topaz. The last chapter is devoted to a summary and conclusions. The illustrations are excellent, especially the original photographs of the etch figures observed by the author on the 10 minerals studied by him.

The text is a very creditable and timely contribution to our knowledge of the character and value of etch figures.

EDWARD H. KRAUS

PROCEEDINGS OF SOCIETIES

PHILADELPHIA MINERALOGICAL SOCIETY.

Academy of Natural Sciences of Philadelphia, February 2, 1928.

A stated meeting of the Philadelphia Mineralogical Society was held on the above date with an attendance of thirty-seven members and eleven visitors. The president, Mr. Clay, presided.

The following were elected to membership: Messrs. J. T. Hendren and H. Stafford; Messrs. Fred Reinitz and Mr. S. B. Gilliard were elected to junior membership.

Mr. Gage exhibited and described certain minerals recently found at Franklin, N. J.

Dr. Paul F. Kerr of Columbia University then addressed the society on "*Mineralogy applied to the study of gems.*" The speaker described the various methods used to distinguish between natural and synthetic sapphires and rubies, between culture pearls and natural pearls; also how to distinguish amber from its various imitations. The talk, which was illustrated by lantern slides was followed by a general discussion.

F. A. CAJORI, *Secretary*