RECENT ARCHÆOLOGICAL INVESTIGATIONS IN ONTARIO.

BY

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TRANSACTIONS

OF

THE CANADIAN INSTITUTE

RECENT ARCHÆOLOGICAL INVESTIGATIONS IN ONTARIO.

By Henry Montgomery, M.A., Ph.D., F.E.S.A.

(*Read 19th February*, 1910)

There is a series of ancient artificial earthworks or mounds in the township of Otonabee, Peterboro County, Ontario, which to some extent I have recently investigated. At the request of the late Mr. Strickland of Peterboro, a former owner of the property, Mr. David Boyle in 1896 examined these mounds and afterwards published the results of that examination.

The following quotation is from pages 23 and 24 of Mr. Boyle's Report, published in 1897:—"Selecting the highest point of the mound left undisturbed, seventy feet from the end of the tail, I had a cut made five feet wide, extending from the north side to the middle of the bank, which is here twenty-four feet across the base, simply to examine the interior nature of the structure, the surface of which was here somewhat stony. Human bones were exposed within two feet of the surface, but like those of the egg-mound, all much decayed. Some of the boulders taken from this cut were all that a man could lift, but many of them did not weigh more than from ten to thirty pounds each. The placing of the earth was manifestly done by hand, layers and patches of dark soil being mingled with yellow clay; beyond this there was nothing to indicate man's agency, but the proof yielded was ample. A slight examination

was made at the head of the mound, the result being to show that here also comparatively recent burials had been made, but lower than eighteen inches from the surface there was no sign of bones."

From his report, however, it appears that no objects of manufacture were found by Mr. Boyle, and only a few human bones were found in the largest mound, and a few skeletons in the others.

I visited the place during the past summer (1909), made a preliminary examination, and, in behalf of the University of Toronto, obtained permission from the owner to excavate the mounds and make collections therefrom for the University. On my return from the Western Provinces in October, I entered upon the work of excavation, and the purpose of this writing is to show the results of my work thus far in the largest tumulus of the series, my intention being to complete the investigation of the entire group of seven mounds during the present year. In general it may be stated, that, some of the group are nearly circular in form, others are oval or elongate. But, the largest mound is long and somewhat convolute or serpentine in shape. It varies in width and also in height. Its length is 192 feet. The width near the eastern extremity is twenty-eight feet; it soon narrows towards the west to a width of twenty-one feet which continues to a point about seventy feet from the extreme western extremity, and here for a distance of more than forty feet the mound is thirty-seven feet wide. Where its width is twenty-eight feet its height is nearly six feet; where the mound is only twenty-one feet in width its height is only three and one-half feet; and where it is thirty-seven feet in width its height is seven feet, its greatest height being in that portion which has the greatest width. The extreme western portion of this mound is low and narrow. At about the highest part there are two oak trees of considerable size growing upon it. See plate I, Fig. 2. The larger of these is about six feet in circumference. The decayed stump of another tree on this part of the mound had a measurement of thirty inches in diameter.

This is the earthwork to which the name "serpent" was given by Mr. Boyle. That it was intended by its builders to represent a serpent in shape is somewhat doubtful, there being little evidence in support of the view. There are but two convolutions in it; whereas there are seven convolutions in the Adams County serpent mound of Ohio which latter is also more uniform and natural in form. It is possible that this Peterboro County mound may be an aggregation of ordinary burial mounds erected in this way at different times for convenience' sake, and perhaps also for family reasons. In the great plains of the western States and Canada instances of several mounds attached together and forming one

continuous irregularly shaped mound are of fairly frequent occurrence, and here in this Peterboro group there is also an example of this kind in a double mound situate immediately south of the large one. Some of the western ones are of such shapes that, even if regarded as unfinished, they certainly were never meant to represent serpents. This, however, cannot be said of the large Peterboro mound in question. Although irregular, and in length relatively short, its shape is such that it might be regarded as the beginning of an unfinished serpent.

Having secured the assistance of five men, I made four excavations, each being ten feet in width and from ten to fourteen feet in length. Three of these excavations (Nos. 1, 2 and 4) were made near the oak tree in the highest and widest part of the mound. The remaining excavation (No. 3) was near the eastern extremity of the mound, the part termed the head of the serpent.

EXCAVATION NO. 1.

In the excavation designated number one there were three deposits of broken human bones, being portions of four skeletons. Probably the remainder of the skeletons had been previously removed by other persons. There were no manufactured articles found here with the exception of a little bit of decorated pottery. No stones were found; but, it is possible they may have been removed by others who had disturbed the place years before.

EXCAVATION NO. 2.

Excavation number two, which was made near the larger oak tree, yielded fifty large stone boulders, ten human skeletons, a few little pieces of burnt bone, a small piece of a pottery vessel, and upwards of three hundred and fifty marine shell beads of three well-known genera of shells, constituting four varieties of ornaments as seen in plates II. and III. The boulders were together in a horizontal layer beneath more than two feet in depth of soil. As many of them were from eighteen inches to two feet in thickness the skeletons and relics under them were at a distance of four or five feet from the top of the mound. The skeletons, especially the skulls, were very much broken, evidently by the weight of the stones, as evidenced by their position, and the fact that the fractures showed great age. The pottery was a piece of the rim of a large vessel showing incised decoration.

Five of the shell beads are Olive shells, *Oliva literata*, (pl. II, Fig. 3), each having the top of its spire ground down so as to make an opening for the passage of a string. These univalve shells occur in tropical waters, and were probably procured by trade from the vicinity of Florida. They

have been found in Ohio mounds and other localities in the United States; but, so far as known to the writer they have not been reported from the mounds of Ontario.

Twenty-eight of the beads are small univalve sea-shells known as *Marginella apicina*, whose nearest habitat is the ocean or gulf near Florida. Like the olive shells these have been but slightly altered by the manufacturing process. In every case the shoulder of the spire near the top has been ground, doubtless by the use of a stone, in such a manner as to produce a suitable opening for the piece of hide or other string by which they were held together as a necklace or armlet. All were ground in a similar way, the whorls and columella within the shell being visible, and thus probably adding to their beauty. (See pl. III, Fig. 4).

There are three hundred and twenty small circular beads of various diameters and lengths (plate IV, Fig. 5). These were cut out of some large, heavy marine shell. The structure of the shell substance resembles that of the shell of the large gasteropod *Fulgur perversa* from the Mexican Gulf and the south-eastern coast of the United States. Many of the mounds of western Canada and the Dakotas have yielded large beads which have been made from the shells of this mollusc.

One larger ornament, probably a pendant for the neck or breast, is a piece of sea-shell two and one-half inches in greatest length, evidently cut from two of the whorls of *Fulgur perversa*, and having the aperture for suspension bored from both sides. Like all the others it shows great age. (See plate IV, Fig. 7).

All of the remains were above the original surface of the ground, and were not deposited in any special pit or excavation. There were no skulls or bones of any large animal above them, nor was there a layer or covering of wooden poles or of a calcareous material present. Stones alone constituted their covering along with the vast heap of soil above.

Excavation No. 3.

Excavation number three was made within twelve feet of the eastern end of the mound at a place where the height was about six feet. This excavation was ten by fourteen feet. At a depth of two and one-half feet I found a layer of twelve large glacial boulders. Below and between the boulders there were a few inches of soil covering seventeen human skeletons. The soil helped to save the skulls from being crushed to pieces by the stones. In this respect the work of burial appeared to have been

more carefully done than in excavation number two. Many of the crania found here are fairly well preserved, although the condition of all of them indicates that a considerable length of time has elapsed since they were deposited in that place. The human skeletons were irregularly deposited in different directions and mostly in an extended or nearly extended position. They covered an area about seven by ten feet in size, and they lay upon a stratum of burnt earth about three inches in thickness and containing fragments of burnt or charred bones. This stratum rested upon six large stones and soil which had been placed upon the original surface of the ground. A small rudely formed bone article some what like an awl was found with the skeletons.

The humerus is perforated in many of the skeletons, and there are supernumerary or Wormian bones in some of the crania.

But, as to the form and capacity of the human crania it must be observed, that, when compared with those of other races they stand fairly high.

EXCAVATION NO. 4.

Excavation number four was in that part of the mound immediately east of the trench dug by Mr. Boyle in 1896. It had plainly been disturbed by some one in former years. But, at a depth of two and one-half feet I found almost one hundred stone boulders, many of which were very large. Most of these were limestone, and the remaining were gneissoid. The entire heap was seven feet across and extended from a little more than two feet to four and one-half feet below the surface. Beneath these stones were found only a few broken human bones and one small fragment of pottery. The bones included vertebræ, ribs, parts of the maxillæ and crania of both an adult and a youth, a patella, bones of the leg and of the foot. There were a dozen or more shells of the fresh-water mussel (Unio), most of which were entire. Broken bones of deer were found also, as well as part of an incisor tooth of a beaver. Small pieces of charcoal occurred at a depth of four feet.

Although it is possible that many of the burials may have been secondary, no evidence of secondary burial was observed in any of these four excavations. The usual evidence was not there. Nor was there any evidence of intrusive burial noticed.

PREHISTORIC ARTIFACTS FOUND IN THE VICINITY OF THE MOUNDS.

In addition to the foregoing account of the Peterboro County "serpent" or zigzag mound, I herein enumerate a number of archæological artifacts which were found in the same locality, some of them last year and others previous to that time. Some of these were discovered upon the mounds or near them; others were either found upon the surface of the ground or ploughed up in the neighbouring fields. A few were obtained about four miles distant from the mounds. While nothing can be positively stated as to who their manufacturers were, it is almost certain that the copper objects are the work of the mound-builders, similar objects having been found in mounds in other parts of the continent. It is also probable that some of the stone implements were made by the same people who reared the earthworks. But, regarding many of the articles of manufacture, until further evidence shall have been procured there must continue to be doubt as to the people who made them.

COPPER OBJECTS.

1. A copper axe or celt, about six inches in length (pl. V, Fig. 8). Careful inspection of it shows it to have been made from native copper, such as that which occurs in rocks about Lake Superior. It is flat upon one side, and has a raised medium longitudinal ridge upon the opposite side, and a sharp edge at its wider end. Altogether, this copper celt is well-formed, being a neat, handsome implement. It was found within three hundred yards of the mounds.

2. Copper spear, nearly ten inches long and possessing two projections or barbs at the base of the blade (pl. V, Fig. 9). It is bevelled from a median ridge on both faces.

3. Copper knife, a little more than twelve inches long, and having a narrow extremity apparently for insertion in a wooden or other handle (pl. V, Fig. 10).

4. A piece of a thin sheet of native silver and copper greatly resembling the pieces of naturally mixed silver and copper seen in northern Michigan. This sheet is remarkably uniform in thickness. It is quite even and smooth throughout, and forcibly reminds one of the uniformity of many of the metallic artifacts of Colombia, Peru and Central America. Having only stone and bone implements the prehistoric workman must have exercised great skill and patience in its manufacture.

STONE OBJECTS.

5. Stone scraper, made of mottled limestone. See pl. VII, Fig. 14. A piece has been broken off. A thick ridge extends along its back. This ridge would aid the hand in holding and using the scraper. Its edge is curved or somewhat semicircular. The length is seven inches.

6. Banner-stone or gorget slightly broken (pl. VII, Fig. 15). This is a flat, rectangular piece of reddish coloured hæmatitic slate, with a single central aperture showing the marks of the flint borer which was used in making the perforation. This banner stone is five inches long.

7. Stone adze, made of hornblende rock. Length 8 inches. (pl. VII, Fig. 16).

8. Stone gouges, made of hornblende. Most of these are well made and highly polished.

9. Stone celts or axes, also of hornblende. These are usually well finished tools. Pl. VII, Fig. 17.

10. Slate spears and arrow heads, barbed and having a tang serrated on the sides.

11. Flint and chert scrapers and arrow heads.

12. Bird amulet of limestone, somewhat broken. This is very large, being nineteen inches long and six inches high. There are two holes bored from side to side through its neck and back.

OBJECTS OF POTTERY.

13. Sherds of pottery (pl. VI, Fig. 12). These pieces of broken pottery show decoration by textile impression as well as by incision with sharp flint or shell tools.

14. Large pipe of pottery with incised decoration upon its bowl (pl. VI, Fig. 11). Height of bowl, two inches. Length of stem, two inches.

SHELL OBJECT.

15. Cowry shell, *Cypræa moneta* (pl. IV, Fig. 6). This shell is not perforated, and, therefore, it is not likely that it was used as an ornament. It probably served the purpose of money. The home of this cowry is in the Pacific Ocean near California.

LEADEN OBJECT.

16. A flat, circular piece of lead a little broader and thicker than a Canadian copper cent. It has two similar perforations about equally distant from the margin and from each other. The edge or margin is rudely decorated by notches, and one face has seven rough indentations in a circle between the two holes and the edge. This is nearly similar to the few leaden discs which have been found in Wisconsin. It was likely made from the galena or lead ore of some of the deposits now being mined in Illinois, Wisconsin and Iowa, and was used either as a coin or as a pendant. The diameter of this disc is about an inch and a quarter, that is, three and two-tenths centimetres.

CONCLUSIONS.

1. This is an artificial mound.

2. It was intended for the burial of the dead.

3. The interment was above the surface of the ground; there are no pits or excavated receptacles for the remains. After the burning of fires upon the ground, perhaps for several days, and probably for ceremonial or religious purposes, the bodies and relics were placed upon the spot where the fires had been, and were then covered with soil scraped from the surrounding locality wherever it could be most conveniently obtained. Boulders were then brought and placed in a layer above them, and apparently separated from the remains by a few inches of soil. More soil was dug up or scraped and heaped upon the stones to a height of four or five feet more, making a total elevation above the surrounding land at the time of completion of perhaps eight or ten feet. At later times other burials took place either by building separate mounds or by attaching new mounds to the original one.

4. The protective covering and monument is of stone boulders alone. No wooden poles have been found. No cement or calcareous layer, and no skulls of deer or other large animals have thus far been discovered. This method of burial occurs in Manitoba and some other places; but, it is usually found along with other forms of interment.

5. The artifacts are chiefly of marine shells from the Gulf of Mexico, including Oliva, Marginella and Fulgur. In addition to shells only two fragments of pottery and one bone article have yet been found within this tumulus.

6. Conclusions as to the relationship of the builders of this mound to other peoples of America must be left for future consideration. Although it is too early to form an opinion from the evidence before us regarding the precise relationship of the builders of this zigzag mound to the existing tribes of America, yet, there appears to be sufficient to justify us in considering whether or not these Ontario mounds were built by the Huronic people. Attention is here called to a slight resemblance of the skeletal remains to the Huron type. In the form and size of the cranium this resemblance is somewhat noticeable. Of course, it is known with certainty that the Hurons of historic time, that is, of the seventeenth century, interred their dead in deep pits or ossuaries and did not erect mounds above them. But, the probability of their ancestors' having interred their dead in mounds five or six centuries previous to that historic time, although doubtful and difficult may, I think, be a proper question for study and investigation. The late Sir Daniel Wilson, of Toronto University, in his writings expressed the opinion that the crania of the Hurons varied so greatly that it could not be said that any Huronic type existed. I cannot agree with this view. The evidence regarding the conditions of the discovery of a number of the crania examined by Sir Daniel Wilson is far from satisfactory. It is very probable that many of them were not Huron skulls at all; but, were more likely to be those of the Iroquois and perhaps some of them belonged to the Algonquins and one or two to the mound-builders. In plates VIII. and IX, Figs. 19 and 22, are presented two views of a cranium which I regard as the Huron type. This cranium was found by me in a Huron ossuary in the year 1878, and has been exhibited to several eminent archæologists and craniologists. Views of a cranium found in the "serpent" mound of Peterboro County last October are also shown on plates VIII. and IX, Figs. 18 and 21. A comparison is greatly in favor of the mound builder. The latter possessed greater frontal development, as shown by the lateral views.

In the investigation so far there has appeared evidence of a relationship of these earthworks in Ontario to those of some parts of the state of Ohio, which relationship, of course, also forms a legitimate subject for future study. From the skeletal remains as well as from the character of the artifacts I am at present inclined to regard these Ontario mounds as being closely related to those of Ohio.

7. The mound was reared in prehistoric times. With regard to the age of this mound it may be stated that the condition of the crania and other bones of the skeletons as well as of the shell objects indicates a period of time of great length, probably about a thousand years. The trees growing upon the mound, and especially that whose decaying stump I

measured, would afford proof of the lapse of nearly two hundred years, and we have no means of knowing how many trees may have grown up on the summit of this mound, and have died, decayed and wholly disappeared previous to the present ones. There is no evidence of contact with the white people; and it could not have been erected within historic times. The mound stands on high and rapidly sloping ground. Hence no water would be likely to penetrate it. All rain and snow would soon disappear from it and the ground immediately surrounding it. Consequently, decomposition of its organic contents must have been very slow indeed. Yet, I found them in an unusually advanced state of decomposition when compared with those of many other mounds which have been excavated elsewhere, and also when compared with the remains of the Hurons which were buried in ossuaries under less favorable conditions nearly three centuries ago. It may, perhaps, be safe to place the date at about the tenth century, or about five hundred years previous to the arrival of Columbus at the shores of America.

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ILLUSTRATIONS.

FIG. 1.—Mound near the larger or eastern end of the so-called serpent mound.

FIG. 2.—The highest and widest part of the "serpent" mound, showing oak trees growing upon its summit.

FIG. 3.—Marine shells, *Oliva literata*, full size, showing the spire top ground off. From excavation 2 in the "serpent" mound, October, 1909.

FIG. 4.—Marine shells, *Marginella apicina*, actual size, showing where the hole has been made by grinding. From excavation No. 2 in "serpent" mound.

FIG. 5.—Circular beads made from a marine shell. Found in excavation No. 2 in the "serpent" mound.

FIG. 6.—Cowry shell, *Cypræa moneta*, ploughed up in a field near the mounds in Peterborough county.

FIG. 7.—Pendant made from the marine shell, *Fulgur perversa*. Found in excavation No. 2 in the "serpent" mound.

FIG. 8.—Copper celt or axe, six inches long. Found in field near the mounds.

FIG. 9.—Copper spear, ten inches long. Ploughed up in field five miles north of the mounds.

FIG. 10.—Copper knife, showing both sides of blade. One foot in length. Ploughed out of the ground in a field about five miles north of the mounds.

FIG. 11.—Pipe of pottery, decorated. Two inches high, and the stem two inches long. Ploughed up in a field five miles north of mounds.

FIG. 12.—Sherds of pottery, showing decoration. Found near the mounds.

FIG. 13.—Sherd of pottery decorated by a textile impression. Found in the "serpent" mound, October 1909.

FIG. 14.—Knife or scraper of mottled limestone, showing ridge for a handle. Seven inches long. Edge part is somewhat broken. Found in field near the mounds.

FIG. 15.—Banner stone of hæmatitic slate, with a single perforation. Five inches in length. Ploughed up near the mounds.

FIG. 16.—Two views of a hornblende adze found near the mounds. Eight inches long. Heavy, owing to the presence of magnetic iron ore in it.

FIG. 17.—Hornblende celt or chisel. Found near the mounds.

FIG. 18.—Facial view of human skull taken out of excavation No. 3 in the "serpent" mound, October, 1909.

FIG. 19.—Facial view of Huron cranium found in an ossuary, county of Durham, Ontario, by H. Montgomery, in 1878.

FIG. 20.—Facial view of human skull taken out a mound in Dakota Territory by H. Montgomery in 1889.

FIG. 21.—Lateral view of human skull (whose facial view is seen in Fig. 18) from the "serpent" mound.

FIG. 22.—Lateral view of human cranium (whose facial view is shown in Fig. 19) from a Huron ossuary.

PLATE I.

FIG. 1.

FIG. 2.

PLATE II.

FIG. 3.

PLATE III.

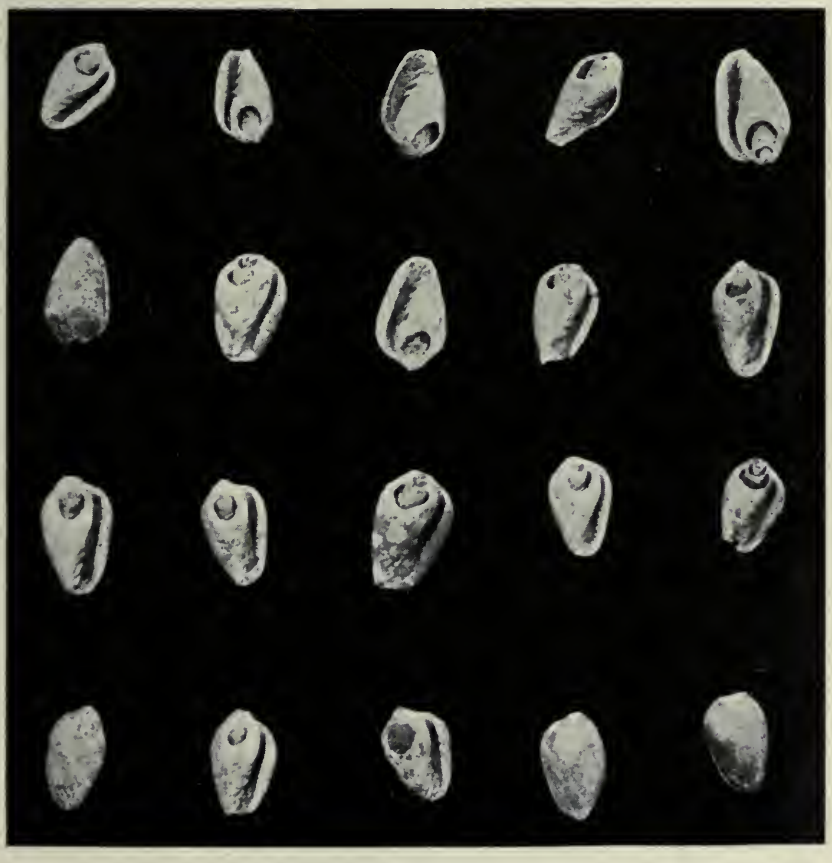

FIG. 4.

PLATE IV.

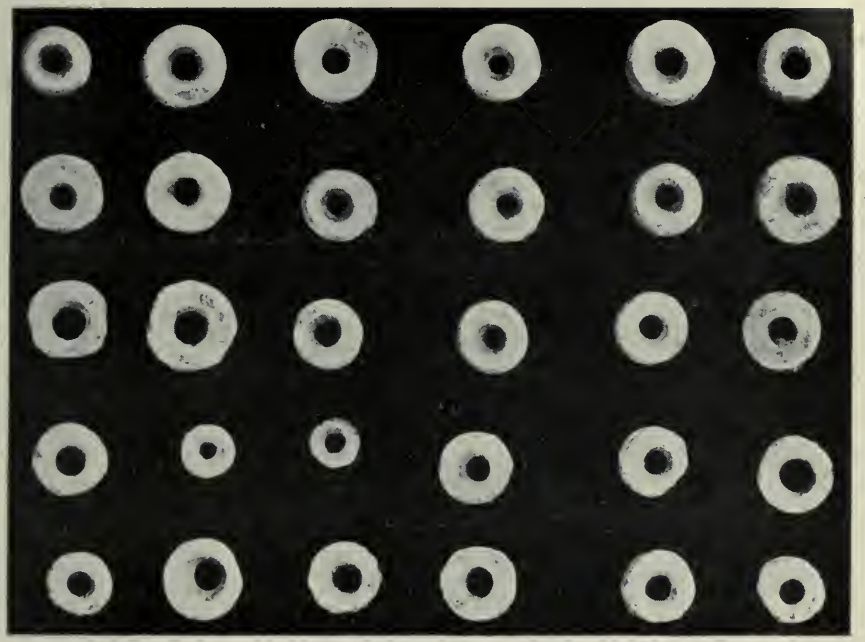

FIG. 5.

FIG. 6.

FIG. 7.

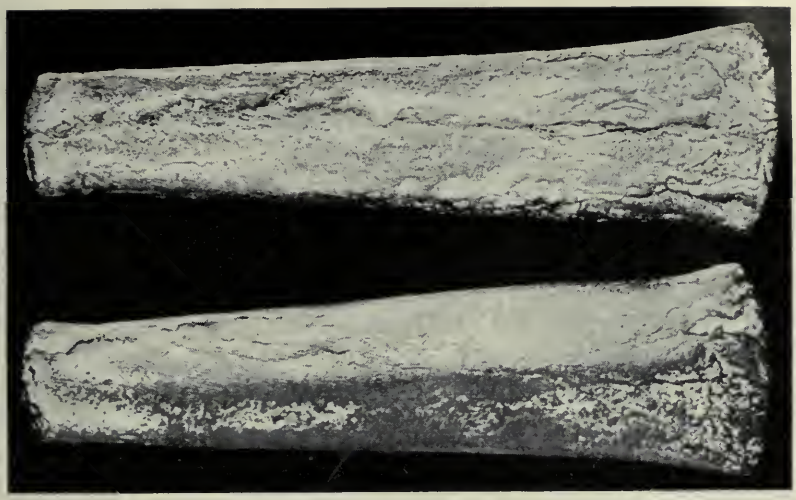

FIG. 8.

FIG. 9.

FIG. 10.

PLATE VI.

FIG. 11.

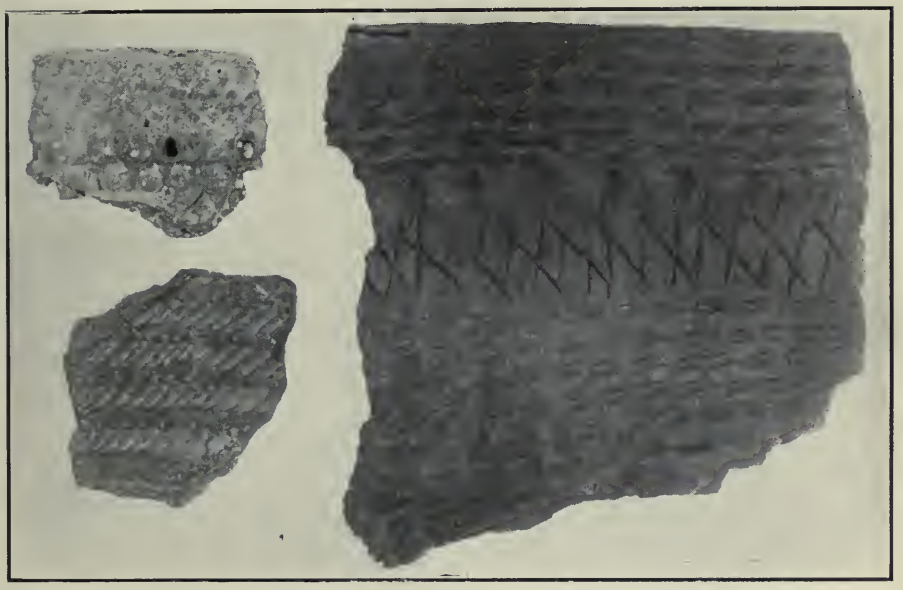

FIG. 12.

FIG. 13.

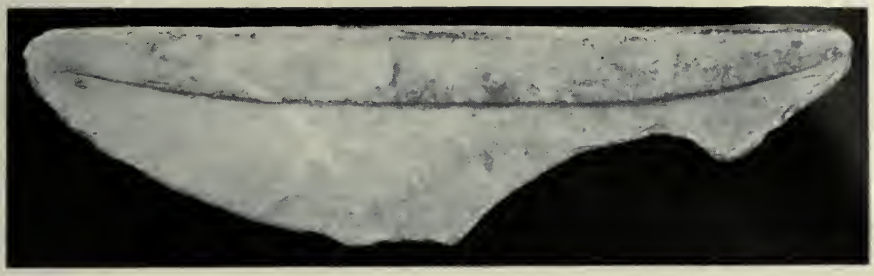

FIG. 14.

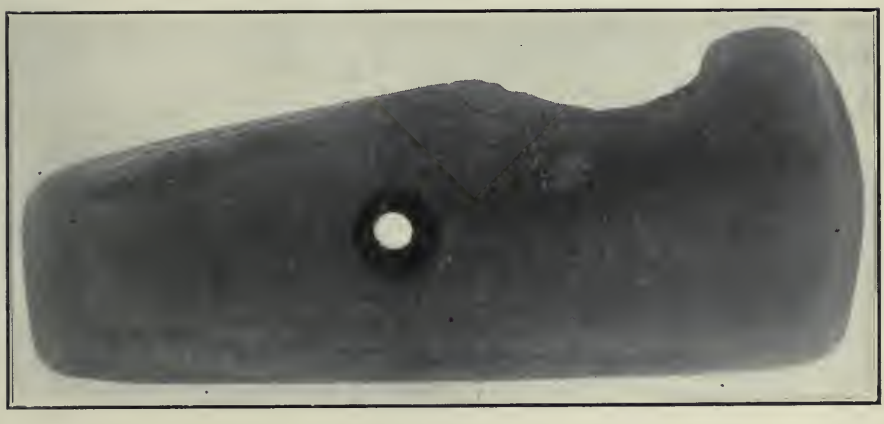

FIG. 15.

FIG. 16

FIG. 17.

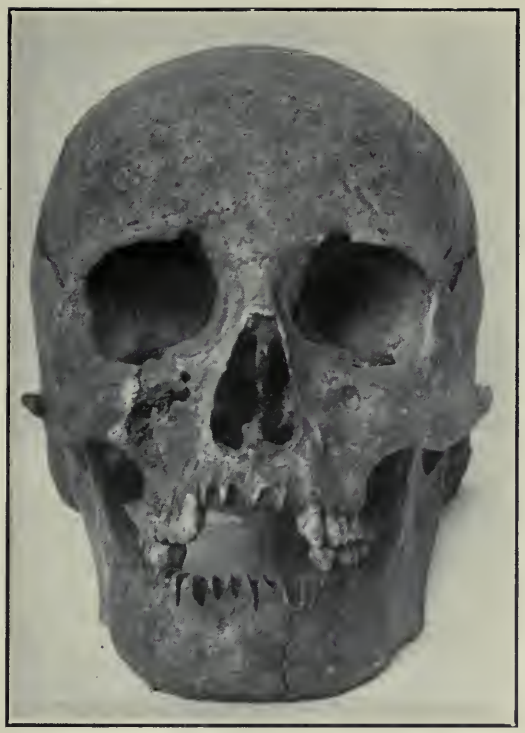

FIG. 18.

FIG. 19.

FIG. 20.

PLATE IX.

FIG. 21.

FIG. 22.