

equality in the total number of atoms, (2) equality in the number of oxygen atoms, and (3) equality of molecular volume.

In conclusion I would enquire what is to become of lepidolite and the dark micas? In a revision of his lepidolite theory we found Winchell pleading¹ "Is it not possible that even in modern analyses the tenor of alkalis is actually a little too low." *Four out of the six analyses then under examination were by Kunitz, whose results we are now being asked to regard as about 0.7 per cent too high!*

The United States National Museum has acquired by purchase for the Roebling Collection a twin crystal of cerussite of exceptional size. It measures $12 \times 9 \times 4\frac{1}{2}$ cm., and weighs $1\frac{1}{2}$ kgs. The crystal is triangular in shape and is twinned on the prism r (130). It was found in the famous Tsumeb district of South-west Africa.

The next annual meeting of The Mineralogical Society of America will be held in New York City, in conjunction with that of the Geological Society of America and other affiliated Societies. The sessions will start Thursday and continue to Saturday, December 27-29, 1928. The American Association for the Advancement of Science will also meet in New York City at the same time. Sessions will be held at the American Museum of Natural History and at Columbia University.

Dr. Friedrich Becke, professor of mineralogy at the University of Vienna, has been elected a foreign member of the Swedish Academy of Sciences.

Professor Ludwig Milch, director of the Institute of Mineralogy and Petrology at the University of Breslau, died Jan. 5, at the age of 60 years.

The death has recently been announced of Dr. Julius Hirschwald, professor of mineralogy and geology in the University of Berlin, and of Professor Arthur Schoenflies, of the University of Frankfurt, the well known author of "Theorie der Kristallstruktur."

PROCEEDINGS OF SOCIETIES

NEW YORK MINERALOGICAL CLUB

Regular Monthly Meeting of March 21, 1928.

A regular monthly meeting of the New York Mineralogical Club was held in the Academy Room of the American Museum of Natural History on the evening of March 21, at 8:15 p.m. The president, Dr. Paul F. Kerr, presided, and there was an attendance of 42 members.

The Committee on Nominations submitted the following names for officers for the year 1928-29, to be voted on at the annual meeting on April 18th.

President: Herbert P. Whitlock.

Vice-President: Frederick I. Allen

Secretary: Howard R. Blank.

Treasurer: Gilman S. Stanton.

The President introduced the speaker of the evening, Dr. Waldemar T. Schaller of Washington, D. C., who addressed the Club on "*Borate Minerals from the*

'Am. Mineral., 1927, vol. 12, p. 277.

Mojave Desert, California." Dr. Schaller before beginning his paper called the attention of the Club to some excellent specimens of a remarkable pink muscovite which was encountered in mining lepidolite in a pegmatite of northern New Mexico, and discussed its relation to the lepidolite.

Taking up his main theme, the borates of the Mojave desert, the speaker discussed the derivation of borate minerals in general, and enumerated the conditions under which boron-containing rocks break down, and how from the decomposed products borates are produced. In this connection he showed a number of slides illustrating a wide range of topographic conditions, and explained why a dry valley was necessary to the secondary deposition of borate minerals. The speaker then traced the history of borate mining in the southwest, dwelling particularly on the new commercial borates, kernite, mohavite and kramerite. He outlined the unsuccessful efforts which had been made to reproduce kernite in the laboratory, regarding which he stated that he had no explanation to offer.

In the discussion Mr. Shreve asked what mineral was the ultimate source of the boron. In reply Dr. Schaller mentioned volcanic fumeroles as being closely associated with boron emanations, and connected the fumerole minerals with the source of boron. He did not consider the tourmaline present in granitic rocks as occurring in sufficient quantity to produce borate deposits.

A rising vote of thanks was tendered to Dr. Schaller for his highly important and interesting address. The meeting adjourned at 9:35.

HERBERT P. WHITLOCK, *Secretary*

Regular Monthly Meeting of April 18, 1928.

A regular monthly meeting of the New York Mineralogical Club was held at the American Museum of Natural History on the evening of April 18, 1928. The president, Dr. Paul F. Kerr, presided, and there was a total attendance of 71 persons.

A motion was carried that the Club accept the invitation of Colonel William Boyce Thompson of Yonkers, N. Y., extended through Mr. Fred J. Pope, to visit his mineral and jade collection on the afternoon of Memorial Day, May 30th.

The following officers were elected for the year 1928-29:

- President:* Herbert P. Whitlock.
- First Vice-President:* Frederick I. Allen.
- Second Vice-President:* George E. Ashby.
- Secretary:* Horace R. Blank.
- Treasurer:* Gilman S. Stanton.

The newly elected president then assumed the chair and expressed his appreciation to the Club in a brief address.

The speaker of the evening, Mr. James G. Manchester, a member of the Club, was then introduced, and addressed the gathering on "*The Minerals of New York City and Vicinity.*" Under this head he included the territory within a 50-mile radius of the City. Noteworthy finds of minerals within the limits of Greater New York were first discussed, after which the speaker considered nearby counties of New York, Connecticut, and New Jersey. The talk was illustrated by lantern slides, and by many fine specimens, the fruits of 30 years of collecting by Mr. Manchester within the territory covered.

After a vote of thanks had been tendered to the speaker, a motion was carried that the Club publish Mr. Manchester's paper as soon as he is ready to present it in final form.

At the conclusion of the meeting some of the recently described minerals from Franklin, N. J., were exhibited by Mr. Hoadley, and a few hafnium minerals were shown by Mr. Lee.

HORACE R. BLANK, *Secretary*

Regular Monthly Meeting of May 16, 1928.

A regular monthly meeting of the New York Mineralogical Club was held at the American Museum of Natural History on the evening of May 16, 1928, with the president, Dr. Herbert P. Whitlock, in the chair. Forty-five members were present.

After a brief business meeting, Dr. Chester A. Reeds, curator of geology at the American Museum of Natural History, addressed the Club on "*Rivers That Flow Underground.*" Such subterranean streams are usually short and of small volume compared to surface rivers, and often appear at the surface as large springs. They are best developed in limestone regions, where they carve for themselves channels and caverns by solution of the rocks through which they flow. If elevation of the land takes place, the streams abandon their underground courses to seek new ones at still lower levels, leaving the former channels dry and open to exploration.

The speaker cited as examples underground rivers in the Endless Caverns, Va., Mammoth Cave, Ky., and others in France, Jugo-Slavia, and Greece. The lecture was illustrated with many lantern slides showing the formations encountered in the interior of caves, and by a number of specimens of stalactites and stalagmites.

The ensuing discussion led to the conclusion that the rate of deposition of calcium carbonate in cave formations was very variable under different conditions, but that in many known instances it was much more rapid than a frequently quoted rate of 1 inch per 2000 years.

After passing a vote of thanks to Dr. Reeds the meeting adjourned.

HORACE R. BLANK, *Secretary*

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, April 5, 1928.

A stated meeting of the Philadelphia Mineralogical Society was held on the above date, with an attendance of thirty-one members and visitors. The president, Mr. Clay, presided. Mr. William Slimm was elected a junior member and Mr. Gordon nominated Mr. Herbert W. Brandeis and Dr. A. Bertram Gilliland for full membership.

Dr. A. C. Hawkins of Rutgers University addressed the meeting on "*Mineral Occurrences—New and Old.*" The speaker described a number of localities within seventy-five miles of Philadelphia, and especially the copper mines at Chimney Rocks, New Jersey, and the localities near New Brunswick which yield glauberite casts and calcite pseudomorphs in the red shales. This talk was illustrated by specimens and lantern slides and provoked considerable discussion at the close of the

address. The talk was greatly appreciated and Dr. Hawkins was tendered a rising vote of thanks.

Dr. Egee presented to the Society for its archives an interesting collection of photographs illustrating field trips and activities of the Society in the early days. Mr. Trudell announced the publication of the long awaited CRYSTALLOGRAPHIC TABLES OF MINERALS which have been compiled by Mr. Gordon in conjunction with Professor Goldschmidt of Heidelberg.

J. C. BOYLE, *Acting Secretary*

Academy of Natural Sciences of Philadelphia, May 3, 1928.

A stated meeting of the Philadelphia Mineralogical Society was held on the above date with the vice-president, Mr. Boyle, presiding. Thirty-seven members and twelve visitors were present.

Dr. A. B. Gilliland and Mr. H. W. Brandeis were elected to membership. The evening was devoted to a discussion of "*Microscopic Mineralogy.*" The subject was introduced by Mr. F. J. Keeley who in his talk traced the development of the mounting of minerals for microscopic examination and display. This idea originated largely from the work of two Philadelphia men, Rev. Rakestraw and George Fiss.

Five microscopes on revolving tables were available and under the direction of Dr. L. C. Wills, the members of the society enjoyed a splendid exhibit of box mounts of minerals.

F. A. CAJORIE, *Secretary*

Academy of Natural Sciences of Philadelphia, June 7, 1928.

A stated meeting of the Philadelphia Mineralogical Society was held on the above date, with the president, Mr. Clay, in the chair. Thirty-three members and six visitors were present.

Mr. E. H. Cienkowski addressed the society on "*The present status of some New England Mineral Localities.*" The speaker described in detail a trip taken by him and two of the junior members during Easter week to the following points of mineral interest: Paterson, N. J.; Peekskill and Bedford, N. Y.; Danbury, Conn.; the essonite locality at New Redding was visited, also Branchville, Roxbury, Portland, Haddam Neck, South Glastonbury, Conn.; the datolite locality at Westfield, Mass., and the Chester emery mines. Information was given of the collecting conditions at these localities and a large number of minerals secured on this trip were displayed.

Mr. Cienkowski then introduced the "Junior Mineralogists," an organization which has recently been formed by the younger members of the Society. Mr. Morris and Mr. Squiers explained as the purpose of the organization the stimulating of interest in mineralogy among boys of high school age. The activities of the organization will include the publication of a small paper giving items of interest to young mineral collectors.

Mr. Biernbaum reported that both the upper and lower quarries at Paterson, N. J., will open soon but that it was improbable that visitors would be admitted to either. Mr. Squiers reported that the old Phoenixville lead mines are to be covered over as the area in which they are located has been purchased to be used as a hunting ground. Mr. Storck exhibited calcite geodes from the shales at New Brunswick, N. J.

F. A. CAJORI, *Secretary*

NEWARK MINERALOGICAL SOCIETY

Minutes of the Regular Monthly Meetings of February, March, April and May.

On the afternoon of February 5th, Mr. Wm. H. Broadwell read a paper on "Mercury." A complete history of this metal was presented covering nomenclature, age, common and rare mineral species containing mercury, uses, (and abuses), etc. All the various mineral species were exhibited. Mr. Broadwell also made the statement that as high as 50 per cent of mercury is being recovered from scrap rubber.

At the March meeting twenty-four members were present. The committee on the New Jersey State list of minerals advised that this work be postponed. Mr. Broadwell reported upon and had on exhibition the latest new mineral from Franklin, calcium-larsenite. He stated that this mineral showed a bright canary yellow fluorescence under the iron arc, quite distinctive from that of willemite.

The April meeting was held on March 29th at Columbia University, New York City, in order to view the Eggleston collection of minerals. Dr. Blank of Columbia University spoke on "*Some Applications of the Polarizing Microscope as Applied to the Identification of Minerals.*" At the close of the address the members examined many specimens under microscopes, illustrating the various points brought out in the address.

The May meeting, the last indoor meeting until October, opened with an attendance of twenty-one members. Several reports were given. The Outing Committee reported that a field trip would be arranged for some Sunday in May. Mr. J. G. Manchester then gave a lecture on "*The Artistry of Minerals.*" This was illustrated by means of one-hundred colored lantern slides.

WM. H. BROADWELL, *Secretary*