and for some time previous thereto was occupied by a band of Seneca Indians.

The chief features of this mound, as shown in fig. 1, which represents a vertical section of it, are the pit and large central stone vault (No. 1). The former was found to be two and a half feet deep below the natural surface-line, *ab*, and about forty feet in diameter, the diameter probably indicating the original extent of the mound.

The upper portion of the vault had fallen in, wedging the stones so tightly together that it

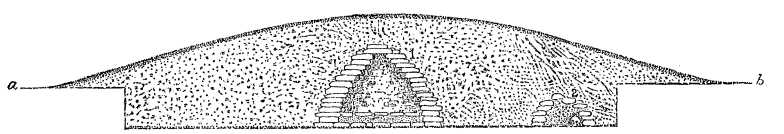


Fig. 1. — Section of mound near Irvine, Penn.

was somewhat difficult to remove them; but the original form and mode of construction could easily be made out without the aid of imagination, as the lower portion was undisturbed. The builders had evidently miscalculated the proportions necessary for stability; as the diameter, from outside to outside, was fifteen feet, though the walls were very thick near the base, while the height could not have exceeded seven feet: hence it is probable that it had fallen in soon after the dirt was thrown over it. The stones of which it was built were obtained in part from the bed of the neighboring stream, and partly from a bluff about half a mile distant, and were of rather large size; many of them being, singly, a good load for two men.

The bottom was formed of two layers of flat stones, separated by an intermediate layer of sand, charcoal, and remains, five inches thick (at the time it was excavated). It was apparent that these layers had not been disturbed, save by the pressure of the superincumbent mass, since they were placed there. The intermediate layer was composed in great part of decomposed or finely pulverized charcoal. In this were found the teeth, decaying jaws, a single femur, and a few minute, badly decayed fragments of the bones of an adult individual, and with these the joint of a large reed or cane, wrapped in thin, evenly-hammered *silver-foil*. The latter had been wrapped in soft, spongy bark of some kind, and this coated over thickly with mud or soft clay. The weight of the stones was so great that the femur was found pressed into a flat strip, and the reed split. I was unable to determine certainly whether the burning had taken place in the mound or not. The few bones found did not appear to be charred, and the same was true of the cane-joint: on the other hand, the bark, although wrapped in clay, was very distinctly charred.

A careful analysis of the metal-foil has been made by Professor Clark, the chemist of the geological bureau, who pronounces it comparatively pure native silver, containing no alloy. Although wrapped around the cane, a portion of it appears to have been cut into small pieces of various shapes, two of which are represented in fig. 2, *a* and *b*. Where the margins remain uninjured, they are smoothly and evenly cut. The joint of cane which has been taken between the nodes is nine inches long, and must have been about an inch in diameter. A small stone gorget was obtained from the same layer.

At No. 2, on the north-east side of the pit, were a few large stones which may have formed a rude vault, but were in such a confused condition, this being the point disturbed by the first slight excavation, that it was impossible to ascertain their original arrangement. Among them were found parts of an adult skeleton. The person who dug into the pit at this point, finding human remains, stopped work, and refilled the opening he had made.

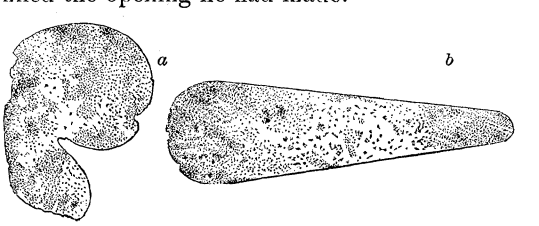
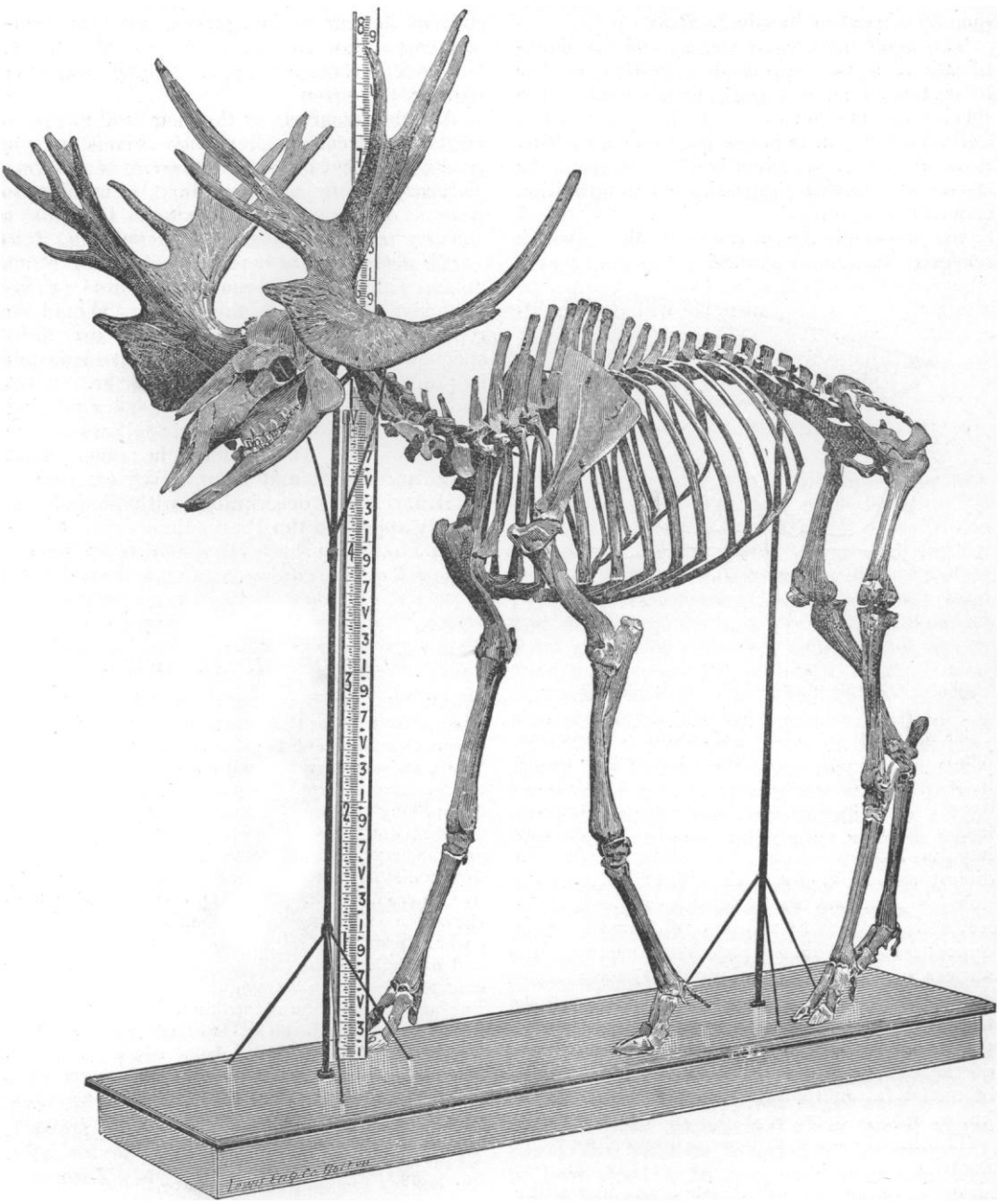


Fig. 2.

The Senecas, as I am informed by Dr. Irvine, who has resided here since 1822, protested that they did not know who built these mounds; which statement seems to be borne out by the fact that intrusive burials, probably of their dead, were discovered in the other tumulus. Cyrus Thomas.

A FOSSIL ELK OR MOOSE FROM THE QUATERNARY OF NEW JERSEY.

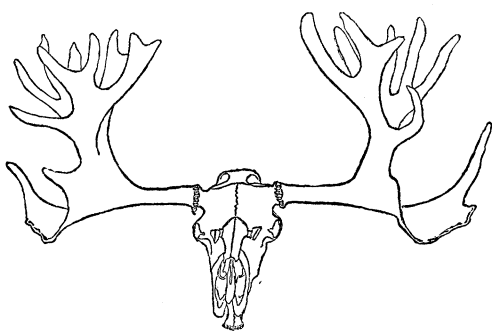
Last summer Rev. A. A. Haines presented to the museum of Princeton college a remarkably perfect skeleton of a large elk or moose,



SKELETON OF CERVALCES. SCALE IS GIVEN IN FEET AND TENTHS.

found in a shell-marl beneath a bog, in Warren county, N.J. In all probability, this animal belongs to the same species as the specimen from the Big-Bone Lick, Kentucky, described by Wistar as a species of Cervus (*Proc. Amer. phil. soc.*, 1818, p. 376), and named Cervus americanus by Harlan in 1825. This specimen, which is now in the museum of the Philadel-

phia academy, consists of a broken cranium, some fragments of antlers, and two metacarpals. Assuming the correctness of this identification, a very short examination of the Princeton skeleton suffices to show that the species in question is most distinctly not a Cervus at all, but is much more like an Alces. It is, however, sufficiently different from the last-named form to necessitate the formation of a new genus for its reception. For this I have proposed the name Cervalces, which serves to indicate its relationship. The specific name given by Harlan must, of course, be retained, so that the full name will be Cervalces americanus.



HEAD OF CERVALCES FROM THE FRONT, REDUCED 1-25.

Cervalces was a very large animal, with large head, short neck and trunk, and exceedingly long legs (much longer than in the great Irish deer). The antlers are palmated, though far less so than in the moose, as in that form they have horizontal beams, no brow-antlers, and a dichotomous division of the tines; but they do possess, as the moose-antler does not, a bezantler, and a posterior tine given off from the beam opposite to it. These processes occur in the antlers of Dama (the fallow deer) and Megaceros (the extinct Irish deer). In Cervalces the two tines named are connected by a flaring process of bone, which descends below the level of the eye, and present a most peculiar type of antler, altogether different from any thing known in any member of the deer tribe.

The nasal bones are much longer, and the nostrils much smaller, than in the moose, showing that there was no such proboscis-like snout as in that animal. The premaxillae are shaped as in the stag, and join the nasals. The skull is broader and shorter than in the moose, and in many respects like that of the true deer. There are also cervine features in many parts of the skeleton, together with peculiar characters. Cervalces agrees with the moose, and differs from the stags, in having the lower ends of the lateral metacarpals present (Telemetacarpalia of Brooke).

Altogether, the fossil gives us much welcome light on the obscure relationships of the moose to the other members of the deer family, showing that that curious form was derived from a type very like Cervus, but having the lateral metacarpals complete throughout. Cervalces is not one of the steps of direct descent, but it shows what that descent must have been.

It is certainly a very remarkable fact that an animal which in quaternary times was probably most abundant in this country should be represented in the collections by only two specimens. The superb specimen at Princeton is practically a perfect skeleton; for, except two or three caudal vertebrae, the few missing bones are represented by their fellows of the opposite side. The skeleton has been most skilfully restored and mounted by Curator F. C. Hill. A full description, with plates, will shortly appear in the Proceedings of the Philadelphia academy.

W. B. SCOTT.
Geological museum, Princeton, N.J.

GEOGRAPHICAL NEWS.

REV. WILLIAM E. FAY of the west central African mission contributes three small maps of the route between Benguela and Bihé to the *Missionary herald*. The trail was surveyed with a prismatic compass, the distances determined by the pedometer, and altitudes along the line checked by observations for the boiling-point. The route was passed over four times; and the maps, while confessedly approximations only, form a distinct advance over the reconnoissance made by Cameron, which, up to the present time, has been the only authority for this region. The new sketches cover an area about sixty miles wide north and south, and extending some four degrees in longitude. The changes of scenery between Benguela and the interior are numerous and striking. First, the route passes along the level sands of the coast, under a tropical sun. From Catumbella it strikes inland, ascending the highlands at once, and traversing a rocky desert which separates the coast from the fertile lands beyond, rich in tropical verdure. Still ascending, the well-remembered features of the temperate zone are seen on every side. Descending, at the eastern foot of the range are the first human habitations. About one hundred miles from the coast, the Bailombo River, in wet seasons, is spanned by a native bridge, whose builders take toll, as in more civilized lands. The mission village lies in about east longitude 16°, and south latitude 12° 15′, south-east from the *ombola* of Kwikwi, ruler of the Bailundu region. This is a broad and beautiful valley, densely populated, and lying eastward from a