

PROCEEDINGS OF SOCIETIES

NEW YORK MINERALOGICAL CLUB

Regular Monthly Meeting of March 15, 1922

The regular monthly meeting of the New York Mineralogical Club was held in the American Museum of Natural History on the evening of March 15, at 8:15 P.M. The President, Dr. George F. Kunz, presided and there was an attendance of 24 members.

The following names were referred to the Committee on Membership: Mr. E. Victor Collins of 125 E. 28th Street and Mr. Herbert B. Thowless of Newark, N. J. Mr. Whitlock reported that Mr. Samuel G. Gordon would address the Club on April 12th, his subject to be "*Mineral Collecting in the Andes.*"

The President then introduced the speaker of the evening, Prof. James F. Kemp, of Columbia University, who delivered an interesting and very useful paper on "*The Association of Minerals and Rocks.*" In his opening remarks Prof. Kemp spoke of the new methods of mineralogical research and the connection of geology with mineralogy. He took up in detail the various types of rock formation which constitute the association of mineral specimens from a collector's point of view and discussed the mineral species occurring under each association. In this discussion the speaker used the following syllabus:

IGNEOUS ROCKS OF GRANITOID TEXTURE; Microlitic cavities (orthoclase, quartz).

BASIC ROCKS, OLIVINE TYPE ETC.; (Native metals, iron precipitate).

PORPHYRITIC ROCKS; (Feldspars weathered out, augites, rarely dihexagonal quartz).

BORDER "ZWITTER," GREISEN; (Topaz, cassiterite, fluorite, apatite).

PEGMATITE, GIANT CRYSTALS; (Biotite, muscovite, beryl, tourmaline, etc).

AFTER EFFECTS OF INTRUSIVE ROCKS.

AFTER EFFECTS OF BASALTIC ROCKS; (Zeolites and related minerals).

CONTACT ZONES, ALUMINOUS WALLS OF THE INTRUSIVE; (Chastolite, sillimanite, staurolite, spinel, corundum).

CONTACT ZONES IN LIMESTONE; (Lime silicates, wollastonite, diopside, vesuvianite, the scapolites, epidote etc.).

REGIONAL METAMORPHISM; Mica schists (garnet, cyanite).

ORE MINERALS; Physical conditions surrounding formation of minerals in veins. (Depth of pressure; Deep vein minerals; Zone of secondary enrichment.)

The President called attention to the next meeting as an Annual Meeting for election of officers and appointed as a Nominating Committee: Mr. Ashby (Chairman), Mr. Wintringham and Capt. Miller. Mr. Wintringham exhibited a rutile twin of unusual habit. Mr. Broadwell invited the Club to the meeting of the Newark Mineralogical Club on Sunday afternoon April 2.

At the close of the meeting a vote of thanks was tendered to Prof. Kemp for his highly valuable paper.

HERBERT P. WHITLOCK, *Recording Secretary.*

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences, April 14, 1922

A stated meeting of the Philadelphia Mineralogical Society was held on the above date with the president, Mr. Trudell, in the chair. Nineteen members and

three visitors were present. Messrs. Louis Bregy, and William Skinner were proposed for active membership.

Mr. Harry W. Trudell gave an interesting address on "Some mineral localities of North Carolina and Virginia" in which a trip to these states was described, illustrated with colored slides and specimens.

Mr. Samuel G. Gordon read a paper on "*Preliminary Notes on Vauxite and Paravauxite, two new minerals from Llallagua, Bolivia.*" Their characters follow:

VAUXITE, $4\text{FeO} \cdot 2\text{Al}_2\text{O}_3 \cdot 3\text{P}_2\text{O}_5 \cdot 24\text{H}_2\text{O} + 3\text{H}_2\text{O}$. Triclinic.

Color: Sky-blue to venetian-blue; streak, white; luster, vitreous; transparent. Form: Aggregates of small tabular crystals. $H=3.5$; specific gravity = 2.45. Optically +, $\alpha=1.551$, $\beta=1.555$, $\gamma=1.562$, all $\pm .003$; $2V=32^\circ$; Bx_a emerges on sections parallel to b (010). Dispersion considerable, $\rho > \nu$. Strongly pleochroic, colorless to blue. Name: In honor of Mr. George Vaux, Jr., of Bryn Mawr, Penna.

PARAVAUXITE, $\text{FeO} \cdot \text{Al}_2\text{O}_3 \cdot \text{P}_2\text{O}_5 \cdot 6\text{H}_2\text{O} + 5\text{H}_2\text{O}$. Triclinic.

Colorless; streak, white; luster, vitreous to pearly; transparent. Form: Small prismatic crystals. $H=3$; sp. gr. = 2.30. Perfect cleavage parallel to b (010). Optically +; $\alpha=1.554$, $\beta=1.558$, $\gamma=1.573$; all $\pm .003$; Sections parallel to b (010) show emergence of an optic axis. Like vauxite, occurs on wavellite at the tin mines of Llallagua, Bolivia.

Fine specimens of andorite and zinkenite from Oruro, Bolivia, were exhibited.

Mr. Knabe reported on a trip to the Poorhouse quarry, exhibiting chesterlite.

Mr. Hoadley reported on a trip to the Harlem ship canal. Mr. Frankenfield exhibited sillimanite from the vicinity of Moro Phillip's mine, Delaware County.

SAMUEL G. GORDON, *Secretary*.

NOTES AND NEWS

AN UNUSUAL ALTERATION PRODUCT FROM PARK CITY, UTAH--

During the field season of 1920 the writer collected a number of ore specimens in the Daly-Judge Mine, Park City, Utah. These ores were polished and examined under the microscope at State College, Pa., and Dr. E. S. Moore has kindly permitted publication of the results of the investigation, which were incorporated in the writer's thesis.

The common lead, zinc and copper minerals with their accessories form the ore deposits of this district, galena being the principal ore mineral and it is found forming intergrowths with tetrahedrite.

An unusual series of alteration products was found in some galena specimens. The galena alters to a deep indigo-blue, massive product containing lead and copper sulfides. This alteration product begins to form along the fractures and cleavages of the galena and in some cases the alteration has proceeded until the galena has almost entirely changed to the blue product. This blue product on further alteration changes to anglesite which alters to cerussite. The blue mineral is found most frequently replacing the galena at the contact of galena with tetrahedrite in the intergrowths of the two minerals. It is thought that this mineral is either alisonite or cuproplumbite. According to Dana, it is not known whether these minerals represent definite homogeneous compounds or whether they are ill-defined alteration products. They may be represented by approximate formulæ as $3\text{Cu}_2\text{S} \cdot \text{PbS}$ to