dikes that intrude rocks of the second class. These three minerals, rutile, graphite and pyrrhotite, were found in diabase occurring within the rutile area near Roseland.

Analcite, iddingsite and pleonaste have been reported only from the Valley dikes. Work being done in the School of Geology at the University of Virginia at the present time has revealed the presence of pigeonite in some of the Valley diabases. Further studies may show that it is not an uncommon mineral in the Virginia diabase.

A Statement from the University of Pennsylvania, Bureau of Publicity

Establishment of a new four-year course in the Earth Sciences, made possible through a cooperative arrangement involving the University of Pennsylvania and the Academy of Natural Sciences of Philadelphia, has been announced in a joint statement issued by the two institutions.

The course will be offered for the first time with the opening of the University's academic year in the fall and will bring together two of the oldest learned foundations in America in the conduct of a program of teaching and research in geology, paleontology, and mineralogy.

Students enrolling will be registered as students of the University of Pennsylvania and the successful completion of the course will lead to the degree of bachelor of arts, granted by the University.

Instructional work will be carried on by a teaching and research staff comprising the present faculty of the Department of Geology and Mineralogy at the University, and members of the staff of the Department of Paleontology and Geology at the Academy of Natural Sciences.

In addition, it is the intention to make use of the invaluable scientific collections and other facilities of the Academy as well as those of the University's Department of Geology and Mineralogy.

The new curriculum is designed to serve students who desire opportunity for systematic study and research in one of the great groups of modern science as part of a well-balanced cultural education.

In accord with that objective a comprehensive undergraduate training in the ground work of geology, paleontology and mineralogy will be offered, as well as basic training in geological field work and mapping which is essential to prepare students for advanced survey and exploration in the field of the earth sciences.

Another phase of the instructional program now being developed will provide for advanced graduate study to be carried on through the joint facilities of the two institutions.

Thus, through its broad nature, the entire project will, it is hoped, bring about a closer coordination between fields of research such as paleo-archaeology, anthropology, and the study of early man and of human migration, which are dependent for some of their results upon research in geology, paleontology, and related subjects.

Representing the Academy of Natural Sciences on the teaching staff will be a group of widely known professional scientists now connected with that institution.

Among that group are Dr. Benjamin F. Howell, associate curator of paleontology and geology at the Academy, and associate professor of geology and paleontology at Princeton

University; Dr. Edwin H. Colbert, associate curator of vertebrate paleontology at the Academy and assistant curator of vertebrate paleontology at the American Museum of Natural History; Dr. Edgar B. Howard, acting curator of paleontology and geology at the Academy, and Dr. Hellmut deTerra, associate curator of Asiatic prehistory at the Academy and research associate of the Carnegie Institution in Washington.

Dr. Frederick Ehrenfeld, professor of geology and mineralogy at the University of Pennsylvania, will have general direction of the work of the four-year course.

PROCEEDINGS OF THE SOCIETIES

NEW YORK MINERALOGICAL CLUB

American Museum of Natural History, New York City, May, 19, 1937

The regular May meeting was called to order by the president with 85 members and guests present. The speaker of the evening was Prof. Arthur P. Honess, of Pennsylvania State College, who addressed the club upon "Etch Figures and their Significance in the Classification of Crystalline Structures." His recent work with optically active solvents, particularly with reference to their interesting effects in the etching of calcite was described with illustrative slides. Calcite was used because of its adaptability to work of this sort. *X*-ray work has shown calcite to possess a lower grade of symmetry than morphological studies would indicate, and the figures developed through the use of laevo-malic and dextro-malic acids have born out this low grade symmetry. Figures upon adjoining scalenohedral faces were entirely dissimilar. The symmetry derived by Dr. Honess would place calcite in the quartz class, with one axis of three-fold and three of two-fold symmetry. This difference may be explained by the difference in the direction of the C-O bonds in successive layers on the rhombohedral plane, developed by the differential, directional attack of the optically active solvent. Full symmetry is obtained in etching with inactive acids, and the asymmetry of the figures appears to be a function of the concentration of the optically active ions. Different solvents and different concentrations give different figures, but the same symmetry may be seen in all. A dextro-acid reverses the figures obtained from a laevo-acid.

Other minerals were studied with similar results. Smithsonite agrees with calcite. Dolomite, already lower morphologically, gives such different figures above and below that the mineral appears to be hemimorphic, when etched with laevo-malic acid in NaOH. Hemimorphite lacks even the vertical plane of symmetry obtained in etching with optically inactive solvents. Continued work with such solvents should make it possible to determine crystal structures from the symmetries on the different forms, but the work is still in its elementary stage.

F. H. POUGH, *Secretary*

NEW MINERAL NAMES

Ferri-sicklerite

PERCY QUENSEL: Minerals of the Varuträsk Pegmatite. I. The Lithium—Manganese Phosphates. *Geol. Fören. Förhandl.*, vol. **59**, pp. 82–86, 1937.

NAME: From its relationship to sicklerite.

CHEMICAL PROPERTIES: A phosphate of manganese and iron: $12\ RO \cdot 5Fe_2O_3 \cdot 9P_2O_5$ (where R = Mn″ and Li). Analyses (by Miss Thelma Berggren).