

ful realization of the idea by Messrs. Friedrich and Knipping in 1912, and its subsequent more elaborate and effective development by Messrs. W. H. and W. L. Bragg, whereby great progress has been attained on the one hand in our knowledge of the nature of X-rays, and on the other of the architecture of crystals, or the disposition within them of the various elementary atoms of which they are constructed.

Dr. Wherry's review was illustrated with blackboard formulas, adjustable models of the atomic structure of crystals, and a series of lantern slides showing the X-Ray Spectrometer and the evidence it has afforded of crystal structure by both the photographic and ionization methods, taken largely from the recent treatise on the subject by W. H. and W. L. Bragg.

At the close of the discussion which followed, Dr. Wherry gave an account of the present status and aims of the American Mineralogist which elicited the enthusiastic approval of many of those present.

WALLACE GOULD LEVISON, *Secretary*.

THE PHILADELPHIA MINERALOGICAL SOCIETY

Wagner Free Institute of Science, March 8, 1917.

A joint meeting of the Philadelphia Mineralogical Society and the Wagner Institute Society of Chemistry and Physics was held on the above date with President Trudell in the chair, 16 members and 30 visitors being present.

Dr. Edgar T. Wherry presented a lecture on "Crystal Structure." The earlier views of the structure of substances were presented introductory to the present theories as developed by the study of crystals with the X-ray spectrometer. The lecture was illustrated with lantern slides, space models and motion pictures.

Dr. Herman Burgin, Philadelphia, and Mr. Morton L. Jandorf of York, Pa. were nominated for active membership.

FIELD TRIPS

SATURDAY, MAY 19. Trip to Frankford localities. Meet at Frankford Ave. and Church Street at 1.45 P. M.

WEDNESDAY (MEMORIAL DAY) MAY 30. Unionville, Beryl Hill, and the Poor House Quarry. Meet at 69th St. Terminal at 7.15 A. M.

SATURDAY, JUNE 9. West Philadelphia localities. Meet at Broad St. Station, Subway entrance, at 1.45 P. M.

SAMUEL G. GORDON, *Secretary*.

THE MINERALOGICAL SOCIETY OF GREAT BRITAIN

London, January 16, 1917. Mr. W. BARLOW, president, in the chair.

A. HOLMES AND DR. H. F. HARWOOD: *The basalts of Iceland, Faroe Islands, and Jan Mayen*. PROF. H. HILTON: *The use of orthographic projection in crystallography*. J. V. SAMOJLOFF: *Paleophysiology, the organic origin of some minerals occurring in sedimentary rocks*. E. S. SIMPSON: *Tapiolite in the Pilbara Goldfield, Western Australia*. The mineral, which was discovered at Tabba-Tabba Creek and Green's Well, lying in a large area of granite intersected by pegmatite veins and greenstone dikes and bosses, occurs in fairly well defined crystals, which analysis proved to contain little niobium (columbium). At the first locality the crystals displayed the forms 100, 001, 111, 101, 320, and were twinned as usual on 101, and often distorted; while at the second they displayed the forms 100, 111, 101, 320, and showed twinning about 106 and 301, as well as 101. A curve was prepared showing the specific gravity obtaining in the tetragonal isomorphous series of metatantalates and metacolumbates of iron, manganese and calcium.—*Nature*, 98, 423, 1917.

NEW MINERALS Magnesioludwigite

B. S. BUTLER AND W. T. SCHALLER, of the U. S. Geological Survey: *Magnesioludwigite, a new mineral*. *J. Wash. Acad. Sci.*, 7, (2), 29-31, 1917.

Ludwigite occurs in the Big and Little Cottonwood districts, Utah, as a replacement of limestone at or near the contact with intrusive rocks, associated with magnetite, forsterite, garnet, diopside, muscovite, and sulfides of

copper and iron. The ludwigite forms radial and spherulitic groups of finely fibrous crystals, and isolated crystals and groups of crystals in metamorphosed limestone. It is mostly dull greenish black, but at Mountain Lake an ivy-green type was found, for which the name *magnesioludwigite* is proposed. Analysis showed only 2.55% ferrous oxide, and it has a duller luster, lighter color, weaker pleochroism and absorption, and greater translucency than the iron-richer ludwigite from Hungary. The formula for the principal constituent of the new mineral is $MgO \cdot Fe_2O_3 \cdot 3MgO \cdot B_2O_3$, only about 15% of the corresponding ferrous compound *ferroludwigite* being present. These names are derived by using ludwigite as a group name—like feldspar, mica, etc.—and indicating end-members by chemical prefixes. S. G. G.

ABSTRACTS OF MINERALOGIC LITERATURE

THE GENESIS OF ASBESTOS AND ASBESTIFORM MINERALS. STEPHEN TABER, of the Univ. S. Car. *Bull. Am. Inst. Mining Eng.* 1916, 1973-1998; THE ORIGIN OF VEINS OF THE ASBESTIFORM MINERALS. *Idem. Proc. Nat. Acad. Sci.* 2, 659, 1916.

The author's conclusions are: Fibrous minerals usually occur in cross-fiber veins. Such veins are formed through a process of lateral secretion, the growing veins making room for themselves by pushing apart the enclosing walls. The veins occur in all positions. The fibers are usually normal to the vein-walls because the latter have been forced directly apart, but when the walls have had also a lateral displacement because of the simultaneous growth of adjacent non-parallel veins or other causes the fibers grow in the direction of the resultant motion. The fibrous structure is to be attributed largely to the mechanical limitation of crystal growth through the addition [accretion] of new material only in one direction. In the case of asbestiform minerals the fibrous structure is accentuated by a normal prismatic habit and cleavage."

W. G. L.

THE FLIGHT OF A METEORITE. Story of stone and iron meteors through the air, their direction and impact upon the earth. Explanation of the trail of fire of a "shooting star." ELIHU THOMSON. *Am. Mus. J.*, 17 (1) 24-28, 1917.

COLLECTIONS OF METEORITES IN THE AMERICAN MUSEUM. CHESTER A. REEDS. *Am. Mus. J.*, 17 (1) 28-31, 1917.

GEM MINING IN THE UNITED STATES; TOURMALINE AND TURQUOIS. L. P. GRATACAP, American Museum of Natural History. *Am. Mus. J.*, 17, (1), 64-69, 1917.

THE COMPOSITION OF APATITES. F. ZAMBONINI. *Compt. rend.*, 162, 919-921, 1916.

A large number of double salts with the general formula of the apatite group can be prepared artificially. The properties of several of these are described.

E. T. W.

CONTRIBUTION TO THE MINERALOGY OF MADAGASCAR. H. UNGEMACH. *Bull. soc. franc. min.*, 39 (1), 5-38, 1916. Abstract by P. A. v. d. Meulen, reprinted by permission from *Chemical Abstracts*, 10, 2449, 1916.

U. describes the occurrence on the island of Madagascar of bismuth, gold, pyrite, rutile, strüverite, corundum, hematite, parisite(?), barite, monazite, betafite, cuxenite, ampangabeite, columbite, tourmaline, diopside, augite, beryl, orthoclase, microcline, and chevkinite ("tscheffkinite"). In many cases a crystallographic description is included.

CALOMEL CRYSTALS WITH UNUSUAL HABIT. G. CESARO. *Bull. soc. franc. min.* 39, (1), 70-73, 1916. Abstract by P. A. v. d. Meulen, reprinted by permission from *Chemical Abstracts*, 10, 2450, 1916.

The crystals are in plates parallel to the prism 100.