PROCEEDINGS OF SOCIETIES

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences, May 2, 1929

A stated meeting of the Philadelphia Mineralogical Society was held on the above date with the president, Mr. Trudell, in the chair. Sixty-five persons were present, including forty-three members.

Upon favorable recommendation of the council, the following were elected junior members: Messrs. Robert Bradley, Jack Semless, and Edward Wojtowicz. Mr. Cienkowski proposed the following for junior membership: Messrs. Randall Heiligman, Harry Eissler, Jr., and Richard Archibald.

Mr. F. B. Havens addressed the society on "*Symmetry in Crystals.*" The historic development of the ideas of symmetry and the arrangement of points in space by Frankenheim, Bravais, Sohncke, Schoenflies, and Barlow were outlined. The derivation of the thirty-two classes of symmetry by diagraming the symmetry elements in stereographic projection was shown.

Messrs. Biernbaum and Cienkowski presented the plan for the proposed competitive exhibition of minerals by boys to be held on May 23rd at Northeast High School, prizes to be awarded at the meeting of the society in June.

SAMUEL G. GORDON, *Secretary*

NEW YORK MINERALOGICAL CLUB

Minutes of the April Meeting

A regular monthly meeting of the New York Mineralogical Club, attended by forty-one members, was held at the American Museum of Natural History on the evening of April 17, 1929, with President Herbert P. Whitlock in the chair.

Dr. Albert Bardes, of New York City, and Mr. W. N. Berkely, of Yonkers, N. Y., were elected to membership.

The present officers were re-elected for another year, namely:

President	Herbert P Whitlock
1st Vice President	Frederick I. Allen
2nd Vice President	George E. Ashby
Treasurer	Gilman S. Stanton
Secretary	Horace R. Blank

Dr. Benjamin L. Miller, of Lehigh University, addressed the Club on "*The Formation of the Primary and Secondary Limestone Minerals.*" Bacteria and blue-green algae are believed to play an important part in the chemical precipitation of calcium carbonate from sea water. Dolomite is probably formed by the substitution of the calcium by magnesium derived either from sea water or from circulating ground waters. There is evidence that dolomitization can take place either before or after burial of the strata.

The secondary changes in limestones may be brought about by the circulation of cold meteoric waters or by heated waters accompanying compression and regional metamorphism. Among the products of the former process are calcite, flint nodules, and segregations of iron, manganese, lead, and zinc ores. The heated waters cause

the formation of muscovite and sericite from impure limestones. Wollastonite, garnet, magnetite, epidote, and graphite are formed by a greater degree of metamorphism. In contact metamorphism some of the material for the formation of new minerals is supplied by the igneous rock.

Mr. Radu demonstrated the phosphorescence of a synthetic ruby after exposure to ultra-violet light, by means of a new device permitting the detection of a very short period of phosphorescence.

Mr. Weidhaas exhibited chalcedony from Tampa and Biscayne Bays, Florida.

HORACE R. BLANK, *Secretary*

REVIEWS

THE PHYSICS OF CRYSTALS. ABRAM F. JOFFÉ. Edited by Leonard B. Loeb. XI+198 pages, 61 figures. McGraw-Hill Book Co., *New York*. **1928.**

Dr. Joffé presents in this book a series of lectures given at the University of California and edited by L. B. Loeb, Professor of Physics at California. Although the subject matter is clearly designed for the technical physicist yet there are many valuable crumbs for the mineralogist and geologist.

The lectures include a liberal amount of discussion of experimental work which has been done during the last twenty-five years by the author and his collaborators. The experiments include various types of deformation of crystals and the detailed study of results especially by the X-ray method. The analysis of these results is of exceptional interest to the geologist with its bearing on geologic stresses as expressed in the formation of schist minerals, minerals growing in fractures and their strength, etc. I recommend to any mineralogist the following four chapters: The elastic after effect; The elastic limit; The mechanism of plastic deformation; Strength.

The last part of the book is somewhat mathematical and deals with a phase of crystal physics which is still in advance of most of our application. It includes the electrical and associated effects which ultimately must command our attention but which most of us are still willing to see further advanced by the physicist before we can hope for any large degree of successful application.

The book is worthy of our most serious attention. It covers a phase of the subject that the mineralogist is seldom qualified to enter, but one that he cannot afford to neglect.

R. C. EMMONS

EINFÜHRUNG IN DIE KRISTALLSTRUKTURLEHRE. FERDINAND VON WOLFF. 169 pages, 119 figures. Quelle & Meyer, Leipzig. **1928.**

This book according to the title is an introduction to the study of crystal structure. More properly speaking it is a synopsis of the entire field of crystal structure. To the mineralogist, however, who does not want to study the details of crystal structure analysis, it supplies a long-felt need.

The illustrations, so important in this science, are especially well chosen and unusually clear. The binding and printing of the volume are very good. Chapter I (16 pages) deals with the 32 crystal classes. It assumes that the student is familiar with crystallography. Since this cannot be expected of chemists, metallurgists, and others, the author could have dwelt at greater length on this subject. Chapter II