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Some Mounds of Eastern Tennessee

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SOME MOUNDS OF EASTERN TENNESSEE

BY GEORGE GRANT MACCURDY

ABOUT forty-five years ago the Reverend E. O. Dunning, of New Haven, spent two or three seasons in excavating certain ancient mounds of eastern Tennessee. Part of this work was under the auspices of Peabody Museum of Yale University, and part under those of Peabody Museum of American Archaeology and Ethnology at Harvard University. Mr Dunning generously contributed toward the enterprise not only his time but also a part of his personal expenses. Brief mention of his explorations and the collections he obtained is made in the Fifth Annual Report of the Sheffield Scientific School of Yale College, and in the Third, Fourth, and Fifth Annual Reports of the Peabody Museum at Harvard. Dunning does not seem to have left any notebooks or drawings and plans as a result of his field work. The original documents bearing thereon are thus confined to the specimens and to his letters preserved at the Harvard and Yale museums. Some of the shell gorgets in the Harvard collection were figured by Holmes.

Dunning's explorations covered parts of Knox, Jefferson, Hamblen, Greene, Marion, and Cocke counties, but were confined chiefly to the Brakebill, McBee, Lisle, Lick Creek, and Turner's mounds, also a shell-mound thirty-five miles west of Chattanooga. Only the first three of these are represented in the collections at Yale, and to them the present paper will be confined.

THE BRAKEBILL MOUND

The Brakebill mound is situated on the point of land formed by the junction of the Holston with the French Broad river, in Knox county, four and a half miles from Knoxville. Dr J. G. M. Ramsey, author of *The Annals of Tennessee*, lived in this locality for many years and is thought by Dunning to have been one of the first to open the mound. One of the five skulls from mounds within the United States reproduced by Morton¹ was exhumed from a mound at the junction of the French Broad and Holston rivers by Dr Troost. As the Brakebill mound is the only one at the junction of these two rivers, it is evidently the one from which the skull figured by Morton² came. The skull "is remarkable for its vertical and parietal diameter, and flatness and elevation of the occiput. The facial angle is also unusually great."

Some of the stone implements and shell gorgets in the collection at Harvard were taken out of the mound in September, 1869. The following December the mound was opened by its owner, Adam Brakebill. At about this time and subsequently Dunning conducted his excavations at the mound, the dimensions

¹ *Crania Americana*, pl. 55, Philadelphia, 1839.

² In their reference Squier and Davis are wrong in that they place the mound at the junction of the French Broad and Tennessee (instead of Holston) rivers.

of which he gave as 20 feet high by 102 feet in diameter. Records giving details of his excavation here and the association of the various objects found are far from complete. Aside from a rusty sword-blade of steel found by the side of a human skeleton, there is nothing in the Yale collection from the Brakebill mound that would point to European contact.

Shell.—The most notable objects of shell are the gorgets, of which Dunning, in one of his letters, says six¹ were discovered in various parts of the Brakebill mound, "at a depth of eight feet and under layers of charcoal and burnt clay several yards square." Some of them "were deposited under the head of a human skeleton, which was doubled up in the usual manner" (i. e., sharply flexed arms and legs). The smallest of the engraved shells was under the skull of a youth, another near a male skeleton "of mature age and with it a large polished ax of greenstone, some delicately shaped flint arrow points and a carved representation in shell of a human face."

In my paper on "The Wesleyan University Collection of Antiquities from Tennessee"² I endeavor to prove the genetic relationship between the realistic rattlesnake shell gorgets and the so-called "scallop shell discs" of Holmes.³



FIG. 1.—RATTLESNAKE GORGET. BRAKEBILL MOUND. YALE COLLECTION, NO. 2440. (§)

The latter are simply conventionalized representations of the rattlesnake, and should therefore be considered as a variety of the rattlesnake gorget. Both varieties were found in the Brakebill mound, the realistic predominating. The realistic variety is itself divisible into two sub-varieties: those with and those without open-work. Four of the open-work kind are in the Yale collection. Figure 1 is a fine example; although in a fragmentary condition, all the essential features are present and the shell is well preserved. The narrow band within the outer plain zone, intact in the plain variety when not pierced by the two holes for suspension, is here cut out except for four short sections at the top, bottom, and two sides respectively. The center of each section is marked by a pit. These pitted sections represent the four directions: north, east, south, and west; while the coil of the snake's body might represent the encircling horizon. Here instead of the customary cross-hatched fields alternating with concentric circles, the cross-hatchings alternate with chevrons. This pattern covers only

¹ Others were found later.

² Published in the present volume.

³ *Second Ann. Rep. Bur. Amer. Ethnol.*, p. 273.

half the gorget; the other half is marked by an intaglio meander design repeated three times. The area within the body coil is relieved by a sort of openwork whorl, the slits being placed below the mandible, between the jaws, and above the upper jaw respectively. There are three spines on the upper jaw and one on the lower jaw. Another smaller and more fragile gorget in the Yale collection is almost an exact counterpart of this one.



FIG. 2.—RATTLESNAKE GORGET. BRAKEBILL MOUND. YALE COLLECTION, NO. 2443. (‡)

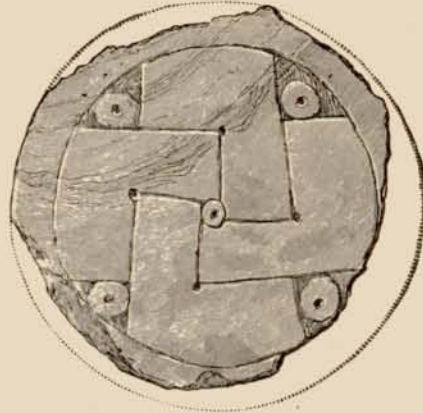


FIG. 3.—SHELL GORGET, FAIN'S ISLAND TENN. FROM HOLMES. A VARIETY OF THE RATTLESNAKE GORGET RESEMBLING A CROSS AND AKIN TO THE SO-CALLED SCALLOPED DISC.

A still smaller specimen of this kind is reproduced in figure 2. The usual sharp break between neck and body is not apparent. The latter is divided longitudinally by an incised line. The inner or ventral half seems to be ornamented with a meander as in the preceding case. The four bridges connecting the coiled body of the snake with the peripheral band not only point to the four directions but also form a cross, thus suggesting a kinship between the rattlesnake gorgets and the cross gorgets. Both are apparently cosmic symbols. As a connecting link between the two groups, perhaps no better example could be chosen than the cross gorget (fig. 3) from Fain's island, Tennessee, illustrated by Holmes. While the central design resembles two rectangular tablets slit "and interlaced at right angles to each other," they also resemble the central whorl in rattlesnake gorgets of the scalloped disc type. Even the eye is represented. It is true that the whorl here consists of four members instead of three; but once in a while there is also found among scalloped discs a four-part whorl (see fig. 7). Again the four nodes alternating with the arms of the cross are the counterpart of the concentric circles in the body of the serpent coil; the prevailing number of the concentric circles on realistic rattlesnake gorgets is four, and the shell is cut away around them, making them stand out in low relief precisely as in the present instance. The nodes are even pitted so as to produce the same effect as concentric circles (sometimes the concentric circles are actually reduced to pitted nodes). If only the ends of the four arms of the cross were cross-hatched, dotted, or marked by chevrons, alternating as they do with the four nodes, the resemblance to the coil of the snake's body would be complete.

It is true that in the scalloped disc type, the number of concentric circles is

greater than four, a difference of detail which might easily result from the processes of conventionalization. By way of bringing out more clearly the resemblances just noted, I need only refer to figures 5 and 8 of my paper on the Wesleyan University collection; also to a remarkable shell gorget from Jonesboro, Tennessee, belonging to the American Museum of Natural History. In this

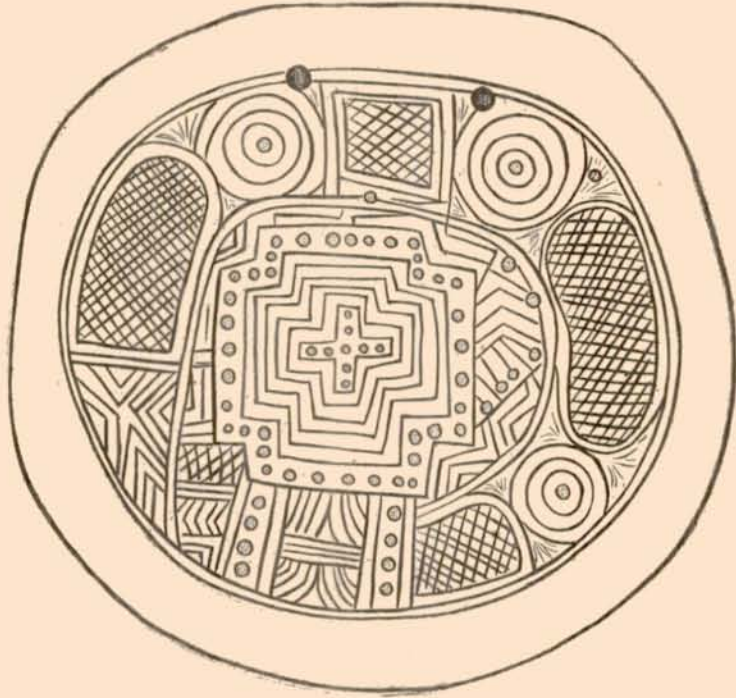


FIG. 4.—RATTLESNAKE GORGET IN WHICH A CROSS IS SUBSTITUTED FOR THE HEAD. FROM JONESBORO. COLLECTION OF AMERICAN MUSEUM OF NATURAL HISTORY.

gorget, the head of the rattlesnake is replaced by a cross (fig. 4). That this is a genuine substitution of a cross for the head, and not an accidental combination due to a confusion of ideas, is made clear by the fact that the cross actually surmounts the rattlesnake's neck and body in conventional fashion.

For the belief here expressed that the rattlesnake, scalloped disc, and cross gorgets are but slightly differing expressions of one and the same idea, there seems to be ample justification. The kinship would be no doubt even more apparent were it not for the incompleteness of the record, and the gradual exaggeration and stereotyping of small differences due to conventionalism.

A rattlesnake gorget of the realistic type from the Brakebill mound is reproduced by Holmes.¹ It is wholly devoid of openwork, and the representation of jaws and teeth is highly conventionalized. Instead of four sets of concentric circles (the usual number), there is a fifth separating the body from the tail.

When there is any openwork it is apt to be found not only outside the coil of the snake's body but also about the head and jaws. In figure 5 there is a hole instead of a slit below the lower jaw, and the four small pits indicating the four

¹ *Second Ann. Rep. Bur. Amer. Ethnol.*, pl. LXIV, fig. 5.



FIG. 5.—RATTLESNAKE GORGET. BRAKEBILL MOUND. HARVARD COLLECTION, NO. 2243. ($\frac{3}{4}$)

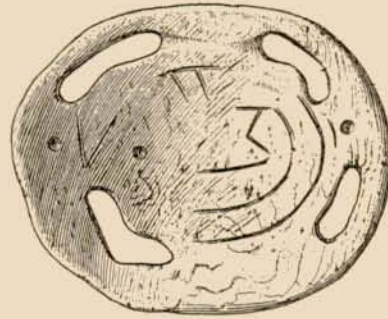


FIG. 6.—RATTLESNAKE GORGET. BRAKEBILL MOUND. HARVARD COLLECTION, NO. 2246.

directions are lacking. A small, somewhat rudimentary form of rattlesnake gorget is reproduced in figure 6. The openwork is confined to the four outer slits, and two of these served as holes for suspension. Of the three pits one is evidently the eye, and the outer two mark the east and west directions. This and the preceding figure were drawn from hastily prepared pencil sketches and may not be absolute copies; they are at least fair approximations. By enlarging



FIG. 7.—SO-CALLED SCALLOPED DISC, WHICH IS SIMPLY THE CONVENTIONALIZED RATTLESNAKE. BRAKEBILL MOUND. FROM HOLMES. ($\frac{1}{2}$)

the four slits (fig. 6) into holes shaped like segments of circles, one would arrive at the simplest form of the cross gorget.

The only gorget of the scalloped disc type from the Brakebill mound is an exception to the rule in more than one sense. The incised lines of the whorl about the central dotted circle representing the eye, instead of being single are paired and there are four pairs in place of three (fig. 7). Besides, the whorl is in the reverse direction from the usual; the narrow plain band inclosing the whorl is fused with the zone representing the coil of the snake's body as indicated by the longitudinal incised lines alternating with the pairs of curved lines representing the body markings of the snake. Or one may assume that the narrow plain band was left out entirely and that the peripheral band in this instance is a merging of the body coil with the outer band of discs. The position of the holes for suspension, of which by the way there are two pairs in place of one, would seem to favor the latter view. In every respect this gorget confirms our hypothesis that the scalloped disc, the rattlesnake, and the cross are related forms.

Several shell masks varying in size and detail were found in the Brakebill mound (figs. 8-11). The variations are due in part at least to the fact that

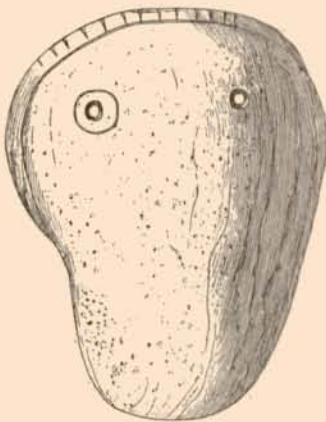


FIG. 8.—SHELL MASK. BRAKEBILL MOUND. HARVARD COLLECTION, NO. 2239. (1)

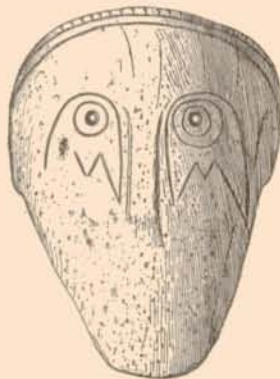


FIG. 9.—SHELL MASK. BRAKEBILL MOUND. HARVARD COLLECTION, NO. 2240. (1)

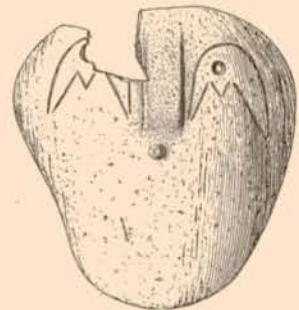


FIG. 10.—SHELL MASK. BRAKEBILL MOUND. HARVARD COLLECTION, NO. 2241. (1)

some of the specimens were left in an unfinished state. The simplest forms have nothing to suggest human features except the two holes indicating the eyes. Two such are in the Yale collection. A circle about one (fig. 8) or both eyes, and the representation of hair by short parallel incised lines above the forehead and an extra width at the sides reaching down to the level of the ears set off from the face by one or two incised lines, serve to make the meaning clear. With the addition of nose and mouth (figs. 10 and 11) the mask effect is complete. Figure 9 was reproduced by Holmes, who omitted the second circle about the left eye. The significance of the design with triple point inclosing the eye is not clear. Sometimes one of the points is carried down in zigzag the entire length of the face, perhaps representing tears and hence grief or mourning. This subject will be touched upon later in connection with a specimen from the Lisle mound.

The shell disc with single central perforation seen in figure 12 is rather

large for a bead. Another disc not so large and with the single perforation midway between center and margin is in the Yale collection. A fine example of the shell pin with a neat perforation near the point and a large disc-shaped head is reproduced in figure 13. The shaft meets the flat mushroom-like head at right angles, not however at its center but near the margin. The common type of pin with roundish head and long shaft, cut from the columella, is likewise represented in the Yale collection.

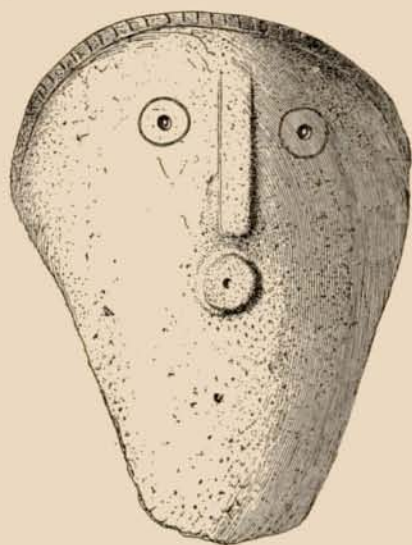


FIG. 11.—SHELL MASK. BRAKEBILL MOUND. HARVARD COLLECTION, NO. 2238. ($\frac{1}{2}$)



FIG. 12.—SHELL DISC. BRAKEBILL MOUND. HARVARD COLLECTION, NO. 2245. ($\frac{1}{2}$)



FIG. 13.—SHELL PIN. BRAKEBILL MOUND. YALE COLLECTION, NO. 2424. ($\frac{2}{3}$)

Quantities of shell beads of various sizes and shapes were found. The large massive ones were cut from the columella. On these the spiral groove is generally conspicuous. The smaller discoidal and prismatic beads are often finished with care. Beads were improvised from shells of *Oliva literata* by simply removing the apex. The Indians obtained these shells from the Atlantic coast.

Bone and Antler.—Bone and antler were not used extensively for either practical or ornamental purposes. An exceptionally fine spatulate implement of bone (fig. 14) is in the Harvard collection. It is cut from the central portion of the shaft and is not only well preserved but also is complete. The decoration consisting of series of parallel transverse incised lines is simple and effective. A hole through one wall near the base serves as a means of suspension. In the Yale collection is another of the same type but with fewer incised lines; half the blade is missing. There are several bone bodkins pointed at both ends. One such was wrapped by a cord that left permanent markings, some of which have eaten into the bone (fig. 15). A pointed implement of deer antler is reproduced in figure 16.

Stone.—Stone was employed in ways ornamental as well as practical. The boat amulet seen in figure 17 might have been employed as a sort of button. In shape it is not unlike the head of a bird facing two ways; the pronounced bosses, one on each side, and the longitudinally grooved crest, tend to heighten the ornithomorphic effect. A boat amulet similar in shape was found forty years ago at Silver Lane, near Hartford, Connecticut.

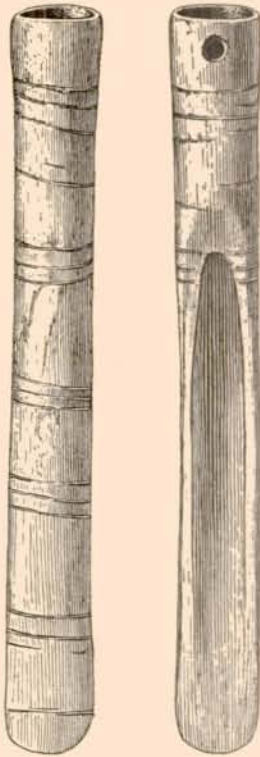


FIG. 14.—BONE FLESHING TOOL. BRAKEBILL MOUND. HARVARD COLLECTION, NO. 2247. (1/2)

Stone discs varying in diameter from 2.7 cm. to 8.5 cm. were found in the Brakebill mound. The sides are plain. Those of suitable size were



FIG. 15.—BONE BODKIN. BRAKEBILL MOUND. YALE COLLECTION, NO. 2428. (1/2)



FIG. 16.—IMPLEMENT OF DEER ANTLER. BRAKEBILL MOUND. YALE COLLECTION, NO. 2430. (1/2)

evidently employed in a game similar to the game of *itséwah* still played by the Plains Indians. The biconcave disc shown in figure 18 has rather the appearance of a hammerstone. The pits are deep and rough, as is also the entire periphery.

Brakebill has furnished some handsome polished stone axes or tomahawks (pl. 1). The largest has a length of 21.5 cm. and is thick in proportion (fig. c).



FIG. 17.—BOAT AMULET OF STONE. BRAKEBILL MOUND. YALE COLLECTION, NO. 2474. (1/2)

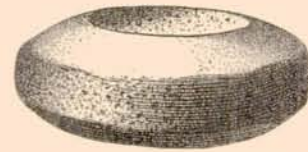


FIG. 18.—BI-CONCAVE DISC OF STONE. BRAKEBILL MOUND. YALE COLLECTION, NO. 2431. (1/2)

In it and in the smallest (fig. *a*), the poll is cut square. In others (fig. *b* for example) the poll is beveled almost to a cutting edge. The marks of hafting are visible in figures *a* and *d*. In the Harvard collection there is a splendid ax of greenstone with a perforation through the poll, as if intended for suspension. It would have been a heavy ornament (fig. 19). A flat waterworn pebble, both sides of which have distinct depressions produced through use as a chopping



b



a



d



c

STONE AXES. BRAKEBILL MOUND. YALE COLLECTION. (1)



FIG. 19.—AX OF GREENSTONE WITH PERFORATED POLL. HARVARD COLLECTION, NO. 2222. ($\frac{1}{2}$)

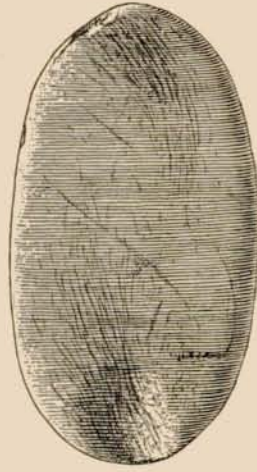


FIG. 20.—STONE PALETTE OR POLISHING STONE. BRAKEBILL MOUND. YALE COLLECTION, NO. 2435. ($\frac{1}{2}$)

block, polishing stone, or palette, is represented in figure 20. Both of the flat surfaces are irregularly and artificially striated. A similar specimen from Williams island, near Chattanooga, is in the Wesleyan University collection at Middletown.

Pottery.—The paste contains so much pulverized shell as to give a pronounced reaction when treated to hydrochloric acid. Moreover the shell component is distinctly visible by contrast with the darker clay. Very few of the vessels are whole. A plain vase without handles, and one with a pair of handles and



FIG. 21.—TYPES OF POTTERY. BRAKEBILL MOUND. YALE COLLECTION, NOS. 2413 AND 2411. ($\frac{1}{2}$)

shoulder ornament in relief are reproduced in figure 21. Judging from the thickness and curvature of some of the sherds, vessels of large size were in use at the Brakebill mound. Among the many sherds one is selected for illustration because of the rim decoration and the curious stamped design on the body of the vessel (fig. 22). A small potsherd disc is reproduced in figure 23.



FIG. 22.—POTSHERD WITH INCISED AND STAMPED DECORATION. BRAKEBILL MOUND. YALE COLLECTION, NO. 2448. ($\frac{1}{2}$)

FIG. 23.—POTSHERD DISC. BRAKEBILL MOUND. YALE COLLECTION. ($\frac{1}{4}$)

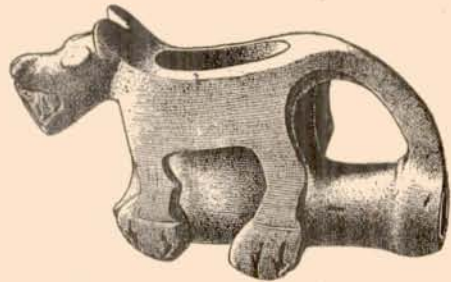


FIG. 24.—CLAY PIPE. BRAKEBILL MOUND. YALE COLLECTION, NO. 2423. ($\frac{1}{2}$)

Pipes.—Of pipes by far the most interesting is one of pottery. The hollow of the bowl is sunk in the back of some carnivorous animal, whose tail spans the distance from the rim of the bowl to the end of the stem (fig. 24). There is a cone-shaped hole in the wide-open mouth, which however does not communicate with any other cavity. All four legs are disengaged from the laterally flattened bowl; the clumsy feet are not. The two stone pipes are of simple construction (figs. 25, 26).



FIG. 25.—STONE PIPE. BRAKEBILL MOUND. YALE COLLECTION, NO. 2422. ($\frac{1}{2}$)



FIG. 26.—STONE PIPE. BRAKEBILL MOUND. YALE COLLECTION, NO. 2421. ($\frac{1}{2}$)

THE MCBEE MOUND

The McBee mound is in Jefferson county, about fifteen miles northeast of the Brakebill mound and four miles from Strawberry Plains. It is situated in "The Bent", west bank of Holston river on the farm of John H. McBee. In Dunning's time it had a basal diameter of eighty feet and a height of fifteen feet. It had been plowed over for eighty years, prior to which large oak trees had grown upon it. The shape was that of a truncated cone. It was composed of sandy loam, chiefly of "bottom" mixed with clay from an adjacent ridge.

Dunning began his excavations, with three men, by a central excavation eight feet in diameter. In this he discovered eight skeletons, the first one being four and a half feet from the then surface, say nine or ten feet from the original summit. The body had lain horizontally on the left side, with the head toward

the east. The bones of the legs were sharply flexed, bringing the knees near the chest. The skeleton, which was nearly complete, was covered with pieces of decayed wood and bark over a thin layer of soft earth. On the opposite side of the opening, two feet below the level of the first, a second skeleton, entire, was found. Its position and covering were similar to that already described. Other skeletons appeared at distances of two and three feet all the way to the bottom. While the skeletons differed as to the manner of orientation, all were covered with wood and bark. In three instances a layer of pure sand, one or two inches thick, served as a covering for the remains. In spots over the sandy layer were burnt earth, charcoal, and ashes, from which several fragments of animal bones were gathered. In the wall of the central cavity, four feet from the top, Dunning noted a portion of a cedar post three feet long and four or five inches thick, in an upright position.

A second cut, twenty feet long by ten feet wide, was made on the east side of the central cavity. Here ten skeletons were uncovered at varying levels and distances apart. The mode of burial was the same as in the center, and all the skeletons were covered with decayed wood and bark. The sand layer and its accompanying signs of fire appeared more frequently here than in the central opening. The only article of value, besides the skeletons, was a curiously wrought pipe of stone having a "figure head representing the human face"; it was however stolen from Dunning.

A trench ten feet wide and twelve feet long was dug on the west side of the center. At a depth of five feet a layer of wood and bark covered the skeleton of a child. On its skull was the carapace of a tortoise, and a string of beads encircled the neck. Three feet away and at the same level was exposed the skeleton of an adult female, upon whose sunken ribs lay the bones of an infant. Beads and a cruciform shell ornament were with these remains.

Three more cedar posts were located, which with the one previously mentioned described a rectangle. Within this inclosure lay a skeleton, "distinguished by its size from all others exhumed during the excavations." On one side of the skeleton were ten massive beads cut from the columellas of large marine univalves, and eight flint arrowheads of delicate workmanship; on the other side was a polished implement of serpentine, probably "the battle axe of the chief."

At a depth of fifteen feet in this cut the workmen came to what was supposed to be the surface of the alluvium, and were on the point of suspending operations when a crevice revealed signs of a wood and bark layer. An undercut of five or six feet brought to light the skeleton of a man "laid at length, having an extra coverlid of wooden material." At its left side were eighteen massive shell beads, a polished ax of greenstone, eleven arrowheads, and five bone implements; at its right side lay a few small beads, an ornamental shell pin, two small hatchets, and a sharp-pointed flint knife or poniard 20.4 cm. long. Behind the skull were three large conch shells (two of these are in the Yale collection; see figure 27).

The last cut, fifty feet long by ten wide and twelve and a half to fifteen deep, was made from the east side to the center. In this Dunning noted the absence of bark coverings for the skeletons, except in two cases. In other respects the mode of burial was the same as that previously described. Fewer artifacts were found in this last excavation. In the Yale collection are parts of at least eighteen skeletons from the McBee mound.

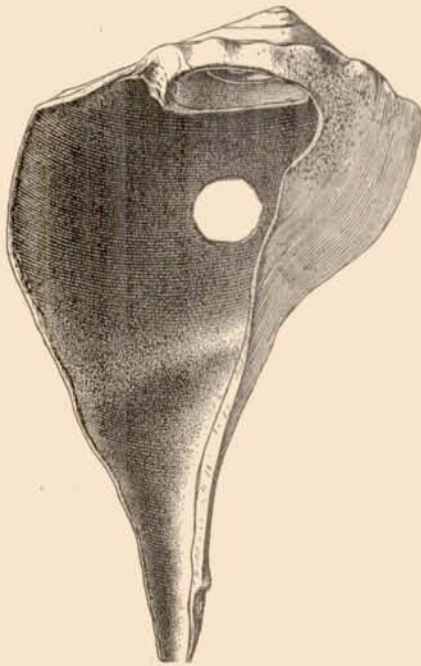


FIG. 27.—SHELL OF *Fulgur perversum*, PERFORATED AND WITH THE INTERIOR REMOVED. MCBEE MOUND. YALE COLLECTION, NO. 2515. ($\frac{1}{2}$)



FIG. 28.—SHELL HAIRPIN, FOUND WITH SKULL OF FEMALE. MCBEE MOUND. YALE COLLECTION. ($\frac{1}{2}$)



FIG. 29.—SHELL PIN. MCBEE MOUND. YALE COLLECTION. ($\frac{1}{2}$)

Shell.—Beyond the three shells of *Fulgur perversum* found near the head of a skeleton, shell objects from the McBee mound are confined principally to shell beads, many of them exceptionally large, with a maximum length of 5 cm. One of the three shells of *Fulgur* is reproduced in figure 27. The columella and interior structure surrounding it were removed; also the inner lip or labium for its entire length. The notch in front near the shoulder and the round hole at the back were intended for the passage of a handle. Thus hafted the shell served as a pick or a hoe.

A hairpin of unique form (fig. 28) was found with a female skull, at a depth of ten and a half feet and five feet from the center. It is cut from the outer wall of the shell, so that the flat head is no thicker than the shaft. The usual mound type of shell pin with its spirally grooved round head, cut from the columella of a univalve, is seen in figure 29.

Bone.—The most notable find in the way of bone artifacts was with the skeleton found near the center of the mound and at a depth of fifteen feet. It will be recalled that at the left of the skeleton were various objects, including five bone implements. In the Yale collection are three large bone fleshing tools and a bone point; but they were found at a depth of only five feet and six and a half feet from the center, with the large skull of a man. Two of these are reproduced in figure 30. The long-bones of some small bird were cut into cylindrical beads (fig. 31); several of these were found with the skull of a youth, the sex of which is uncertain.

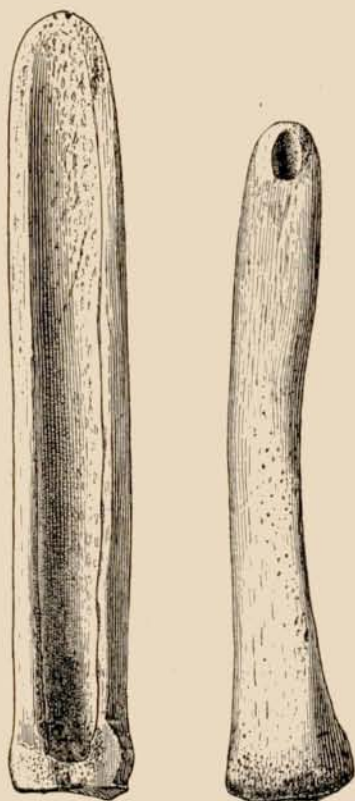


FIG. 30.—BONE FLESHING TOOLS, FOUND WITH A MALE HUMAN SKULL. MCBEE MOUND. YALE COLLECTION, NO. 2519. (1/2)



FIG. 31.—BONE BEAD. MCBEE MOUND. YALE COLLECTION, NO. 2516. (1/2)



FIG. 32.—FLINT PONIARD WITH DOUBLE PATINATION. MCBEE MOUND. YALE COLLECTION, NO. 2397. (1/2)

Stone.—Nearly all the stone implements were found in association with human skeletons. Whether chipped or polished, they are of excellent workmanship. The long slender flint poniard reproduced in figure 32 has two distinct patinations: the older is a rich brown, and the younger, limited to the point, edges, and neck, has the bluish tint of freshly fractured flint. Another fine poniard or lance-head has a uniform and faintly marked patina. The common type of drill with square base, two pointed tangs, and a slender shaft, is represented by a single specimen. A cruder example, triangular in section, seems to have served also as a polishing stone.



FIG. 33.—FLINT ARROW-HEAD; ONE OF NINE FOUND WITH A MALE SKULL. MCBEE MOUND. YALE COLLECTION, NO. 2518. (1/2)



FIG. 34.—POLISHED STONE AX FOUND WITH A SKELETON. MCBEE MOUND. YALE COLLECTION, NO. 2405. (1/2)



FIG. 35.—GAMING STONE FOUND WITH A HUMAN SKELETON. MCBEE MOUND. YALE COLLECTION, NO. 2406. (1/2)

With the large male skull and bone implements (see fig. 30), found at a depth of five feet and six and a half feet from the center, were nine beautiful triangular flint arrowheads (fig. 33). All are faultlessly chipped, of the same material, and about the same size. A polished ax or tomahawk of greenstone, similar in size and shape to that shown in plate 1, figure *d*, was found at a depth of ten feet and six feet from the center, associated with a large adult male skull. A small polished stone ax (fig. 34) and a small chungke stone made of massive quartz (fig. 35) were both found with a skeleton.

Pottery.—There are no complete vessels in the Yale collection from the McBee mound. Judging from the nature of the sherds the pottery was similar to that from the Brakebill mound.

Pipes.—Yale possesses only two pipes from the McBee mound, both of stone and plain in character. One of these (fig. 36) was found with a male skull five feet from the center of the mound and ten and a half feet from the surface.

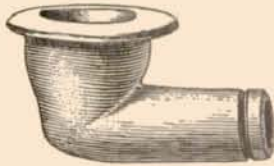


FIG. 36.—STONE PIPE FOUND WITH A MALE SKULL. MC BEE MOUND. YALE COLLECTION, NO. 2521. ($\frac{1}{2}$)



FIG. 37.—STONE PIPE. MC BEE MOUND. YALE COLLECTION, NO. 2401. ($\frac{1}{2}$)

Before leaving the region of "The Bent" on Holston river, mention should be made of a large effigy pipe, that is not from the McBee mound but from the river bottom on the farm of S. W. Howell in Knox county, two and a half miles from Strawberry Plains. In the great freshet of 1867 the river washed away

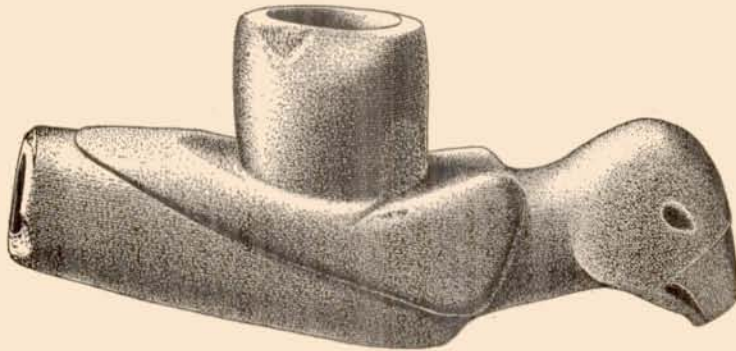


FIG. 38.—SOAPSTONE PIPE, FROM FARM OF S. W. HOWELL, NEAR STRAWBERRY PLAINS, KNOX COUNTY. YALE COLLECTION, NO. 2409. ($\frac{1}{2}$)

two feet of the surface soil, exposing the pipe (fig. 38). The total length of this, the largest of the pipes collected by Dunning, is nearly 20 cm. It is carved out of soapstone. The bowl is set like a steamship funnel (being flattened laterally) on the back of a bird. The general aspect of the head, especially its baldness, betokens the buzzard or vulture. The point of the beak is worn away.

THE LISLE MOUND

Dunning left no notes relative to his excavations at the Lisle mound, which is situated on Nolichucky river in Greene county, and from which Yale has only a few specimens. There is one good example of the shell mask (fig. 39). The coiffure reaching down on each side to the level of the ears is set off from the face by an incised line. The nose is in relief, and there is a small circle where the mouth should be. The holes for eyes are each surrounded by a circle, which in turn is inclosed by a curious and graceful incised pattern ending below in two diverging sharp points. This design often ends in a triple point below (see figs. 9, 10). One of the two or three points, as the case may be, is sometimes prolonged in a zigzag fashion that suggests tear-stained cheeks. In a variation of this design from Acquia creek, Virginia, the lines forming the zigzag lead directly from the eye. Holmes suggests that they might represent either tears or figures painted upon the face during the period of mourning; or simply the tattooing of the tribe or clan to which the deceased belonged. In a recent paper on representations of the Weeping God¹ from both North America and South America, Mr T. A. Joyce did not mention these shell masks from Tennessee and neighboring states. The similarity between them and many of the illustrations in Joyce's paper is, to say the least, striking.



FIG. 39.—SHELL MASK. LISLE MOUND. YALE COLLECTION, NO. 2453. (½)



FIG. 40.—MASK-SHAPED SHELL PENDANT OR GORGET. LISLE MOUND. YALE COLLECTION, NO. 2454. (¼)

The small mask-shaped shell object seen in figure 40 is a true gorget. The wear between the holes and on their inner margins proves not only that the ornament was suspended by a string, but that the string passed into one hole and out of the other from the back or concave side instead of the front. The collection includes massive shell beads cut from the columella of large univalves, large discoidal shell beads, and a shell pin with round, spirally grooved head.

As was the case with the others, the Lisle mound yielded some deftly chipped flint implements. A fine dagger or poniard has a length of 22.5 cm. The patina is faint and uniform, but there is distinct evidence of wear especially on the blade. Eleven beautiful flint arrowheads of approximately the same shape and size were found together; they resemble that reproduced in figure 33. As in cases previously cited (Williams

¹ *Essays and Studies Presented to William Ridgeway*, Cambridge, 1913.

island), a receptacle containing them had evidently been deposited with the dead. A discoidal stone of excellent workmanship is carved out of milky quartz and highly polished; it has a diameter of seven centimeters and a thickness of three, just the right size for use in the game of chungke.



FIG. 41.—CLAY PIPE. LISLE MOUND. YALE COLLECTION, NO. 2462. ($\frac{1}{2}$)

In the Yale collection from the Lisle mound is one typical Southern mound pipe (fig. 41). It is of pottery, with the bowl set on the back of a bird's head. The hooked upper mandible extending beyond the bowl and the open beak are the only ornithomorphic features capable of identification. McGuire mentions a pipe of this class from Hardin's farm, Blount county, Tennessee, and figures one from Camden county, Georgia. These should be compared with a class in which the open beak, directed upward instead of downward, holds the bowl of the pipe.

FAUNA

Very little in the way of animal bones from these mounds was preserved by Dunning. The only animals represented in the Yale collection are: Virginia deer,¹ wild turkey, bear, and tortoise from the McBee mound; Virginia deer from the Brakebill mound; and fox and tortoise from the Lisle mound.

CONCLUSION

The chief result derived from a study of the collections gathered from mounds in eastern Tennessee by the Reverend Mr Dunning is the new light that is shed on the nature and relationships of certain classes of shell gorgets. A comparison of the gorgets from Williams island with those previously described by Holmes and others, led me to the conclusion that the scalloped shell disc is but a conventional rendering of the realistic rattlesnake gorget as pointed out in my paper² based on the Wesleyan University collection, a conclusion confirmed by the geographic distribution of the two varieties. Through a comparative study of the gorgets from the Brakebill mound it is possible to trace a still wider relationship by linking the cross gorget with the scalloped disc and the rattlesnake gorget. The three are found to be related forms; the kinship would be even more apparent were it not for the incompleteness of the record combined with the stereotyping of cumulative differences through conventionalism. Thus in time do trifling variations lead to what might be classed as specific differences. These however should not be allowed to stand in the way of tracing related forms, whether natural or artificial, to their common origins.

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¹ Identified by Dr Geo. F. Eaton.

² *Op. cit.*