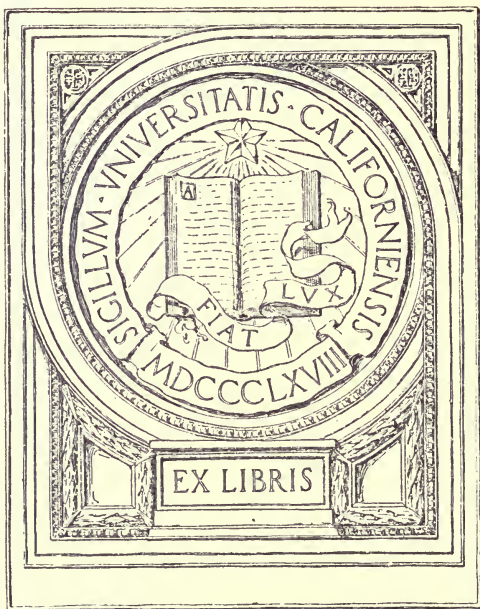


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Explorations in Ohio.

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I.

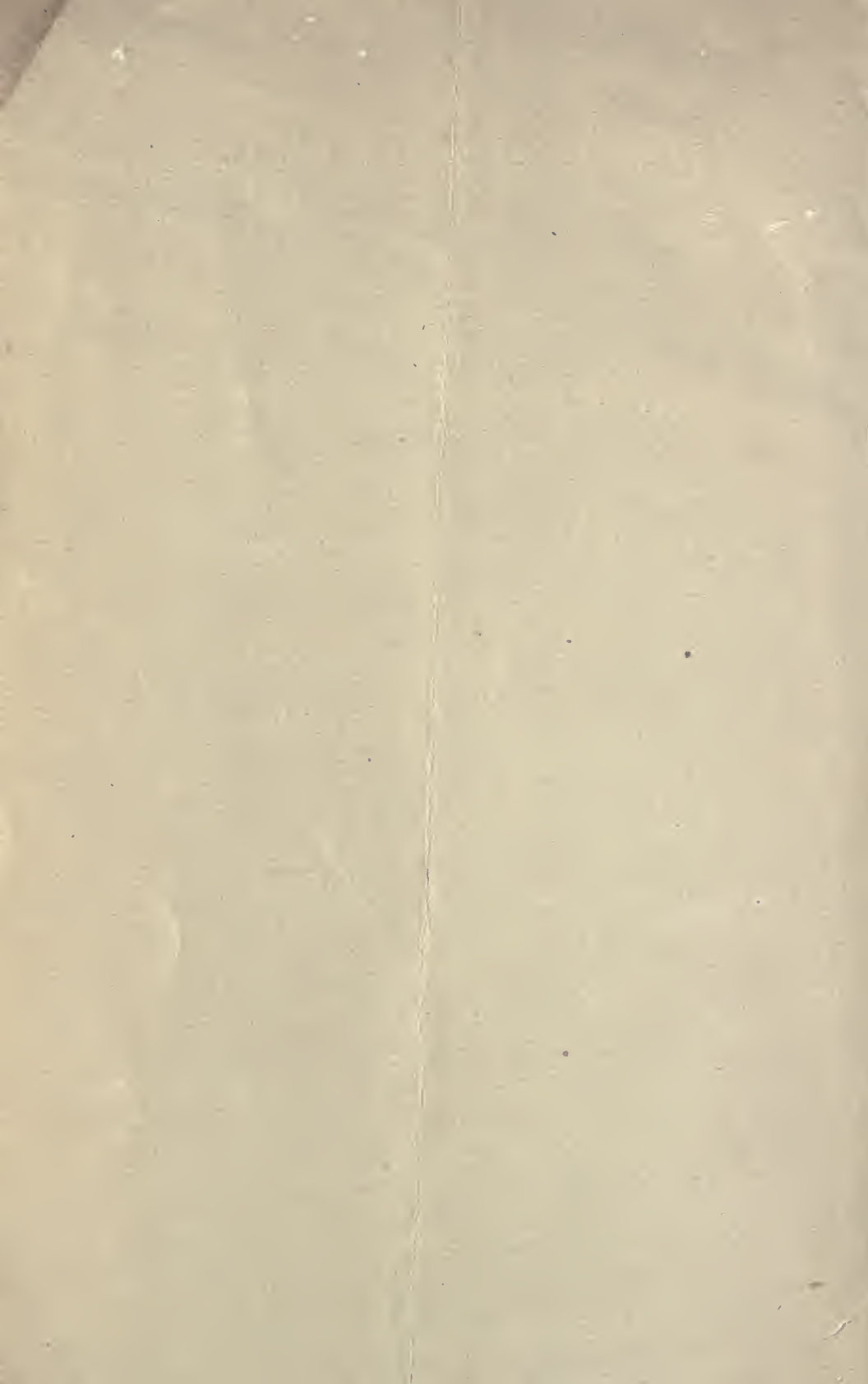
THE MARRIOTT MOUND, No. 1.

FROM THE EIGHTEENTH REPORT OF THE PEABODY MUSEUM, 1884.

CAMBRIDGE:
JOHN WILSON AND SON.

University Press.

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THE MARRIOTT MOUND, NO. 1, AND ITS CONTENTS.

By F. W. PUTNAM.

IN October, 1884, we explored a mound on the land of Mr. Benjamin Marriott, adjoining Michael Turner's farm. This is one of two mounds situated west of the hill on which is the mound and earth-circle forming part of the Turner group in the Little Miami valley. Through this hill, cutting it from east to west, run two deep curved trenches, and the two mounds on Mr. Marriott's farm are opposite the western ends of these trenches. The southern one has been long used as a family cemetery, so we could not explore it. The other, which we explored, has been ploughed over for many years, and is consequently much reduced in height.

At the time of our work it was about two feet high and sixty feet in diameter. Over this lower portion there had been a covering of water-worn stones, brought from the creek bottom. They had been much disturbed by the plough, but they seem to have been arranged as shown in Fig. 1, representing a section of the mound. We dug the mound completely away, and found at its centre a mass of burnt clay in the form of a rude basin about two feet in diameter (Figs. 1, 2, A). The clay (34358¹) of which the basin had been formed was placed on the surface of the ground over which the mound had been erected.

This basin contained a little ashes, in which were a few bits of charcoal, burnt acorns, and several fragments of burnt bones, a few of which are evidently pieces of implements (34359). In the

¹ The numbers given in parentheses are those under which the objects are recorded in the Museum catalogue.

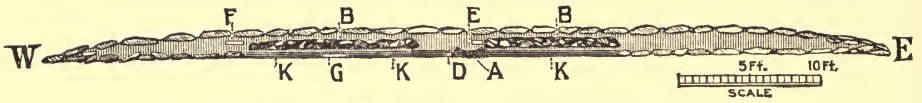


FIG. 1. SECTION OF MARRIOTT MOUND, No. 1. DIAMETER 60 FT.

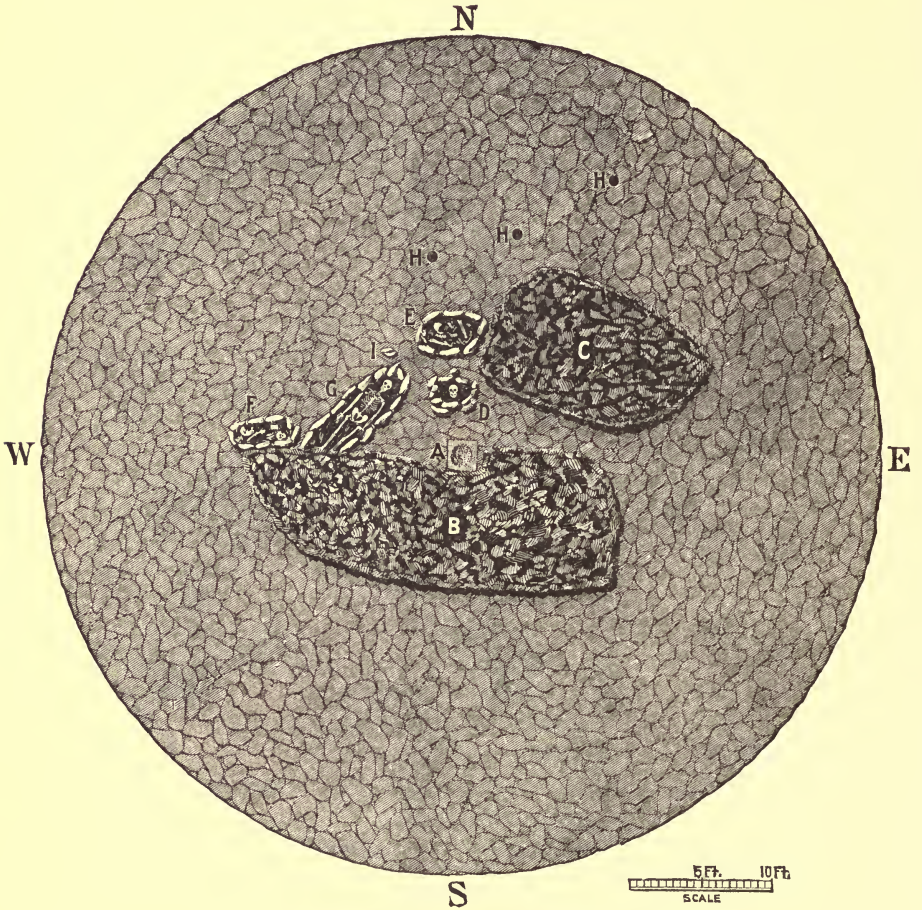


FIG. 2. GROUND PLAN OF MARRIOTT MOUND, No. 1.

EXPLANATION OF FIGURES 1 AND 2.

- | | |
|--|--|
| A. Basin of burnt clay in centre of mound. | F. Skeleton with perforated bear's teeth and copper plate. |
| B. Burnt earth, stones, and ashes. | G. Extended skeleton with ear ornaments. |
| C. Burnt earth, stones, and ashes. | H, H, H. Post-holes. |
| D. Skull surrounded by stones. | I. Shell. |
| E. Skeleton with implements in handles. | K, K. Beds of sandy clay. |

basin were also eleven pottery beads, spherical in shape and half an inch in diameter (34362), four beads cut from shell and finely polished, about half an inch in length and a quarter-inch in width (34363), and five small shells of the genus *Marginella*, each of which had its apex cut off so as to permit of stringing as ornaments (34364).

Partly surrounding this mass of burnt clay was a mass of burnt earth, stones, ashes, and charcoal, from eight to ten inches in depth, irregular in outline, and extending about fifteen feet to the west, eight feet to the south, and ten feet to the east (Figs. 1, 2, B). The bottom of this burnt material was about seven inches above the surface over which the mound had been made. About six feet northeast of the centre of the mound was a similar burnt space, about ten feet in width and fifteen in length (Fig. 2, C). Under these burnt portions was a thin layer of sandy clay, which had been placed on the surface of the ground. Over the rest of the base of the mound were one or two layers of stones.

In the ashes and earth on these burnt areas, and in the adjacent earth, were over six hundred fragments of pottery (34408-34437), varying in size from one to five inches in length. These fragments are pieces of bowls and pots of common sizes, which were well made and well burnt. The clay apparently was mixed with a fine sand. A few of the pieces contain bits of shell. Many of the pieces show that the bowls were decorated neatly with incised lines and punch-marks in different designs. Others are cord-marked, and many are plain. One fragment is that of a conical foot, probably one of three around the base of the vessel. Among all the pieces there is not a single handle, although there are many portions of the lips and sides of vessels.

Scattered about in the same manner were between two and three thousand broken and split pieces of bones of animals (34407), principally of the deer and bear, but including several other species of mammals and a few of birds, which have not yet been determined. With these were found nearly a hundred shells of river clams, *Unionidæ* (34388), a portion of a clam-shell (34389) which had been cut around the edge, possibly a piece of a spoon; many small pieces of mica (34360), some of which are fragments of ornaments; and also several objects of bone and stone, as follows.

A needle (34390) made from a splinter of bone, nearly five inches long, an eighth of an inch in diameter in its upper part, flattened

at the head, through which a small eye has been drilled. This needle is well made and highly polished. It is shown in Fig. 3. Pieces of four other needles (34390) of the same character and size were also found.



FIG. 3. BONE NEEDLE.



FIG. 4. BONE AWL.

An ornamented awl (34392), formed from a piece of bone, probably the metatarsal of a deer. As shown in Fig. 4, the handle is ornamented with rows of fine cross-cut lines, on each of the two surfaces shown in the figure. On the ridge of bone between these

two carved surfaces are eleven slight notches. The end of the handle is squarely cut, and has two distinct grooves. The under surface is unfinished, showing the cavity of the bone. The cellular portion of this part of the bone is so slightly worn that it seems probable this portion was filled with some substance the better to adapt it to the hand. The total length of this implement is four and one eighth inches.

Eleven other awls or points of bone (34391) are made by simply sharpening splinters of bone from two to three and a half inches long. These are made from pieces of ribs and splinters of mammal and bird bones, and are similar to hundreds of other bone points which have been found in various places the world over.

There are also pieces of five other bone implements with more or less chisel and spatula-shaped ends. One of these (34393) is a fragment two inches long, made of a piece of thick bone ground on one side to a narrow chisel-like edge one fourth of an inch wide. Another (34394) is made from a piece of a deer's bone about three inches long and one inch wide, and has a round, smooth, and thin edge at one end. Three others (34394, *a*) are pieces of ribs which have been split, and rounded and smoothed at one end. An ulna of a deer (34397), the olecranon of which is so often used for making implements, has had the slender portion detached by cutting the bone partly through from opposite sides, and then snapping off the end. The cuts made by a flint knife or flake are distinctly seen in this specimen. Three points cut from deer's antlers (34396), and another (34395) which has been hollowed, probably as a socket for some implement, close the list of objects of bone and antler.

Of objects of stone we found four small masses of gray flint, from which pieces had been struck off, and one hundred and eleven chert, jasper, and chalcedony flakes of various colors and sizes (34403). Of the same material are seventy-seven thin flakes from one and a half to two and a half inches long and from a quarter to about half an inch wide (34406), and also a core (34405) from which such long narrow flakes had been struck. Nine of these flake-knives are shown in Fig. 5, of natural size. They are of the same character as the obsidian flake-knives from Mexico, and evidently were made for similar purposes. We have found hundreds of these narrow flakes during our explorations of the Ohio mounds, and also several of the cores. A trial at cutting wood, antler,

bone, and mica with these flakes, is at once convincing that they were well adapted for knives. Three thin flint flakes (34404) from one and a quarter to two inches long and about one inch wide, are of interest, as they show secondary and fine chipping along their edges.



FIG. 5. FLAKE-KNIVES.

Five fragments, points, and bases of large chipped points of flint (34400) are evidence of good work of this character, while a slender point about two and a quarter inches long, with a simple shank, is very rudely chipped from a poor piece of chert (34399).

The only fine chipped implement found in the burnt portions of the mound is shown of natural size in Fig. 6. This has serrated edges, and may be a large arrow-head (34398). It is made from a dark gray flint. A fragment of polished stone (34401), probably the central part of a celt, is another evidence that considerable refuse material was gathered at the spot where the mound was made, as well as ornaments and implements of value and importance to the people. A piece of clay slate (34402), a quarter of an inch in thickness, has been cut into the shape shown by Fig. 7, which represents the stone of full size in outline. Fragments of a fossil plant (34361), the cavities of which contained considerable oxide of iron, were also found in the ashes.

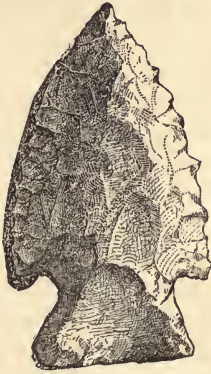


FIG. 6. CHIPPED FROM GRAY FLINT.



FIG. 7. CUT FROM SLATE.

Five feet north of the centre of the mound, and between the southern and northern burnt portions (Fig. 2, D), were a number of small stones, arranged on the surface of the ground at the bottom of the mound, surrounding a human skull (34365) with its under jaw. No other bones were with the head, not even fragments, except those belonging to the skull; neither were there any objects of any kind buried with it. The skull is brachycephalic,¹ and is that of a youth who was just getting his wisdom teeth. A hole a quarter of an inch in diameter has been bored through the occipital bone at a point three eighths of an inch back of the centre of the margin of the foramen magnum. The position of the hole

¹ Length, 170; breadth, 142; breadth index, 835. Height, 140; length, 170; height index, 824.

naturally suggests that a cord was passed through it and out of the great foramen for the purpose of suspending the skull. In this connection it is well to recall the several perforated skulls surrounding the two skeletons in the intrusive pit in the large mound of this group to which reference is made in a former report.

Nine feet north of the centre, near the western edge of the north-eastern burnt space were the following human bones (34370), probably of a man: a piece of the left parietal, a right molar, and the left condyle of the lower jaw; pieces of a right femur, humerus and ulna of each side, a right radius, and a right scapula; several finger and toe bones, fragments of ribs, vertebræ, and long bones, all representing a single skeleton. These bones were in a group, out of natural order, eighteen inches above the base of the mound, and were surrounded by small stones (Fig. 2, E). The fact that many of the bones of the skeleton were missing, while those which were found were fairly well preserved and out of natural order, suggests a secondary burial. Ploughing over the spot may have caused some of the fractures, and some of the pieces may have been pulled from their place of deposit by the plough, but there were no fragments about to suggest that such was the case. The broken lower end of the left femur has been gnawed by rodents.

Mixed with the human bones were a couple of handfuls of fragments of bones of animals (34378), a few of which had been burnt, and pieces of a small antler of a deer. There were also two pieces of bone and a piece of antler (34372) which had been cut, and are probably portions of pointed implements. BANCROFT LIBRARY

In a pile, in one corner of the enclosure and partly under some of the human bones, were ten handles, more or less perfect, made of antler (34371). Five of these had holes in one end, and while they vary in size from three to four inches in length, and from half an inch to an inch in diameter, they are of the shape and character of the handle shown in Fig. 8, which is a full-size illustration of one of the lot in which a point of bone was still inserted in the handle (34374). Another of the handles, made from a point of an antler, has a groove cut across its widest end, in which was resting a triangular point, chipped from a dark chert (34373), as shown in Fig. 9, also of full size. Of course this is a knife, and it is a good illustration of the transition from arrow-points to knives. These specimens were taken up with care, and both Dr. Metz and myself made careful observations of the handles with their points in place



FIG. 8. POINT, MADE OF A SPLINTER OF BONE, IN HANDLE MADE OF ANTLER.



FIG. 9. CHIPPED STONE-POINT IN HANDLE OF ANTLER.

as they lay in the earth. The method by which this stone point was fastened to the handle is a matter of conjecture, but it is probable that it was held in its place by a lashing of sinew and a mass of glue or gum.

With the group of handles was a finely chipped point (34375) of light banded flint, with slight tangs and a broad stem, which is broken off. This point is finely serrated, and is about the size of the one figured in the handle. It is probable that it also was formerly mounted in one of the handles.

Two triangular flakes of white flint (34376) and three small bits of pottery (34377) conclude the list of objects found with the human bones in this small grave.

Twelve feet west of the centre of the mound (see Fig. 2, F), and about one foot above the bottom, were portions of another human skeleton, also surrounded by stones. The bones (34366) were out of natural position, and were probably a secondary burial. They are probably those of a man of middle age. The portions preserved consist of a nearly perfect but much warped cranium, the under jaw, vertebræ, ribs, a nearly perfect pelvis, and fragments of the right tibia and fibula. The teeth are all present and in good condition, except the left lower wisdom tooth, which has a large carious spot just above the neck. A few of the ribs and a portion of the pelvis are stained green by a large copper plate which lay partly upon these bones, and over several bear's teeth described farther on.

The copper plate (34367) is of the same shape and character as several found in the large mound of the Liberty works, but is the first of the kind we have found in the Little Miami valley. This plate is represented of one-quarter size in Fig. 10. Although this large plate, at first sight, has the appearance of having been cut from a sheet of rolled copper, a careful examination of its surface leads to the belief that it was hammered from a sheet of native copper. There are inequalities over the surface, and several places where the copper is distinctly laminated, and the edge of the outer piece has separated from the mass, as can be seen by a close inspection of the figure, which is made by the photo-engraving process. The edges, particularly at the rounded corners of the plate, are thinner than other portions, and the plate varies in thickness from one to one and a half millimeters. I have tried the experiment of hammering a sheet of native copper, placing the piece on

a flat stone and pounding the opposite surface with an ordinary hammer-stone, and I find that I can produce a surface, on a sheet of the same thickness with the plate, which is as hard and compact as the surface of the plate. The copper of which this plate is composed is considerably corroded, and the outer surface has changed to a green color, probably a carbonate. One surface is smoother



FIG. 10. BREAST ORNAMENT MADE OF COPPER.

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than the other, and there are slight traces of this having been in contact with a woven fabric, the meshes of which are indicated by minute lines on the copper. I may state here, that on similar copper plates from the Liberty group, in a few instances, cloth was well preserved by the action of the copper; and I may add, also, that one

of these plates was found in the large mound of the Liberty group resting on bones of the chest of a skeleton, which was extended at full length, and it is probable that such plates are ornaments which were suspended over the breast by passing a cord through the two holes. The several plates of this character which I have seen are of the same general shape, but they vary in size from considerably smaller to slightly larger than the one from the Marriott mound. On one surface of the plate before me there are several minute wavy and curled lines close together and covering each other. These are made evidently by a formation of a carbonate of copper about hair of some kind, perhaps of the person with whose bones the plate was found.

The following are the dimensions of the plate. Width across lower edge, nine inches; across upper edge, eight and one fourth inches; across centre, eight and one eighth inches. Length, five and one eighth inches. Distance between holes, two and five eighths inches. Diameter of holes, about one eighth of an inch. Distance of holes from upper margin, one and a quarter inches.

Lying together immediately under the copper plate, and partly in contact with it, were six canine teeth of bears. These teeth are from three and a quarter to three and a half inches in length, measured in a straight line from base to point, and although they are slightly larger than several teeth of black bears with which I have been able to compare them, I presume they are of the same species. Four of these teeth (34369) are probably from one animal. Each tooth is perforated by a lateral hole bored near the edge at the point of greatest curvature of the root, as shown in Fig. 11,



FIG. 11. BEAR'S TOOTH, SHOWING LATERAL PERFORATION.

which represents the tooth of natural size. By passing a cord through this hole, the tooth could be fastened to any object, or worn as an ornament. Two of the teeth (34368), perforated on

one side in the same manner as the others, have an additional hole bored through near the end of the root. On the side opposite the lateral perforation, this hole is counter-sunk in order to receive a large spherical pearl, about three eighths of an inch in diameter. The pearls, although now chalky from decay, were in place, as shown in Fig. 12, when the teeth were found.

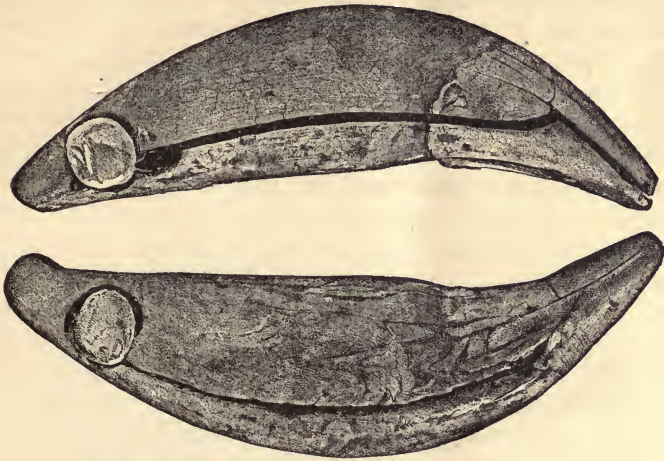


FIG. 12. BEAR'S TEETH WITH PEARLS INSERTED.

Seven feet northwest of the centre of the mound we found a human skeleton, extended at full length and surrounded by stones (Fig. 2, G). The body had been laid on its back in a grave dug in the hard clay, and it is evident, from the fact that the foot of the grave was under a portion of the mass of burnt stones, earth, and ashes, that it was a primary burial over which the mound was erected after the rites which here took place.

The parts still remaining of this skeleton (34379) are light and crumbling, and consist of fragments of the cranium, the under jaw, parts of all the long bones, portions of the pelvis, a piece of scapula, and fragments of ribs and vertebræ. These show that the individual was an adult of light frame, possibly a woman. The condition of the jaws points to considerable disease of the teeth, for all the molars of the lower jaw except the wisdom tooth of the left side, with the first right molar of the upper jaw, had been lost during life, while the first upper molar of the left side has its roots enlarged by inflammation. The remaining teeth are somewhat worn.

Four inches from the left side of the head were the remains of four of the spool-shaped ear ornaments made of copper (34386), with which were about a dozen large pearl beads (34381, a). In contact with what remained of the bones of the neck were four bear's canine teeth (34384) and more than two hundred pearl beads (34385). With the copper-stained bones of each hand were portions of an ear ornament of copper (34380), of the same shape as those near the head, but in each instance with one disk covered with a thin plate of native iron. With each of these ornaments were pearl beads, about fifty in all. On the bones of the chest rested the beautifully chipped point of white flint (34383), shown in Fig. 13. This chipped point is from two to seven millimeters thick, eighty long, and thirty-four wide, and, very likely, is the blade of a knife.

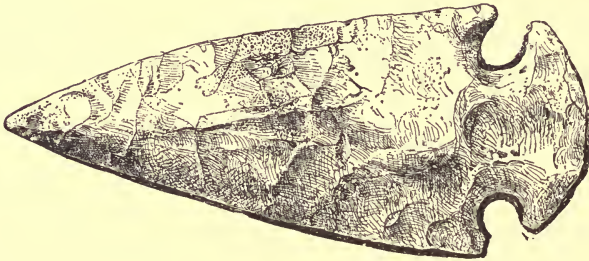


FIG. 13. POINT CHIPPED FROM WHITE FLINT.

The pearl beads found in the several positions mentioned are natural pearls, probably obtained from the several species of *Unio*-*nidæ* in the Ohio rivers. In size they vary from a tenth of an inch to a half-inch in diameter, and many are spherical. They are neatly drilled, the larger from opposite sides. These pearls are now chalky, and crumble on handling; but, when fresh, they would have formed brilliant necklaces and pendants.

The four canine teeth found at the neck of the skeleton are a little larger than those found with the skeleton previously mentioned, three of which are shown in Figs. 11 and 12. If they are those of the black bear, that species must have been larger than at present, judging by the size of these teeth, of which the smallest is three and a half inches, and the largest three and nine tenths inches long. Is it not likely that these are the teeth

of the grizzly bear? Upon one side of each tooth are two oblique perforations, meeting at a common point, so that a string pushed down through one hole passes up out of the other. (See Fig. 11.)

The ear ornaments mentioned as found near the head of the skeleton, and with the bones of the hands, are like those found in other mounds of this instructive group, to which I have called attention in former Reports. The first which came into my hands were described in 1882 in my account of "Copper Objects from North and South America, contained in the Museum" (15th Report, p. 83). Since then a large number of objects of copper have been added to the Museum, principally from explorations in Ohio, and among them many of these ornaments. In 1882, following Dr. Rau, I used the term "spool-shaped ornaments," as their proper designation was not then known. In that paper the method of their manufacture is pointed out, and in part illustrated by figures (Figs. 18, 18 *a*, and 19) of the two specimens found with burnt human bones in a mound at Franklin, Tenn. All of these ornaments since obtained, particularly those from the altar of the large mound in the Turner group, mentioned on page 117, 16th Report, show that, with slight individual modifications, such as strengthening cross-bars of copper between the disks, and slight variations in the method of forming the central part connecting the opposite disks, there is little to add to the published description. That these objects are unquestionably ear ornaments, I regard as conclusively proved by the fact that, in our explorations of the Turner group, to which this mound belongs, in three instances we have found pairs, one on each side of the skull, in contact with the temporal bones, as mentioned on page 174, 16th Report, and that the small terracotta figurine of a man (p. 173, same Report) has such a stud-like ornament, of large size, in each ear. Many of these ornaments were found in the mass of material from the altar of the large mound, and among them there were several either partly made of, or covered with, thin plates of meteoric iron (p. 171, 16th Report).

In the mounds of the Liberty group in the Scioto valley we also found several of these ornaments of copper (pp. 405-407, 18th Report), some of them covered with thin plates of meteoric iron, like the two with the finger-bones of the skeleton now under consideration, one of which is represented in Fig. 14. The cor-

responding disk from the other hand is covered in like manner, but the thin covering of iron has nearly rusted away.

Fig. 14 shows the outer of the three concavo-convex plates which, closely overlaid, form one disk of an ear ornament; and in Fig. 15 are seen the two inner plates, with the central cylindrical column, which after passing through them is split at each end and clinched. These



FIG. 14. OUTER SURFACE OF EAR ORNAMENT.



FIG. 15. CENTRAL PORTION OF EAR ORNAMENT.

plates rotate loosely upon the column, around which a twisted vegetable fibre is wound three times.

Fig. 16 represents the surface of the middle one of three plates, showing a small central hole. A bit of copper, carried through the central column, passed through these holes, holding together the



FIG. 16. UNDER SURFACE OF CENTRAL PLATE.



FIG. 17. UPPER SURFACE OF UNDER CONCAVE PLATE.

inner and middle plates, which were further secured by turning the edge of the middle plate under the rim of the inner plate, shown in Fig. 17, where may be seen the end of the cylindrical column in the

central depression. Over the inner and middle pieces, thus closely applied, was laid the outer piece, whose edge turned in secured all three plates together.

Fig. 18 is an accurate representation of the outer surface of one of the copper ornaments found near the skull. Over the surface figured are little ridges of green carbonate of copper that appear to have been formed in the little furrows of the skin, probably of the neck, when it was in contact with the ornament. This disk and the corresponding one of the pair are thicker than usual, and the edges of both show that they are made up of two plates closely united to a third or under plate, as described above.



FIG. 18. OUTER SURFACE OF EAR ORNAMENT.

Two of these ear ornaments found near the head have vegetable fibre wound around the central column, as represented in Fig. 15. One of these is so well preserved as to retain all the parts in place, while all the others are more or less in pieces. The number of these ornaments found with this single skeleton, six in all, or three pairs, none of them in such a position as to indicate that they were in the ears of the body at the time of burial, might be taken as evidence that they are not ear ornaments, if it were not for the conclusive evidence to the contrary referred to above. These may have been placed with the dead as tributes, and need not have been the personal property of the individual in life. The number of these ornaments found on the altar of the great mound, some covered with native iron, others with native silver, shows that they were regarded as valued offerings, in keeping with the thousands of pearls and other ornaments thrown upon the altar fires during the ceremonies which there took place. Among the terra-cotta figurines from one of the altars are several representing women; but it is only the men who are represented with ear ornaments. This fact also suggests that those found with the skeleton were offerings, as it is probably that of a woman.

Two feet north of the head of the grave containing the skeleton and objects last described was a large marine shell (34387). The shell is much decayed and broken, but its central portion had been cut out. Its position in the mound is indicated by the letter I in Fig. 2.

It only remains to add to this description of the mound and its contents, that in the northern portion, fourteen to twenty-two feet from the central basin, we found three soft spots in the hard clay under the mound, such as we have found to indicate places where posts or large stakes have been. The position of these post-holes is shown by H, H, H, Fig. 2. It is likely that these posts projected through the mound; but as they had long since gone to decay, leaving only a little fine vegetable mould at the bottom of the holes, and as the mound had been planted over for so many years, this could not be determined. I may add, that in many of our explorations of mounds we have found similar holes, some showing where the outer layer of wood or bark of the post had been by a deposit of bog iron, formed by infiltration from the clay above; and, following out the arrangement of the holes, we have been able to show that in some cases a wooden structure had occupied the site where the mounds were afterwards built, and by tracing the position of the posts have even ascertained that the mounds sometimes enclosed such structures, which were not simply central chambers, but structures which included extensive rows of posts, as in the case of the largest mound of this group.

