

## PROCEEDINGS OF SOCIETIES

## NEWARK MINERALOGICAL SOCIETY

*Newark Technical School, November 7, 1920.*

The November meeting was called to order Vice-President Holzman, with eleven members present. After the reading of the minutes, election of officers for the ensuing year was held, resulting as follows: Pres., P. Walther; Vice Pres., J. Holzman; Treas., H. M. Lehman; the secretary's declining to serve another term caused two ballots to be taken, but as he was elected in both, the present secretary decided to continue. Prior to this meeting there had been no change in officers since the Club was organized; but Dr. Colton, having retired as head of the Newark Technical School and moved to upper New York state, could not continue as president, much as the Club desired him to do so.

WM. H. BROADWELL, *Secretary.*

## PHILADELPHIA MINERALOGICAL SOCIETY

*Wagner Free Institute of Science, November 11, 1920.*

A stated meeting of the Philadelphia Mineralogical Society was held on the above date with the president, Dr. Hawkins, in the chair. Thirteen members and two visitors were present.

The executive council reported favorably upon the nomination of Mr. Ralph W. Emerson, and upon motion, he was elected. The following committee was elected to devise ways and means for the publication of Mr. Gordon's "Mineralogy of Pennsylvania": Dr. Hawkins, Dr. Wherry, Mr. Trudell, and Mr. Ford.

Mr. Trudell then described the Society's trip on Sunday, November 7th, to Greystone, N. Y., to see the magnificent collection of Col. William Boyce Thompson. The following members had attended: Biernbaum, Boyle, Flack, Ford, Frankenfield, Gordon, Knabe, Trudell, Vanartsdalen, and Wherry. Mr. Trudell described the collection in detail, from notes taken during the visit, altho stating that it was impossible to do it justice, and that it must be seen to be appreciated. It is in a basement room, housed in metal and glass wall cases, the joints being dust-proof, and filters being provided above and below to remove all dust from the air passing in and out as the temperature changes. Lighting is accomplished by completely concealed incandescent lights, and every specimen has been placed so as to be illuminated to the best advantage. All supports are of glass, and the labels are painted in neat letters on small glass slips. Practically every showy and beautiful mineral known is represented by the finest specimen now obtainable, and such minerals as gem tourmaline are present in dozens if not hundreds of crystals.

Mr. Gordon exhibited albite crystals from Rock Springs, Md., and magnetite crystals on deweylite from Sylmar, Pa. Mr. Frankenfield reported a trip to Romansville and Embreeville, Chester County, with Messrs. Trudell, Gordon, and Oldach. Dr. Hawkins described pyrite from Kingsbridge, N. Y., epidote from Pascoag, R. I., and hematite from Manton, R. I., the latter with two new forms.

SAMUEL G. GORDON, *Secretary.*

## NEW YORK MINERALOGICAL CLUB

The regular monthly meeting of the New York Mineralogical Club was held in the Assembly Room of the American Museum of Natural History on the evening of November 17th, at 8.00 P.M. The President, Dr. George F. Kunz, presided, and there was an attendance of 20 members and guests. The minutes of the last meeting were read and approved. The following names were submitted to the Committee on Nominations:—Messrs B. Halpren, Chas. P. Curtis, and R. S. Newshan.

The Recording Secretary exhibited a specimen of the new species *césarolite* from Sidi-Amor, Tunis, recently described by Buttgenbach and Gillet.

In introducing the speaker of the evening, Prof. James F. Kemp, the President called attention to the fact that among the many scientific societies which claimed Dr. Kemp among their members was the New York Mineralogical Club; he also spoke of Prof. Kemp's qualifications, as an eminent mining geologist, to discuss the minerals of Bingham Canyon, Utah.

Dr. Kemp described the location of Bingham, 35 kilometers (20 miles) southwest of Salt Lake City, and spoke of its physiographic features, illustrating by means of a map sketched on the black board. He described the range geologically as a synclinal trough cut across by valleys. The rocks exposed, consisting mainly of sandstone, amount to some 3,000 to 3,500 meters in thickness. The passage of sandstone to limestone is quite abrupt. The ore favors the limestones, the large sulfide bodies occurring in the Jordan and Commercial limestones, which he believed to be the same respectively as the Highland Boy and Yampa limestones of Carr Fork. He described the oxidation of the sulfides of copper and iron in the Utah Copper Co. ore bodies in shattered intrusive monzonite as yielding copper sulfate solutions, which, filtering down on the lower sulfides, produced the enriched zone of chalcocite, which is the chief source of the copper.

Reviewing briefly the history of the district, he touched upon the early period when placer gold was discovered in the gravels of Bingham Canyon. Subsequently silver-bearing galenite was found on the Old Jordan and other claims and attempts were made to mine this for lead and silver. With the discovery of the cyanide process an attempt was also made to apply this process to the recovery of the gold known to exist in rusty outcrops, but the venture was a failure. The work led, however, to the discovery of great deposits of pyrite and chalcopyrite in the limestones. The district then became a large producer of copper from the Highland Boy Mine, and other similar deposits.

He characterized the ore as a replacement in limestone. Where intrusive rocks, usually called monzonite, penetrate the sedimentary strata, their metamorphic action tends to whiten the otherwise dark limestone. The metamorphic zone is marked by microscopic or larger diopside, wollastonite and garnet, associated with white marble. At the point where the metamorphic white limestone passes to the black unaltered variety the character of the ore minerals changes, chalcopyrite characterizing the white limestone and galenite and sphalerite the black.

Bingham is famous for large and handsome crystallized specimens of pyrite which are especially fine in the Commercial Mine. Occasionally tet-

rahedrite has been found. The crystals project into cavities or vugs in the huge replacement bodies of massive sulfides. The speaker exhibited a pentagonal dodecahedron of pyrite over 15 cm. in diameter. Sometimes also crystallized galenite is met with.

Dr. Kemp mentioned also the curious hydrated aluminium-iron silicate which has been called, by Prof. Alex. N. Winchell, "racewinite" from the cable address (*Racewin*) of H. V. Winchell, the discoverer. He described the occurrence and quoted an analysis of this rare silicate, remarking that one would think it a variety of serpentine whereas it consists chiefly of silica, alumina and water, with very minor iron and lime and almost no magnesia. He also noted that molybdenite occurs in occasional flakes. During the latter portion of his address Dr. Kemp showed a number of highly interesting lantern slides illustrating the various mines and the general topography of the district.

On a motion by Mr. Ashby a vote of thanks was tendered to Prof. Kemp for his interesting and valuable paper. The meeting adjourned at 9.30 P.M.

HERBERT P. WHITLOCK, *Recording Secretary.*

### ABSTRACTS—CRYSTALLOGRAPHY

THE EPIDOTE OF MONTE BIANCO, WITH SPECIAL REFERENCE TO THE TERM CLINOZOISITE. TERESA SILIPRANDI. *Riv. min. crist. Ital.*, 47, 61-78, 1916.

The crystallography of the mineral is described in detail, many forms new to the locality being noted. Determinations of specific gravity gave 3.375 to 3.385, and of refractive index  $\beta$  1.713 to 1.717. These properties indicate the material to be really clinozoisite, probably containing not over 2 per cent. of ferric oxide.

E. T. W.

THE APPLICATION OF THE HEAPING-UP METHOD TO TWO-CIRCLE CRYSTAL MEASUREMENT. T. J. WOYNO. Zurich, Switzerland. *Centr. Min. Geol.* 1918, 107-120, 142-152.

Crystals with curved or otherwise imperfect faces often yield images of the goniometer signal in other than the correct positions. By making a sufficient number of observations, and plotting the results in graphic diagrams, the true position of the forms concerned can be determined. Altho originally suggested for one circle measurement [original article not yet accessible in America. ABSTR.] it is especially adapted for use with the 2-circle method, since in this crystals can be studied which would be hopeless for one-circle zone measurement. The author gives a series of formulas for interpreting the results obtained, and illustrates the method by data on some rounded crystals of sphalerite from Tiffin, Ohio.

E. T. W.

CERTAIN RELATIONS BETWEEN CRYSTALLINE FORM, CHEMICAL CONSTITUTION AND OPTICAL PROPERTIES IN ORGANIC COMPOUNDS. EDGAR T. WHERRY. *J. Wash. Acad. Sci.*, 8, 277-285, 319-327, 1918.

By calculating the refractivities corresponding to the refractive indices  $\omega$  and  $\epsilon$  in some tetragonal organic compounds, it is shown that the ratio between them is in many cases inversely proportional to the ratio between the corresponding crystallographic axes  $a$  and  $c$ . The probable arrangements of the atoms in some of the compounds are deduced from these relations.

E. T. W.