

JANUARY 22.

The President, Dr. LEIDY, in the chair.

Twenty-eight persons present.

The death of James C. Hand, a member, was announced.

A paper entitled "On Semper's Method of Making Dried Preparations," by Dr. Benj. Sharp, was presented for publication.

Indian Mounds on the Miami River.—Mr. F. W. PUTNAM, Curator of the Peabody Museum of American Archæology and Ethnology, Cambridge, Mass., gave an account of the explorations now in progress by himself and Dr. C. L. Metz, of an interesting group of earthworks in the Little Miami valley. It consists of twelve mounds enclosed by an embankment of earth which runs across the lowland and connects by a graded way with a circular embankment on a hill thirty feet high, within which are two other mounds. The mounds have proved to be very important, as several are constructed in a peculiar manner. In two of the mounds circular stone walls were found, and from these walls stones have been laid, covering in the central portions of the mounds. Several of the mounds were stratified, and contained basins, or "altars," of burnt clay, upon which were thousands of objects more or less injured by fire. Burnt human remains were found in several of the mounds, and in others were skeletons, showing that both methods of disposing of the dead were resorted to. Many interesting objects were found with the skeletons. The most important discoveries were made on the "altars," which contained, among other things, many works of art, including small terra-cotta figures representing men and women, carved stone dishes in the form of animals, and various objects cut from mica, among them a serpent and a grotesque human face.

There were also found a large number of objects made of native copper, and several of native or meteoric iron. This is the first time that native iron has been found in the mounds. Several copper ornaments were covered with silver, and a few fragments of a thin sheet of hammered native gold were also obtained. Over fifty thousand pearls were found on one of the altars, with thousands of other ornaments made of bone, shell, and the teeth of animals. Among the latter were large canine teeth of bears, which may prove to be those of the grizzly bear, or some species larger than the black bear. Several chipped points of obsidian and a number of singular pendants made in a peculiar manner from a micaceous schist, were on one of the altars.

Another important discovery was mentioned as having just been made, but not yet worked out. This consisted of a series

of large pits, six or seven feet deep, in the natural clay below the burnt clay layer of one of the mounds. These pits had long clay tubes, or flues, extending from them, and there is some evidence that these pits were used as places of cremation, but this must be determined by further and careful study. A number of photographs were exhibited, illustrating the structure of the mounds and the objects found in them.

Note on Manayunkia speciosa.—Mr. EDW. POTTS reported having found specimens of *Manayunkia speciosa* Leidy, amongst material collected in the Schuylkill River, above Fairmount dam; thus determining what had previously admitted of a shade of doubt, the strictly fresh-water habitat of this species. In continuation he narrated some points within his own observation, supplementary to Dr. Leidy's description.

The branchial organs (tentacles) appeared to him to be grouped upon two processes on each of the lateral lophophores, eight each in the upper or more dorsal groups, and six or possibly more in each of the others. Beside these, there is a single pair placed centrally upon the dorsal portion of the head, and a similar pair opposite, which do not seem to be connected with either of these groups. The whole number is therefore 32–36. The alternating contractions and dilatations of the vessels conveying the green blood through the dorsal pair above mentioned are very conspicuous.

While the general appearance of this crown of tentacles, when expanded, is somewhat similar to that of a polyzoan, there is a noticeable difference in the effect produced by the motion of their cilia. In the latter a powerful *incurrent* bears food particles, etc., towards the mouth as a vortex; in the former case, while the motion draws these particles from without or behind the circle towards the tentacles, the moment they pass between them they are influenced by an *excurrent* bearing them forcibly away.

This outflowing current is further shown by the fact that excrementitious matters are drawn rapidly forward through the tube, and ejected at its anterior extremity.

As food, therefore, cannot be sucked into the mouth of the worm, we find that it is carried in. Acceptable particles which touch the tentacles are grasped by the cilia, and rapidly passed down amongst them in near contact with the tentacle into grooves at the base of the above-mentioned processes, and thence into the digestive tract.

Beside the specimens above mentioned from the Schuylkill River, Mr. Potts has had recently under observation a considerable number, say fifteen or twenty, from the pond near Absecon. One of these, to which most of his time had been devoted, had been kept for many days isolated in a microscopic stage tank. While in this situation it, for some reason, left its old tube and formed another, giving him the opportunity to observe the



Putnam, F. W. 1884. "Indian Mounds on the Miami River." *Proceedings of the Academy of Natural Sciences of Philadelphia* 36, 20–21.

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