

EDWARDS, M. E. Introduction to Optical Mineralogy and Petrography. 197 pp. Gardner Printing Co., Cleveland, Ohio.

GEORGE, R. D. Common Minerals. 463 pp. Colo. Geol. Survey, 1917.

PROCEEDINGS OF SOCIETIES

THE NEW YORK MINERALOGICAL CLUB

The Thirty-fourth Annual Meeting of the New York Mineralogical Club was held on April 16, at the American Museum of Natural History with the President, Dr. Kunz, presiding.

The following officers were elected for the ensuing year: President, George F. Kunz; Vice-President, George E. Ashby; Corresponding Secretary, Wallace G. Levison; Recording Secretary, Herbert P. Whitlock; Treasurer, Gilman S. Stanton.

Dr. Alexander Hamilton Phillips, professor of mineralogy at Princeton University, addressed the club on Isomorphism and Crystal Structure. Professor Phillips gave a short historical sketch of the theory of isomorphism and showed the important part which the theory had played in the development of modern ideas of crystal structure, as well as in other chemical and mineralogical problems.

Specimens of current interest were exhibited by Mr. Wintringham and Mr. Whitlock. The President announced the retirement of Sir Lazarus Fletcher from the directorship of the natural history department of the British Museum, and the deaths of Prof. Carl Hintze, Prof. Max Bauer, and Prof. Fritz Frech.

HERBERT P. WHITLOCK, *Recording Secretary.*

PHILADELPHIA MINERALOGICAL SOCIETY

Wagner Free Institute of Science, May 8, 1919

A stated meeting of The Philadelphia Mineralogical Society was held on the above date with the President, Dr. Leffmann, and later, the Vice-president, Mr. Trudell, in the chair. Sixteen members were present.

Mr. Samuel G. Gordon addressed the society on "The Evolution of the Goniometer." He described the contact goniometers of Carangeot, Burrow, Adelman, Penfield, and Goldschmidt; the single vertical circle goniometers of Wollaston, Studer, Degen, Mitscherlich, Schrauf, Lang, Brezina, Mallard, and Miers; the single horizontal circle goniometers of Babinet, Haidinger, Borsch, Miller, Lang, and Websky; the two-circle goniometers of Miller, Goldschmidt, Fedorov, Czapski, and Stoeber; the three-circle goniometers of Herbert Smith, Klein, and Fedorov; the universal goniometers of Groth, Viola, Klein, and Hutchinson; the suspended goniometer of Miers; and the cutting and grinding goniometer of Tutton. The talk was illustrated with lantern slides, and two of the goniometers discussed.

Mr. Biernbaum reported an excursion to Perkiomen and Phoenixville, with Messrs. Frankfield, Gordon, and Nicols. The Montgomery mine, one of the Wheatley group, is being operated, and anglesite, cerussite, pyromorphite, and calamine were found.

Mr. Frankenfield reported drusy quartz, talc, and deweylite from Newtown Square.

Mr. Trudell reported (exhibiting lantern slides) the results of the society's trip to Vanartsdalen's quarry, attended by Messrs. Hagey, Bengé, Gordon, Knabe, Warford, and Trudell. Graphite, blue quartz, blue microcline, wollastonite, wernerite, zircon, titanite, phlogopite, chondrodite, and stilbite were found.

SAMUEL G. GORDON, *Secretary.*

NEW MINERALS

FERRIERITE

R. P. D. Graham: Ferrierite, a new zeolitic mineral from British Columbia, with notes on some other Canadian minerals. *Trans. Royal Soc. Canada* [3], 12, 185-201, 1918.

NAME: After the discoverer, Dr. W. F. Ferrier.

CRYSTALLOGRAPHIC PROPERTIES

System: Orthorhombic; habit: radiated groups of very thin blades, tabular on a (100) and elongated on the c -axis; forms: a (100), b (010), and d (101), with $a : d = \text{approx. } 67^\circ 47'$.

PHYSICAL PROPERTIES

Color: colorless to white; luster: vitreous to pearly; cleavage: perfect on a (100); H. = 3 - 3½; sp. gr. = 2.150.

OPTICAL PROPERTIES

Biaxial; refractive indices: $\alpha = 1.478$, $\beta = 1.479$, $\gamma = 1.482$, $\gamma - \alpha = 0.004$; $2V = 50^\circ 25'$; sign +; orientation: axial plane in direction of elongation of blades and obtuse bisectrix normal to the blades (a -axis).

CHEMICAL PROPERTIES

SiO₂ 69.13, Al₂O₃ 11.44, CaO none, MgO 2.92, Na₂O 3.97, K₂O 0.36, H₂O 13.05, sum 100.87 per cent. This yields the ratios: SiO₂ : Al₂O₃ : MgO : Na₂O : H₂O = 10 : 1 : 0.6 : 0.6 : 6.5. The mineral is thus related to morденite and ptilolite, but is remarkable in containing magnesium in place of calcium, differing thus from all other known zeolites. The water begins to come off below 100° and is then given off gradually tho not quite continuously; to bring the formula into accord with that of the related minerals, 1.35 per cent. of this water is regarded as basic, giving R₂Al₂(Si₂O₅)₅ · 6H₂O.

OCCURRENCE

Found in a cut of the Canadian Northern Railway west of Mile Post 17, on the north shore of Kamloops Lake, B. C. Occurs intimately associated with chalcedony in seams in basalt; often covered by subsequent calcite.

E. T. W.

ABSTRACTS OF MINERALOGIC LITERATURE

FERRIERITE, A NEW ZEOLITIC MINERAL FROM BRITISH COLUMBIA, WITH NOTES ON SOME OTHER CANADIAN MINERALS. R. P. D. Graham. *Trans. Royal Soc. Canada* [3], 12, 185-201, 1918.