

PROCEEDINGS OF SOCIETIES

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, June 3, 1926.

A stated meeting of the Philadelphia Mineralogical Society, held on the above date, was called to order by President Vaux. Twenty-nine members and eight visitors were present.

The following procedure for the election of officers was suggested by the executive council, and on motion was adopted by the society:—Nominations may be made in writing by any member and placed in the hands of the secretary at any time before the adjournment of the September meeting, and additional nominations may be made from the floor. All nominations shall then be posted and the election shall be by ballot at the October meeting.

Dr. Frederick Ehrenfeld, of the University of Pennsylvania, was then introduced, and addressed the society on "*What Constitutes a Mineral Species?*" External physical properties furnished the first criteria for differentiating mineral species. Then came chemical analysis, then optical properties, and as each new method of investigation has been developed it has brought with it new differences and new similarities between minerals. At present the two most important properties which define a mineral species are chemical composition and crystalline nature. But neither of these is invariable, and consequently identification of a mineral by either alone is often unsatisfactory. The discovery of the variation in optical and crystallographic properties with the chemical composition was a great advance. But the question of "what constitutes a mineral species" is still unanswered. Strictly speaking, a mineral is definite only as long as its properties all remain constant from specimen to specimen. But multiplying species because of slight differences in chemical or physical properties can be much overdone, and there is a practical limit to the number and difficulty of the tests which must be applied to identify a specimen.

A vote of thanks was tendered the speaker for his interesting address.

Messrs. Arndt and Boyle reported on a trip taken on May 29, 30, and 31 by nine members to the old chromite mines on the Pa.-Md. border in southern Chester and Lancaster Counties, Pa. Kämmererite, talc, colerainite, brucite, genthite, zaratite, penninite, chromite, and precious serpentine were some of the minerals found. Mr. Cienkowski reported on a trip taken with some students from the Philadelphia Northeast High School to the French Creek Mines on the same dates. Crystalline apophyllite, pyrite, and calcite were obtained. Many specimens from both trips were exhibited.

HORACE R. BLANK, *Secretary*

BOOK REVIEWS

THE STORY OF THE MINERALS. HERBERT P. WHITLOCK

AMERICAN MUSEUM OF NATURAL HISTORY, HANDBOOK SERIES NO. 12, 1925, 144 pages, with colored frontispiece and numerous line drawings and half-tone illustrations.

This little book aims to answer in simple language some of the many questions constantly asked about minerals by museum visitors. It consists of two parts, in

the first of which the following topics are discussed: History and Sources of the Mineral Collection, What is a Mineral, Nature's Mathematics, The Mimicry of Minerals, Water as a Maker of Minerals, and Change and Decay in Minerals. Part two contains very general descriptions of the more important minerals, constant reference being made to specimens in Morgan Memorial Hall. The book is well printed and illustrated. It should prove very serviceable to those seeking an elementary knowledge of minerals.

E. H. KRAUS

A CONTRIBUTION TO THE MINERALOGY OF NEW SOUTH WALES. GEORGE SMITH. MINERAL RESOURCES No. 34, Department of Mines, Geological Survey, Sydney, Australia, 1926. (3s. 3d.) 145 pages, 31 plates, 9 text figures and 1 map.

The author of this bulletin has had unusual opportunities to observe first hand the mineral occurrences and associations in this region. These exceptional advantages were due to his long period of service in N.S.W.; first as ore buyer and assayer, then as mine manager and for the past twenty-one years as Inspector of Mines.

The major portion of this bulletin, namely 103 pages (Part 1), is devoted to Descriptive Mineralogy, in which about 147 mineral species are described. No mineral is included that has not been actually observed by the author during his thirty-seven years of mineralogical activity. The arrangement of the minerals is essentially that used by Dana in his System.

Part II discusses the Mineralogy of the Broken Hill and the A.B.H. Consols lodes. Here emphasis is placed upon the variations of mineral composition in the oxidized zone (especially in the Broken Hill lode) and the deposition of silver sulfides from descending solutions (Consols lode). Appendices contain chapters on the occurrence of cassiterite, molybdenite and wolframite. A map of the Barrier District is also included.

This bulletin represents the most comprehensive general treatise on the minerals and their associations of New South Wales that has appeared in recent years and should be of unusual interest to both mineralogist and engineer.

W.F.H.

NEW MINERAL NAMES

Buttgenbachite

ALFRED SCHOEP: Sur la buttgenbach, Nouveau Minéral. (Buttgenbach, a new mineral). *Compt. Rend.*, **181**, 421 (1925).

NAME: In honor of H. *Buttgenbach*, Professor of Mineralogy at the University of Liege.

CHEMICAL PROPERTIES: A hydrous chloro-nitrate of copper. Formula; $18 \text{ CuO} \cdot 3 \text{ Cl} \cdot \text{N}_2\text{O}_6 \cdot 19\text{H}_2\text{O}$. Analysis: H_2O 17.34, CuO 71.56, Cl 6.02, N_2O_6 5.40; Sum $100.32 - \text{O} = \text{Cl}$ 1.28; 99.04. Soluble in acids.

PHYSICAL AND OPTICAL PROPERTIES: Color azure blue, non-pleochroic. Streak blue. Extinction parallel, elongation negative. Birefringence very feeble. n along the needles = 1.747; across them slightly less. Sp. Gr. 3.33.

OCCURRENCE: Found as flat needles about 1 mm. in length in a cavity in cuprite associated with native silver at Likasi, Belgian Congo.

W. F. FOSHAG