

PROCEEDINGS OF SOCIETIES

PHILADELPHIA MINERALOGICAL SOCIETY

Academy of Natural Sciences of Philadelphia, April 1, 1926

A stated meeting of the Philadelphia Mineralogical Society was held on the above date, with President Vaux in the chair. Attendance, twenty-six members and sixteen visitors.

Mr. Fred Dippel, of Philadelphia, was elected to junior membership. The secretary reported that Mr. M. L. Jandorf, of York, Pa., has asked the society's aid in disposing of his mineral collection.

The speaker of the evening was Dr. James A. Branegan of Philadelphia, who addressed the society on *Economic Mineralogy among the Indians of Prehistoric America*. The Indians of the eastern United States were well acquainted with the physical properties of many common minerals and rocks. In the preparation of their various artifices they always carefully selected their stones for the purposes to which they were best adapted.

For knives, arrows, scrapers, and sharp-edged tools the Indians used jasper, quartz, and other forms of silica, and obsidian. These materials fracture easily to a sharp cutting edge, but are brittle, and hence were never used for tools subject to shock. For implements of the latter class, which include axes, mortars and pestles, etc., granite diorite and other igneous rocks were used. These are tough and not easily broken but had to be worked to shape by tedious hammering with another stone. The soft rocks such as slate and serpentine were used for ornaments of various kinds because they could be easily worked and polished. Cooking utensils were made of soapstone and serpentine because of the heat resistance of these rocks.

The Indians made their arrowheads by first cracking the solid jasper with the aid of fire and cold water then breaking the boulders into rough chips which they carried home and finished at their leisure by chipping the edges with a dry bone. The war arrows were made with barbs the hunting arrows without them.

The Indians of the Susquehanna valley were found to be burning coal by the Jesuit missionaries in 1660.

The lecture was illustrated by a collection of arrowheads, axes, hoes, banner-stones and other Indian implements and weapons. The speaker surprised his audience by demonstrating how firmly an axe-head of stone could be fastened to its handle with nothing more than a piece of rawhide.

The meeting adjourned with a rising vote of thanks to Dr. Branegan for his interesting address.

HORACE R. BLANK, *Secretary*