length, although its refrangibility is usually altered only a few steps from the upper or lower to the middle registers of the spectrum. He pointed out also that the prevailing impression that the excitation of fluorescence is confined to the ultra-violet rays, resulting from incomplete explanations of the action of the spark gap light, is unwarranted, as most of the many sensitive substances now known will respond quite as well to one or another of the rays of the visible spectrum, especially those above the yellow-green. It was with sunlight after transmission through a train of glass lenses and prisms that he had discovered the direct fluorescence and afterglow of the Franklin, N. J., willemite in 1898.[3] Conversely neither should the development of phosphorescence be considered as exclusively confined to the infra-red rays, as in some substances it may be excited within the visible spectrum.

After some further discussion of the subject the meeting adjourned, but many of those present lingered to try further experiments with the various exhibits.

WALLACE GOOLD LEVISON, *Secretary*

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THE PHILADELPHIA MINERALOGICAL SOCIETY

Wagner Free Institute of Science, February 14, 1918

A stated meeting of the Philadelphia Mineralogical Society was held on the above date with the President, Dr. Leffmann, in the chair. Eighteen persons were present.

Dr. Herman Burgin made an interesting communication on "The Early History of the Anthracite Industry in Pennsylvania." Mr. Trudell read an account of a mineralogical trip around Philadelphia taken by Mr. Theodore Rand fifty years ago (1867).

SAMUEL G. GORDON, *Secretary*

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## NEW MINERALS

### Mullanite

*On mullanite, a new member of the jamesonite group, from two localities.* Earl V. Shannon. *Am. J. Sci.*, [4], **45**, (1), 66–70, 1918.

NAME: After Capt. John Mullan, for whom one of the localities, Mullan, Idaho, was named.

#### PHYSICAL PROPERTIES

Color: steel gray, sometimes darker when tarnished; luster: metallic to metallic-adamantine; opaque; streak: brownish black; form: long parallel fibers; friable; fine matted wool-like masses. H = 3.5. Sp. Gr. = 6.407.

#### CRYSTALLOGRAPHIC PROPERTIES

Orthorhombic. Forms: *a* (100), *b* (010), *c* (001), *m* (110), *r* (120), *β* (510), *n* (130), *t* (140). Habit: prismatic-fibrous; deeply striated and somewhat flattened parallel to the front pinacoid. Cleavage: *c* (001) and *b* (010) distinct, *a* (100) and probably *m* (110) imperfect. Thin fibers are flexible, thick ones brittle.

#### CHEMICAL PROPERTIES

Composition: $5PbS.2Sb_2S_3$. Analysis (average of 2) of material from Iron Mountain Mine, Superior, Montana: Sb 25.71, Pb 55.05, S 18.82, As 0.25, Cu none, Fe trace; sum 98.81.

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[3] Levison, W. G., On a simple and convenient phosphoroscope (Read N. Y. Acad. Sci., April 4, 1898.) *Annals N. Y. Acad. Sci.*, (5), **40**, No. 17, pp. 401–403, Sept., 1898.

OCCURRENCE

In hydrothermal veins, intimately associated with sphalerite and epiboulangerite (from which it may be distinguished by its streak), quartz and siderite, at the Gold Hunter Mine, near Mullan, Idaho, and the Iron Mountain Mine, near the town of Superior, Montana.

S. G. G.

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## ABSTRACTS OF MINERALOGIC LITERATURE

THE ORIGIN OF METEORITES. FRIEDRICH BERWERTH. *Smithsonian Rept.*, **1916**, 311–320. A translation from a lecture before the Sci. Club of Vienna, Jan. 26, 1914. Reviews the various ancient and modern theories of physicists, chemists, mineralogists and astronomers of the origin and source of meteorites. Concludes that the arguments indicate them to be broken bits of a world body destroyed by volcanic events, but still retained within our solar system and that their stellar origin or arrival from strange worlds is improbable.

W. G. L.

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WOOD–TIN IN THE TERTIARY RHYOLITES OF NORTHERN NEVADA. ADOLPH KNOPF, U. S. Geol. Survey. *Econ. Geol.*, **11** (7), 652–661, 1916.

The form of cassiterite known as wood-tin has been found here in place, associated with specularite (hematite) and various forms of silica. The evidence indicates that the tin dioxide was deposited as a gel, its structure being due to rhythmic precipitation. E. T. W.

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THE GEOMETRICAL RELATIONSHIPS OF ISOMORPHOUS MIXTURES; APPLICATION TO THE RHOMBIC AND MONOCLINIC PYROXENES. A. LEDOUX. *Bull. soc. franc. min.*, **39** (8), 232–280, 1916.

A discussion of the topic axes or molecular distance ratios of the fundamental silicates of the pyroxene group. E. T. W.

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ZEOLITES AND ASSOCIATED MINERALS FROM THE TERTIARY LAVAS AROUND BEN MORE, MULL. W. F. P. M'LINTOCK. *Trans. Roy. Soc. Edinb.*, **51**, I, 1–33, 1916; thru *Chem. Abstr.*, **11** (13), 1939–1940, 1917.

The occurrence and origin are discussed of scolecite, epidote, prehnite, garnet, albite, hornblende, calcite, chabazite, thomsonite, chlorite and stilbite. Several analyses and photographs of specimens are included. E. T. W.

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SIMULTANEOUS SEPARATION OF TWO FORMS OF SILICIC ACID FROM THE SAME SILICATE. GUSTAV TSCHERMAK. *Sitzb. Akad. Wiss. Vienna*, **1916**, 125; thru *J. Chem. Soc.*, **112**, II, 30.

Forsterite and ilvaite when treated with acids yield silica of varying composition, depending on the strength of the acid. Possible theoretical reasons for this are discussed. E. T. W.

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## EXCHANGE NOTICE.

W. T. Watkin Brown, Bown's Road, Kogarah, New South Wales. Typical Australian minerals offered in exchange for any American minerals except Paterson zeolites, of which enough have already been received.