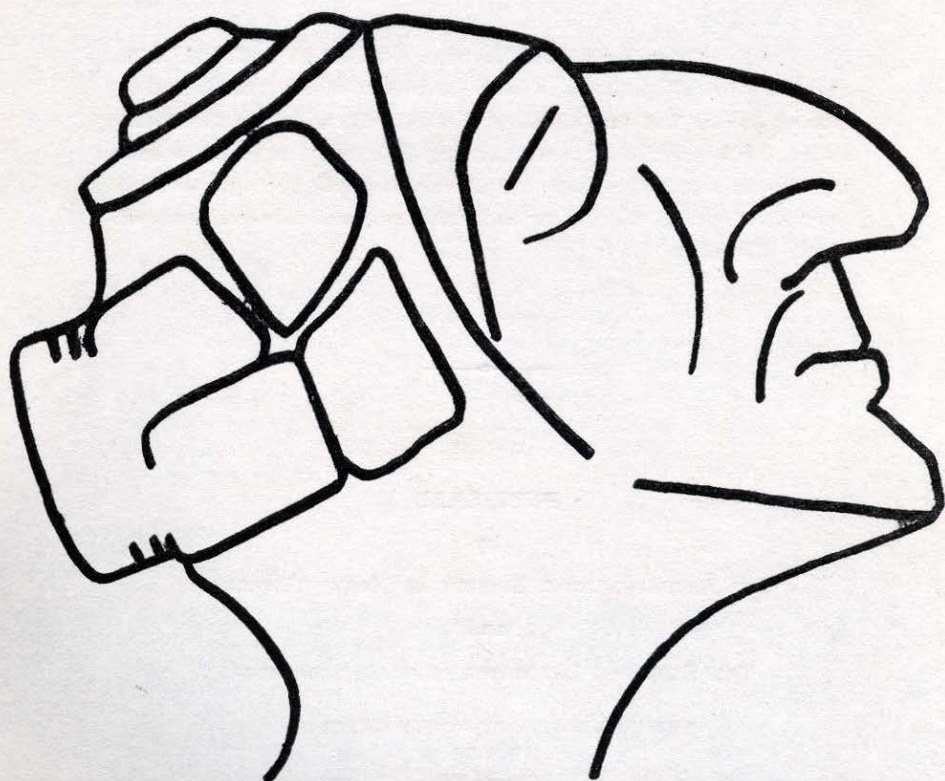


# Southern Indian

STUDIES



Volume XVIII

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# *Southern Indian Studies*

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# THE McLEAN MOUND CUMBERLAND COUNTY, NORTH CAROLINA

HOWARD A. MACCORD, SR.

## INTRODUCTION

While stationed with the US Army at Fort Bragg from 1960 to 1962, I found time to survey and record some of the Indian sites in the Fort Bragg-Fayetteville area. This area is part of the drainage basin of the Cape Fear River, and its archeology has not been intensively studied. I found numerous pre-ceramic sites in the area, as well as sites which yielded pottery fragments in quantity. In the course of my surveys along the East (left) bank of the Cape Fear River, I learned from Mr. Gregg Holmes of Fayetteville of a reputed "Indian Burying Ground," a mile or so north of his farm on River Road, north east of the center of Fayetteville. I found the site to lie on property of the late Mrs. Georgeana Ray directly behind and about 100 yards from the home of Mr. Oscar McLean. The mound was visible as a small hummock in a swale on the sandy ridge. In the field around the mound I found a few potsherds and chips of quartz and shale. On the mound's surface, I noted many small fragments of human bone, some of which had been burned. Convinced that excavation of the mound would help materially in solving archeological problems of the area, I decided to excavate it if I could.

I obtained permission from Mr. Bragg Melvin, a brother of the late owner, who resided nearby and who looked after the farm pending settlement of Mrs. Ray's estate. I am deeply grateful to Mr. Melvin and to the other heirs for their kindness and forbearance in allowing me uninterrupted access to the site during 1961. I am also grateful to Mr. and Mrs. Oscar McLean for their many kindnesses to my family and me as we worked the site. Since the McLean home is quite close to the mound, I constantly referred to the site as the "McLean Mound" while I was working on it. In view of this fact, and because Mr. McLean followed the day-to-day excavating work avidly and with unusual sympathy and understanding, I desire to honor him by retaining his name in connection with the site.

The work of excavating the mound was carried on as a part-time, weekend project in which I was assisted greatly by members of my family and by friends who joined me for short times at the site. Among these latter were Dr. Joffre L. Coe of the



University of North Carolina; Mr. Stanley South of the NC Department of Archives and History; Mr. Conway Rose of Goldsboro and then President of the Archeological Society of North Carolina; Dr. C. G. Holland of Charlottesville, Virginia; and several members of the Upper Cape Fear Chapter, Archeological Society of North Carolina. Work on the mound continued from about the first of April to mid-November, at which time the excavation, which totalled 1400 square feet, was closed, and the mound was restored to its erstwhile form. The entire center of the mound was cleared of burials which totalled over 300. I was careful to ensure that at least a five-foot wide strip, devoid of burials, was cleared on all sides of the concentrated burial area in the mound's center. While it is possible that other burials remain in the outer fringes of the mound, I feel certain that all of the mound's burials were uncovered and removed.

As burials were taken up, I brought them to my home, cleaned the dirt from the bones and tabulated all bones I could identify. I saved all measurable long bones, skulls, skull fragments, jaws, teeth, and pelves to be studied by Dr. T. Dale Stewart of the US National Museum. The remaining bone scraps I buried in the mound as I backfilled the excavation.

Cultural material and refuse from the mound have been deposited in the Research Laboratory of Anthropology, University of North Carolina in Chapel Hill, North Carolina except for a sample of the pottery sent to the Museum of Anthropology, University of Michigan at Ann Arbor.

During the summer of 1967, Dr. Stewart completed his study and analysis of the skeletal material, and his report is published in the present issue of *Southern Indian Studies*. At this time, I would like to thank again Dr. Stewart for his invaluable help with the skeletal remains, not only from this site, but from many other sites in the middle Atlantic coast area. I also thank Dr. Coe for his help and advice with this report and for agreeing to publish this report and that of Dr. Stewart for us. The help of others in the actual work of digging the mound is gratefully acknowledged. I am deeply grateful to my wife for her help and forbearance while the excavation was in progress and during the analysis and writing phase, as well.

## ENVIRONMENTAL SETTING

The McLean Mound (Cd<sup>1</sup>) lies about 100 feet above mean sea level on a sandy ridge which is slightly higher than surrounding areas. That such sandy ridges were favorite camping sites for Indians of the region is attested to by the numerous artifacts of stone and pottery which can usually be found thereon. Where a dependable source of potable water is close by, the sandy ridges show traces of long-continued occupation. The site map, Fig. 1, shows the immediate locale of the McLean Mound and its rela-

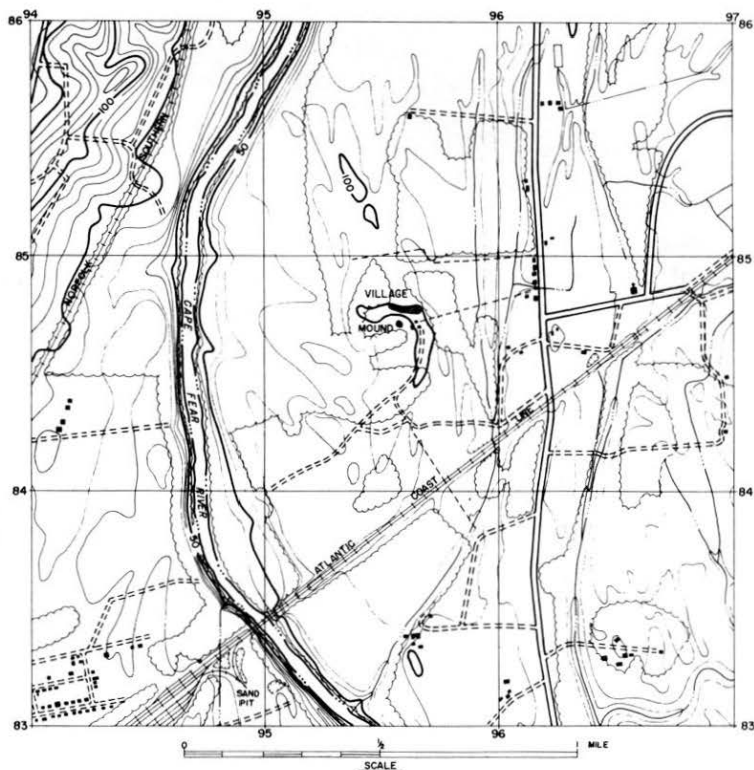


FIGURE 1

Map of the McLean Mound and the Breece Village Site.

tionship with the Cap Fear River, the sandy ridge, and the numerous small streams and swamps of the area.

The soil of the site is loose sand, and the ridge seems to be an ancient sand dune. Ground water stands high in the ridge,

and at the mound, I usually found the water table to be less than two feet below the surrounding surface. This high water table produces numerous springs and swampy areas in the lower grounds around the sandy ridges. This ample supply of ground water coupled with a plentiful rainfall (47 inches per year) and a moderate climate (61°F. mean temperature) supported a dense and diverse forest and underbrush, and eventually cultivated crops.

The lush vegetation and readily-available water undoubtedly attracted and supported a wide variety of animals, including those sought by Indian hunters and trappers. Further, the river and its tributaries yielded fish, clams, terrapins and other foods to prehistoric food-gatherers. In such a setting, Indian groups could undoubtedly subsist with but little effort.

#### DESCRIPTION OF THE MOUND

The mound, at time of excavation, was a low hump in an old cornfield, almost circular, with a 60' east-west axis and a 55' axis north-south. At the apparent center, the top of the mound was 30" above the surrounding field. The soil composing the mound was white sand, identical with that in the surrounding field. Mr. Oscar McLean, who had cleared forest from the mound vicinity about 1949, reported that at that time the mound's surface was badly pitted from earlier digging efforts. He had no idea who had dug nor what they had found, if anything. Mr. Gregg Holmes reported that the mound had stood over six feet high as he remembered it from about 1930. Mr. John Phillips of Raleigh, formerly of Fayetteville, reported that he had seen the mound about 1925 and that it was then about six feet high and covered with large trees. Mr. Phillips had dug a small pit at one edge of the mound and found a flexed burial. He found marginella beads in quantity with the burial, and on the surface adjacent to the mound he found artifacts which have been studied by the present writer and included in the artifact summaries. Others had dug at times in the mound, and in the course of the present excavations we found four areas, totalling about 55 square feet, which had earlier been dug to various depths, some reaching the subsoil thirty-six inches below the top.

Since the mound had been under cultivation for many years, the upper levels were greatly plow-disturbed, in addition to disturbances due to former digging. Plowing and erosion had undoubtedly lowered the mound's height over the years and

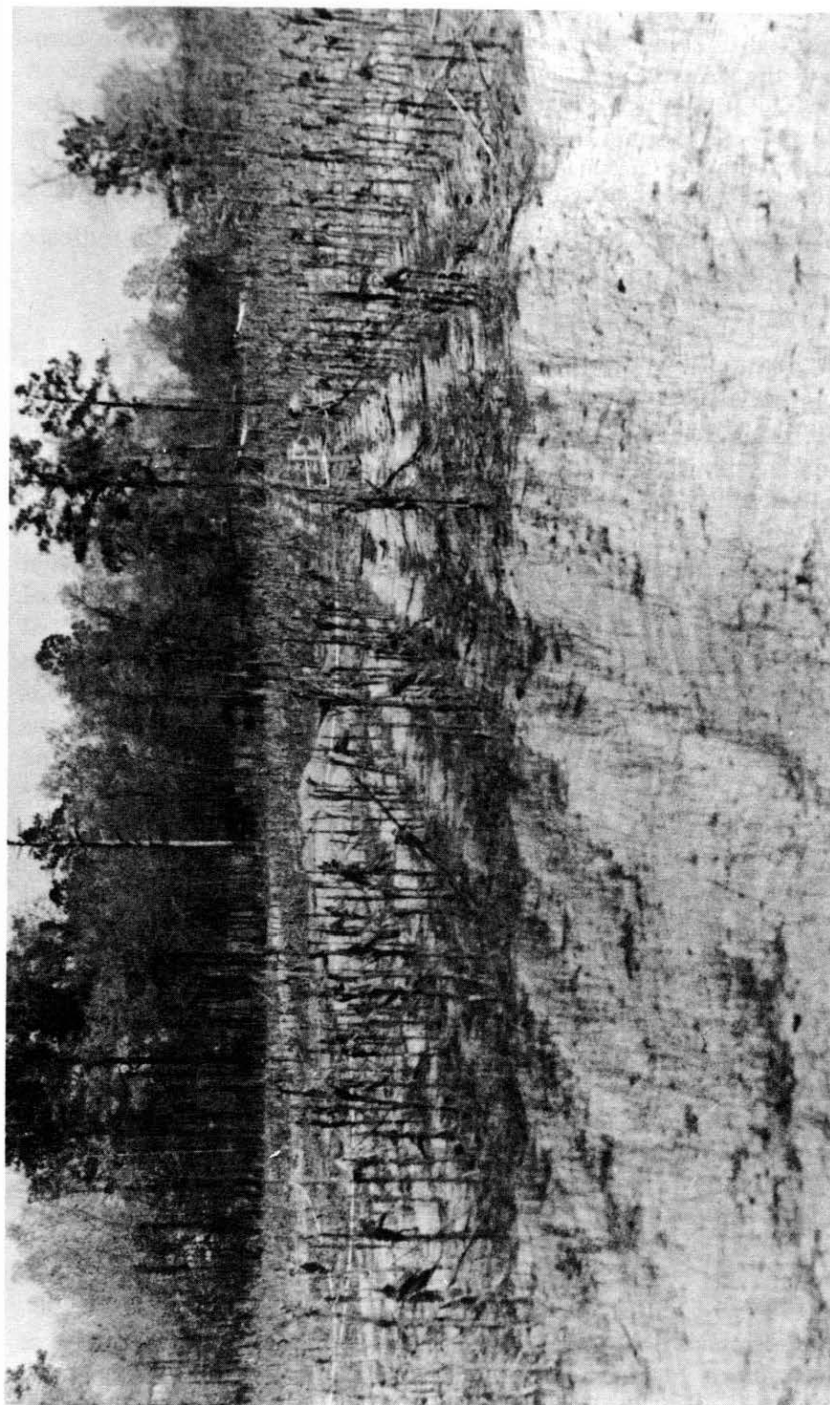


PLATE I  
Mound under excavation.



resulted in some spreading of the mound laterally. We can compute the volume of soil in the mound as found in 1961 at about 4000 cubic feet ( $29'$  average radius<sup>2</sup>  $\times 3.14 \times 1.5' = 3968$  cubic feet). If the mound had been 6 feet high about 1930, the diameter must then have been about 42 feet  $\frac{4000}{3 \times 3.14} = 20.65' = \text{radius}$ ). While these are admittedly approximate figures, they do indicate an order of magnitude.

### EXCAVATION PROCEDURE

Before beginning excavation, we plotted the mound using four stakes placed to form a fifty-foot square (Section 1) which included the bulk of the mound. This fifty-foot section was further sub-divided into 100 five-foot, numbered squares to form a grid which facilitated excavation and recording of the mound's contents.

Since we knew not what we might find, we began excavation well outside the mound's southern edge so as to observe normal soil profiles and changes as they were encountered. We decided to carry a ten-foot wide trench through the mound from south to north and to expand the trench as necessary. The trench was placed just east of center, and a profile drawing (Fig. 2) was made of the west wall of the trench as we proceeded. The line separating the original topsoil under the mound and the lighter-colored subsoil was used as the datum from which elevations in the mound were plotted.

We dug the trench northward from the base line without encountering any feature until we reached the 35' mark. Here we found the first burial, SK 1, at a depth of 9" from the surface and 18" above datum. North of the 35' line burials were encountered with increasing frequency, and at the 50' line (the northern edge of the 50' section) we were finding many burials. This indicated that the true center of the mound (or at least the burial area) was somewhat north of the apparent center of the mound as shown by the highest point as seen from the surface. Because the burial area extended north of the 50' line, we continued the trench an additional fifteen feet (into Section 2) until we were sure we were beyond the concentration of burials. The trench was then widened westward so as to uncover the concentration of burials lying in a roughly circular area, 20' by 20'. The excavated area was completely cleaned of sand in units five feet square, level by level until undisturbed subsoil was reached.

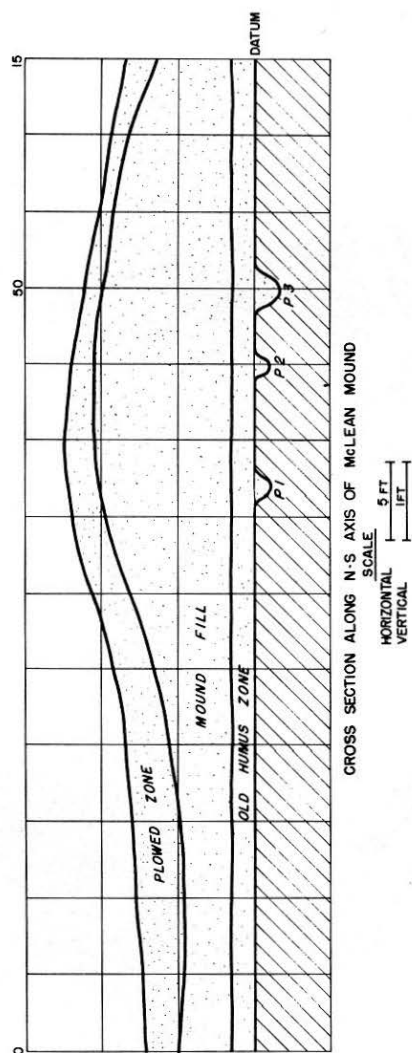


FIGURE 2  
Profile of the north-south axis of the McLean Mound.



PLATE II  
Typical bundle burials.

Burials were found in such density that as many as 30 burials might be exposed at one time in a five-foot square (25 square feet). Since burials were at various elevations below and above datum, it was necessary to remove burials in layers (or levels) from upper levels downward. Because of the compact, interlocking arrangement of some burials, we found it expedient to uncover as many as three squares at a time and to expose burials by trowelling and brushing from several directions at once.

The plow-disturbed topsoil was removed by shovel, and artifacts or refuse found in the plow-zone were kept with other materials found loose in the square (that is, not definitely associated with a burial). Below the plowline, all soil was carefully trowelled, usually in four-inch cuts, and every chip, sherd, or fragment was saved. When bones were encountered, they were brushed clean with whisk-brooms and paint brushes before being moved. Many loose bones were found, especially in those parts of the mound disturbed by earlier digging. Of these bones, only lower jawbones (or fragments) and temporal bones which showed mastoid or ear structure were saved, and these were used to determine the approximate number of burials which had been thus disturbed. When undisturbed bones were met, they were uncovered by trowel and brush until the entire burial was exposed as in Plate II. In most cases, soil immediately around undisturbed burials was sifted through a screen of wire mesh measuring eight openings to the inch. Burials totalling 268 were found and recorded, plus 50 additional burials which were evidenced by the count of temporal bones found loose in the mound body. Of the 268 burials recorded, 25 were cremations, one was a bundle containing a tightly flexed body buried "in the flesh," and the remaining 242 were bundle burials, either initial burial of clean disarticulated bones or the reburial of bones exhumed from primary burial places. As each burial was uncovered, it was sketched on a graph paper plot of the five-foot square, and measurements of dept and elevation were made and recorded. Photographs in color and black and white were made of many burials. Detailed data on each burial are filed at the Research Laboratories of Anthropology at the University of North Carolina.

As five-foot squares were completely cleared, they were used to receive dirt from next squares dug. This procedure minimized dirt-handling and facilitated final filling of the excavation.



Burials and features initially plotted on graph paper were later transcribed to a larger map covering the entire mound. Since burials were found at many levels and were superimposed in many instances, it was necessary to make four maps, each covering a different level. Figure 3 shows sub-mound (below datum) features; Figure 4 shows burials from datum up to the 12" level; Figure 5 shows burials from the 12" level up to the 20" level; and Figure 6 shows burials from the 20" level to the mound surface

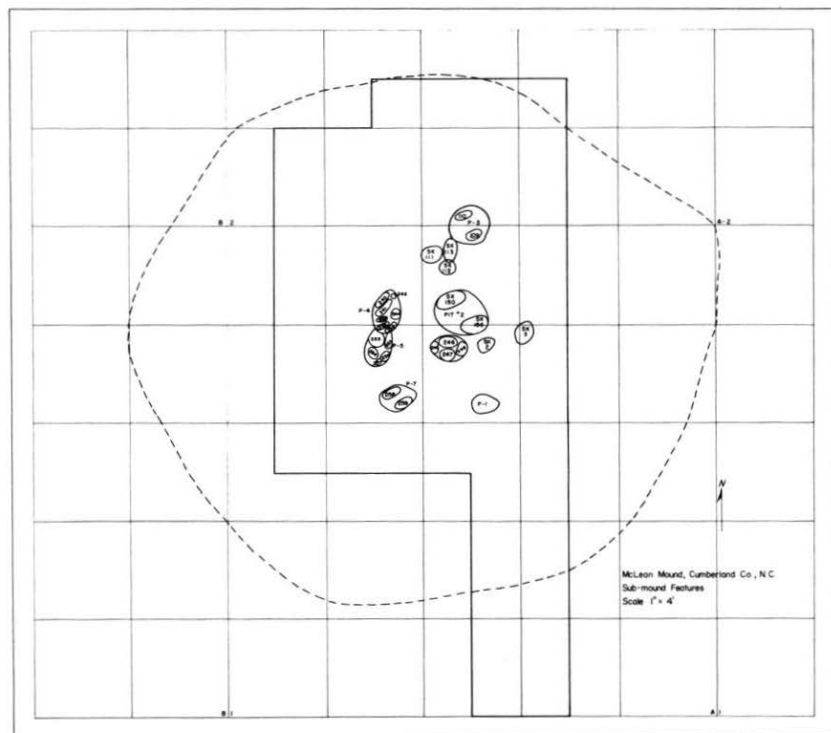


FIGURE 3  
Plan of the McLean Mound—Sub-mound features.

### CONTENTS OF MOUND

Since the mound was unquestionably a cemetery, burials and evidences of mortuary practices are of primary interest to

us. In addition to mortuary data, however, we can deduce cultural data from objects found with burials or found as accidental inclusions in the body of the mound. Also non-artifactual evidence such as that pertaining to pits, mound structure, orientation, etc., will help in the eventual classification and identification of the mound's builders. In the next few pages we shall examine this evidence in greater detail.

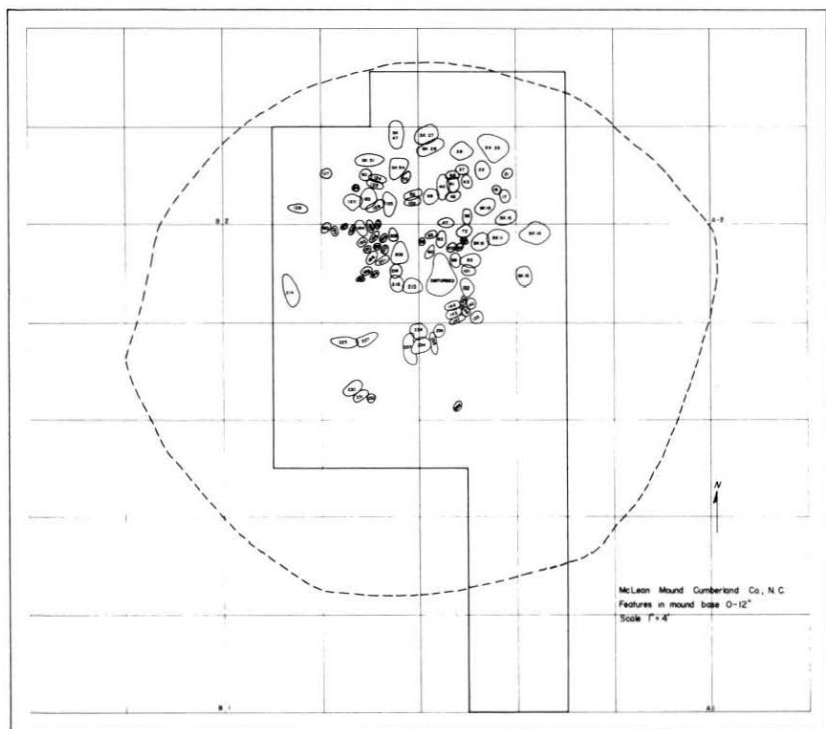


FIGURE 4  
Plan of the McLean Mound—0" to 12" zone.

The 268 numbered burials found have been analyzed by Dr. Stewart, and the following data, extracted from Dr. Stewart's report indicate some of the complexities found:

- a. 128 burials contained parts of more than one individual.

- b. 25 (9.3%) individuals had been cremated.
- c. At least 24 burials had been placed in pits before the mound proper was begun.

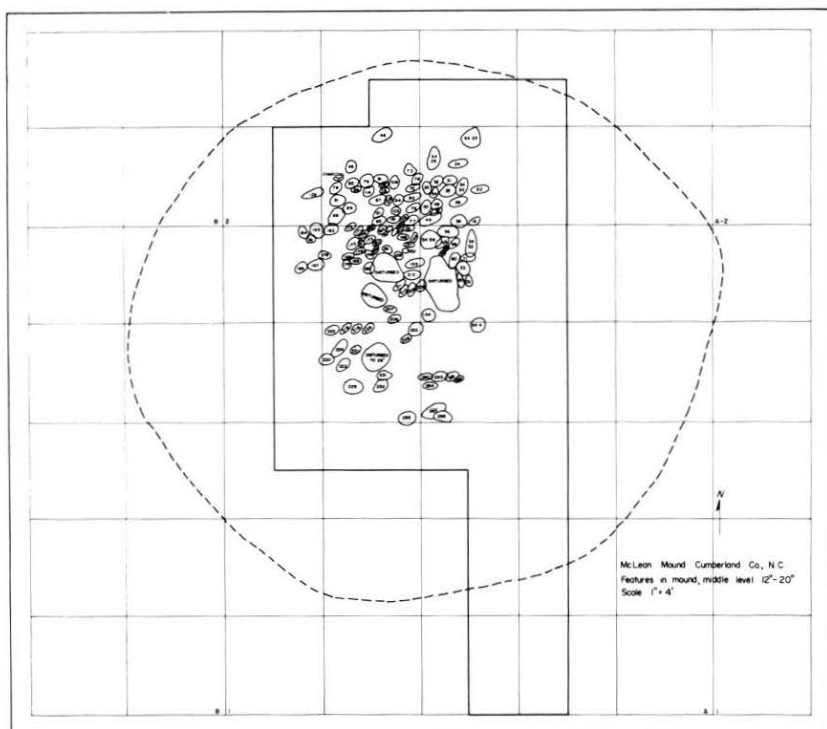


FIGURE 5  
Plan of the McLean Mound—12" to 20" zone.

- d. 21 (7.9%) burials were accompanied by durable objects.
- e. 98 burials were so fragmentary that we can not be sure if they are burials of individuals, or merely the burial of loose bones.
- f. No infants (under 4 years of age) were found, and this absence may be culturally significant.
- g. Both sexes seemed to be equally represented in the burials which could be "sexed" in the field. Dr. Stewart's

identifications show 124 males as opposed to 166 females. The remainder were too immature or incomplete to warrant sex determination.

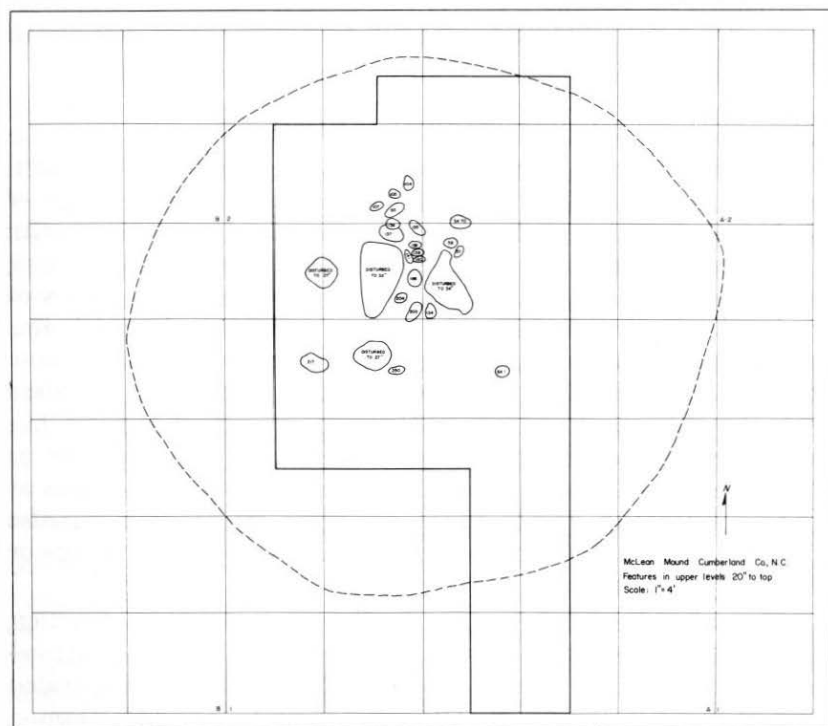


FIGURE 6

Plan of the McLean Mound—20' to surface zone.

Dr. T. Dale Stewart, in the following article, examines and comments on the general population represented by the bones submitted to him for study. He notes such facts as age, sex, size, cephalic indices, number of individuals represented in discrete bundle burials, pathology, cremations, resemblances with known Indian populations, and so on. In view of the facts and comments provided by Dr. Stewart, further discussion on these matters by this writer would be presumptuous and redundant. We can make



several observations, though, which may have some relevance and importance. Burials seem to have been placed in the mound in all sorts of positions, with no particular orientation. In some instances, we got the impression that two or more bundles had been placed on end, leaning against one another. Then, as the wrappings decayed and the soil settled around the bones, the bundles fell toward each other, producing an interlocking of long bones, resembling a pile of jackstraws. No stains or impressions of wrappings could be seen in the loose sandy soil which surrounded the bones.

### BURIAL ACCOMPANIMENTS

Only 21 burials were accompanied by non-perishable artifacts or materials. The artifacts were predominantly beads of bone or shell, although fragmented stone pipes were found with 6 burials. In every instance, the beads, pipe fragments, or other artifacts were found at random in the soil around the bones of the bundle. No pattern of beads, such as a necklace, bracelet, etc., was evident. In one case tubular shell beads were lying in a line roughly parallel to the long bones of the bundle. The beads were several inches apart and were not lined up as if on a string, but lay with perforations running at various angles. It appeared as if loose beads had been placed in the bundle with the bones at time of wrapping. Beads and pipes were found with bundles containing bones of either sex, and there seemed to be no age or sex preference for such grave goods.

Some bundles contained projectile points of stone or antler. Near one bundle (SK 93) was what appeared to be an arrow-makers kit of stones. One burial, SK 10, contained a perforated shell of the common whelk (*Busycon carica*), a broken beamer, and a tubular clay pipe in poor condition. Several burials contained lumps of "paint stones"—in most cases red hematite, although one soft greenish claystone and, in two instances, pieces of graphite were found. Several gritty, sand-stone abrasives were found which showed signs of use. In one burial there were three such abrasive stones, each of different degree of coarseness.

One small pottery cup (Plate Vb) was found in the soil between burials, SK 31 and SK 32, and may have been intentionally buried with either of these burials.

Many of the beads, especially the tubular shell beads, and all the pipes appeared to have been deliberately broken and scattered over and around the bones as part of the burial prac-

tices. In one case, SK 139, 13 halves or major portions of tubular shell beads were found, and none of the fragments could be fitted together. It is possible therefore, that broken beads were considered as acceptable for burial purposes as whole ones. Since many pieces of the broken pipes were not recovered despite screening of the soil, it is probable that pipes broken in use had likewise been placed with the dead.

### REFUSE AND OTHER INCLUSIONS

In addition to objects seemingly intentionally placed with the dead, there occurred scattered in the soil other things which can be termed "refuse" or "accidental inclusions." Of these objects, potsherds predominated, though fire-cracked stones and spalls and chips of quartz, flint and slate were not uncommon. Refuse of this same nature occurs sporadically in the field in which the mound is located, and this was probably included in soil gathered nearby and used to cover bundles as they were added to the mound.

Animal bone fragments were quite scarce and included only the following:

deer bone fragments	3
canine teeth of bear, unworked	2
mandible of dog (2 from same animal)	3

Other such inclusions were 2 small fragments of clay pipes and numerous fragments of stone pipes of which no other fragments were found. From the gross differences in materials found, we can count at least 17 pipes represented by such fragments. These are in addition to the eight stone pipes of which enough fragments were found to permit restoration.

While not exactly classifiable as refuse, we must note the presence of charcoal in small pockets and scattered as flecks and lumps in the soil. In one instance, a lense-shaped deposit of charcoal totalling about one quart (dry measure) was found directly over and touching an adult male bundle burial, SK 78. Since there was no burning of the bones of SK 78, the charcoal must have been burned prior to being placed in the mound. A portion of the charcoal was submitted to the University of Michigan for age-dating by measurement of C14. Testing by the University of Michigan Laboratory yielded a date of 970AD  $\pm$ 110 yrs, (Sample No. M-1354). In addition to charcoal, many separate fragments of burned human bones were found in the mound fill, giving the impression that some cremations had not been *buried* in the

mound but had been scattered widely over the mound surface while it was in various stages of growth.

### FEATURES

The only features noted, other than burials, were seven sub-mound pits which extended from the original surface into the sub-soil for various depths.

No post molds were found, though each five-foot square dug was examined thoroughly for such evidence of structures. Following in Table I is a tabulation of the pits, showing location, dimensions, and contents.

TABLE I

<i>Pit No.</i>	<i>Locus</i>	<i>Dimensions</i>	<i>Depth Below Datum</i>	<i>Remarks</i>
1	Sq. 57	36" × 27"	14"	Scattered human bones in and above pit. May have been disturbed by earlier digging.
2	Sq. 49-59	70" × 50"	16"	Contained two bundle burials SK 150 and SK 156.
3	Sq. 50-60 51-61	42" × 38"	19"	Pit extended below watertable at -16" Contents: few broken human bones (not measurable) and 1 triangular flint point.
4	Sq. 39	48" × 30"	7"	Contained six bundles, SK 239, 240, 241, 243, 244, 245 and cremation SK 242. Pit slightly overlaps N. edge of Pit. No. 5.
5	Sq. 38	42" × 30"	8"	Contained four bundle burials, SK 253, 254, 255, and 256 and one cremation SK 257.

6	Sq. 48	43" × 28"	13"	Contained three bundle burials SK 246, 247 and 248 and loose bones in pit, SK 249.
7	Sq. 37	40" × 34"	6"	Contained two bundle burials SK 258 and 259.

---

### CULTURAL REMAINS

Non-perishable cultural remains or artifacts were relatively scarce. Materials represented by the artifacts and by refuse are limited to stone, shell, bone, and pottery, all native to the area now included in North Carolina. These include stone from the mountain provinces, marine shells from the Atlantic Coast, and animal bone from the local fauna. No copper (or other metals) or mica were found, though mica and copper are found in North Carolina. No materials which might indicate contact with Europeans were found in the mound.

### STONE ARTIFACTS

The variety of stone artifacts greatly exceeds that of other materials. Stone was used for tools, weapons, ornaments, pipes, and as sources of pigments. Several stone-working techniques are apparent in the artifacts found. These include chipping, pecking, polishing, and drilling.

Chipped stone artifacts include the following:

triangular projectile points	30
scrapers	1 (NC shale)
drills	1 (Rhyolite)

A "kit" of stones found 8" above datum in Sq. 21, Section 2, adjacent to and probably with SK 93 was made up of the following: 3 quartz points (type B), 1 broken quartz point, 2 unfinished points (1 quartz and 1 NC shale), 1 spall of NC shale and 7 spalls of quartz large enough to serve as a source of triangular points. All projectile points found in the mound were triangular, though some range of sizes are notable. For convenience, these are divided into three groups, depending on over-all length. Type A is smaller than 20mm long; Type B is 20-25mm long; and Type C is over 25mm long.



TABLE II  
PROJECTILE POINT TYPES AND MATERIALS

TYPE	MATERIALS				
	Quartz	Rhyolite	Flint	NC Shale	Totals
A	4	2			6 (20%)
B	13	2		2	17 (56%)
C	1	1	1	4	7 (24%)
Totals	18 (61%)	5 (16%)	1 (3%)	6 (20%)	30 (100%)

## CHIP ANALYSIS

Quartz	66	78%
Flints	4	05%
NC Shale	13	15%
Rhyolite	2	02%
	85	100%

Pecking techniques were used in the initial shaping of celts, as shown by unpolished surfaces on one specimen. One almost spherical hammerstone found shows battered surfaces indicating long-continued use as a hammer, and three other stones found show abrasions attributable to limited use as hammers.

Polishing is found on three classes of artifacts—celts, pipes, and ornaments. Four celts were found; 2 with SK 21 and 2 in Sq. 30 but not associated with any particular burial. One celt found with SK 21 is polished on almost all surfaces, is 2 3/4" long, 1 7/8" wide, and 7/8" thick and has a pointed poll; the other is six inches long, 1 7/8" wide and 7/8" thick and appears to have been burned before burial. The two celts from Sq. 30 are crudely chipped and poorly polished. Their dimensions are:

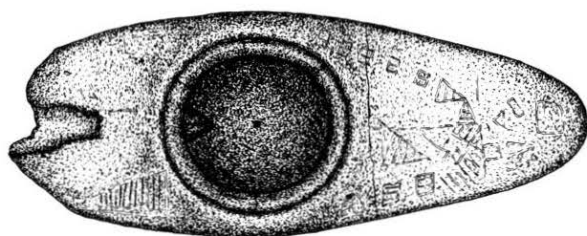
	Celt No. 1	Celt No. 2
length	25/8"	3 1/2"
width	1 1/2"	2"
thickness	1/2"	3/4"

No grooved axes were found in the mound.

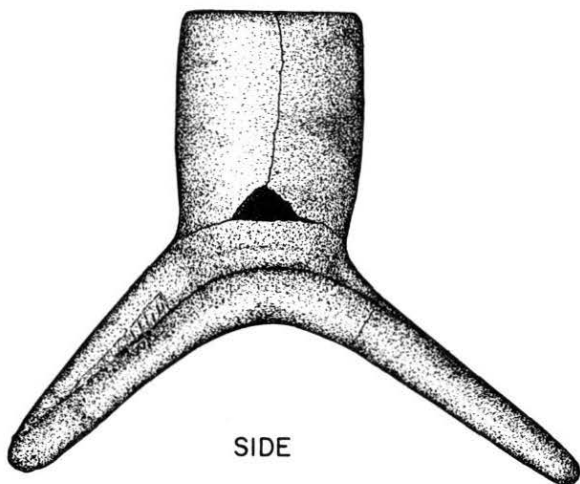
Two fragments of a broken ornament of highly polished slate were found in soil between SK 71 and SK 72 and might have been interred with either. The ornament is a tapered flat pendant which must have been originally at least 3 1/2" long.

TABLE III  
STONE PIPES

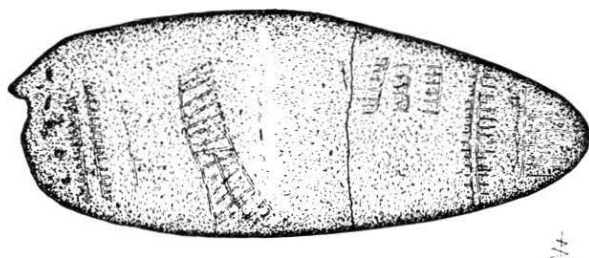
No.	Locus	Material	Stem		Bowl		Remarks
			Length	Width	Length	Diameter	
1	SK 72 Sq. 50	Brown chloritic schist with red tinge	2 1/4"	2"	2 1/4"	1 5/8"	Curved base monitor pipe. Incised designs on dorsal and ventral surfaces and on one side of bowl. Stem shows abrasions from teeth of user, plus some corrosion not attributable to teeth. (possibly dissolved by saliva?) Pipe and designs are shown in Figure 7. Pipe was in six pieces and is not complete.
2	SK 72 Sq. 50	Brown chloritic schist with green tinge	5 3/4"	3"	4 1/4"	1 1/4" × 2"	Bent tube pipe with a flattened alate stem. Angle of bowl and stem is 15°. Lip of bowl is thickened and the bowl opening is elliptical. The pipe was found in nine pieces and is incomplete. Pipe and its designs are shown in Figure 8. Charred tobacco "cake" found in heel of pipe when cleaned.
3	Sq. 40	Brown chloritic schist with green tinge	3"	1 5/8"	1"	1 1/4" × 7/8"	Modified platform pipe with short bowl set near distal end of pipe. Orifice of bowl is elliptical. Pipe was found in four pieces, is not complete, and was not with any particular burial. See Figure 9 for view and drawing of pipe and its designs.
4	Sq. 30 Sq. 40	Chloritic schist, green-gray	2 1/4"	1 1/2"	2 1/4"	1 1/4"	Platform pipe of which only the stem portion of the platform is present. About 1/3 of the bowl is mounted at right angles to the stem. Pipe was found in five pieces scattered through Sq. 30 and Sq. 40. Incised squares and triangles are both surfaces of the flat stem.
5	Sq. 31 Section 2	Brown chloritic schist	?	round variable	over 2 1/2"	1 1/2"	Angular pipe, of which critical parts were not found. The bowl is round and set at an angle of about 60° from the stem. The pipe appears to be slightly zoomorphic when held upside down, Plate IIIc. Pieces (3) of pipe were found in soil of Sq. 31 not associated with a burial.
6	Sq. 30 Sq. 40 Sq. 38	Pink-gray steatite	1/8"	3/4"	? over 1 1/2"	1 1/2"	Bowl with stub of a stem, obviously used with a hollow reed or other detachable stem. Pipe not complete, but 3 pieces found in Sqs. 30, 38 and 40. No designs.
7	Sq. 29 Sq. 30	Chloritic schist green-gray	1 1/2"	1 1/8"	2 1/4"	1"	Bent tube pipe with flattened stem. Angle of bowl with stem—10°. Pipe not complete—2 pieces found—1 in each square.
8	Sq. 29	Brown chloritic schist	1"	3/4"	2"	1"	Bent tube pipe with short stem at angle of 10° with bowl. Pipe almost complete but was in 7 pieces scattered through Sq. 29. Bowl has 3 incised lines parallel to and 1/4" to 1/2" below rim. Stem has slight shoulder at base of bowl. Plate IIIb.
9	Sq. 29 Sq. 30 Sq. 40 Sq. 41	Green-gray chloritic	2"	1 3/4"	2"	1 1/8"	Bent tube pipe with flattened stem at angle of 40° with bowl. Few incised lines on ventral surface of stem. Pipe incomplete, but five pieces were found in the four squares cited.
10	SK 264 in Sq. 47	Brown schist	2 5/8"	1 1/2"	2"	1"	Bent tube pipe with flattened stem at angle of 25° with bowl. Pipe found broken into 15 pieces and scattered through bundle burial SK 264. 3 sherds of the bowl were "nested" in close contact. Incised design on dorsal side of stem. Plate IIIa.



TOP



SIDE



BOTTOM

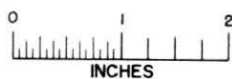
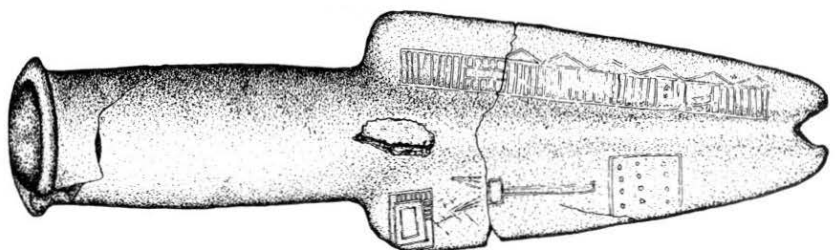


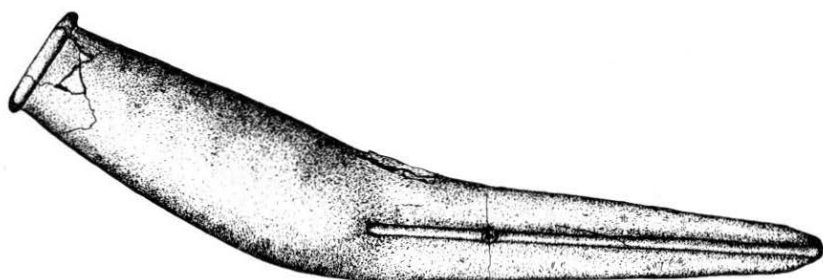
FIGURE 7  
Pipe #1, Burial SK 72.

The two pieces found are the two ends, one narrow and rounded with a biconical  $3/16''$  perforation  $3/8''$  from the end and the sides of the ornament, and the other  $2''$  long,  $1\ 3/8''$  wide with a squarish end. The ornament is  $3/16''$  thick. The missing portion of the pendant, probably about  $1''$  square was not found, despite screening of all dirt in and around the two nearby burials.

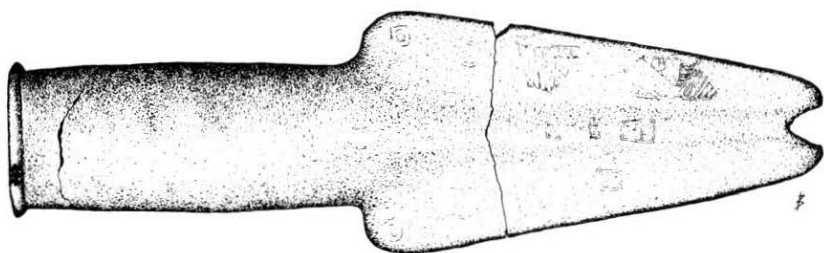
Pipes made of stone were relatively abundant, though no intact specimen was found. Two almost complete, yet not re-



TOP VIEW



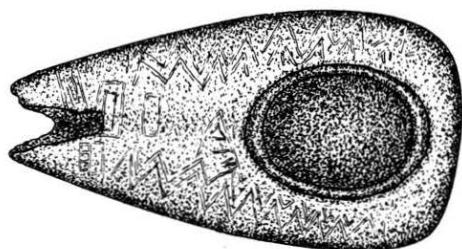
SIDE VIEW



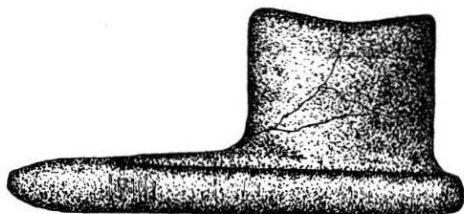
BOTTOM VIEW



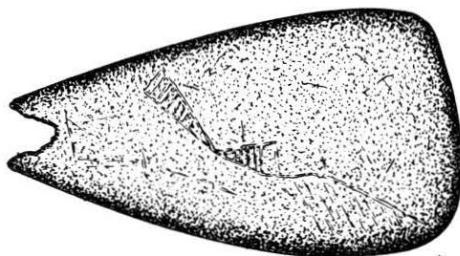
FIGURE 8  
Pipe #2, Burial SK 72.



TOP



SIDE



BOTTOM

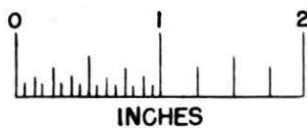


FIGURE 9  
Pipe #3, Square 40. Section 1.

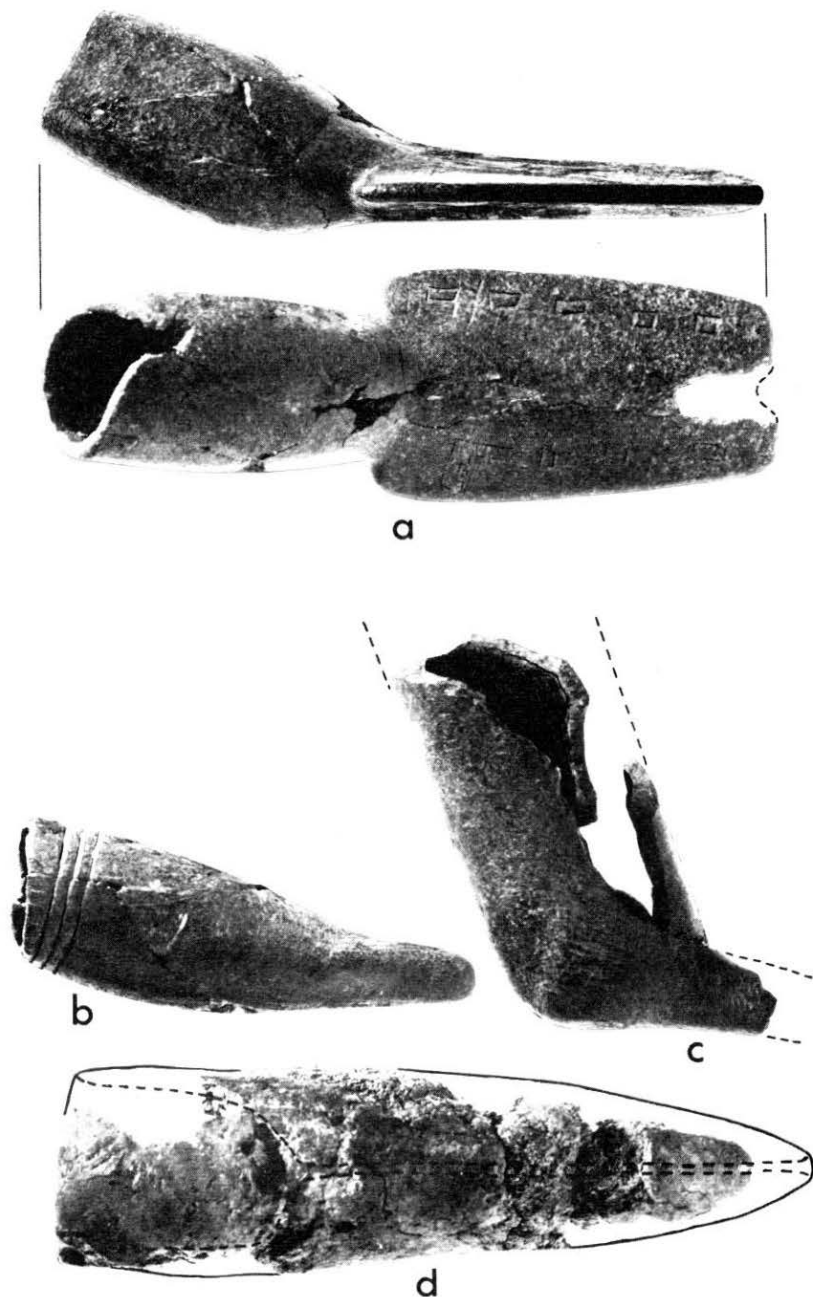
storable stone pipes were found, plus eight which are restorable, and fragments of at least 15 others. All of the pipes are made from red, brown or gray chloritic schist except one, which is made from a pinkish-gray steatite. These materials are not native to the immediate area of the mound but do occur in the piedmont and mountain provinces of western North Carolina. Data pertaining to the restorable pipes are listed below. Of the pipes represented only by fragments, 3 are flat-stemmed and 2 are stubby pipes with stems less than 1/2" long. Bowls of these five are missing and cannot be estimated. One other fragmentary pipe is a complete bowl 2 1/4" long and 1 1/4" thick, but the missing base and stem precludes classification. This pipe bowl had been found in nine pieces scattered in the soil of squares 30 and 40. In several instances, notably pipes No. 1, 2 and 10, the pipes were directly associated with burials, and the fragments were intermixed with the bones, even though some fragments were missing. In each case, the pipe had been broken before burial.

Miscellaneous stone artifacts include a variety of abrasive stones which had been used as whetstones, sanders, or hones. These abrasives are usually sandstones of varying degrees of coarseness, of which five graduations are easily recognized. In addition, a small flat slab of a micaceous siltstone has a worn edge showing use as a polishing surface. Several of the fine-grained sandstone abrasives show round slots or grooves 1/4" in diameter and may have been used as arrow-shaft smoothers. Two other pebbles found are highly polished and may have been used as smoothing stones.

Another class of stone objects, while not artifacts in the strict sense of the word, consists of stones used for pigments. These are primarily soft sandstones with a high limonite content and are various shades of red or yellow. In addition, two finds of graphite, one with burial SK 41, and one loose in the mound fill show that this ore was also used. One specimen of soft, pale-green claystone is smoothed on all faces and seems to have been used as a source of pigment. Many of the limonite stones have extensive flattened areas attributable to long-continued rubbing in the same place to obtain the ochrous pigment.

### BONE ARTIFACTS

Artifacts made of bone or antler were relatively scarce in the mound, and those found are of quite simple design.



## PLATE III

Stone and clay pipes. a. Pipe #10, stone, Burial SK 264. b. Pipe #8, stone, Sq. 29, Sec. 1. c. Pipe #5, stone, Sq. 31, Sec. 2. d. Clay pipe, Burial SK 10.



In the category of weapons are six worked tips of deer antler. The tips are one to one and a half inches long with hollowed bases. These points were found accompanying a bundle burial, SK 10, and were in very poor, crumbly condition. A single unworked antler tip found with SK 139 may be a "blank" projectile point.

Bone tools are represented by five fragments of beamers made from the metapodal bone of the deer. These tools were used as a spoke-shave to scrape excess fat, etc. from the inner surfaces of hides prior to tanning. Two of the fragments were found with a bundle burial, SK 21, and the other three were found loose in the soil of Square 30.

Two canine teeth of the common black bear may have been ornaments but show no signs of having been worked.

With bundle burial, SK 43, were nine broken leg bones of the wild turkey. (*Meleagris gallopavo*). These show no signs of having been modified in any way. However, their placement with the burial indicates that they had been intended for use as a tool source. This particular bone, the tibio-tarsal, was frequently made into an awl.

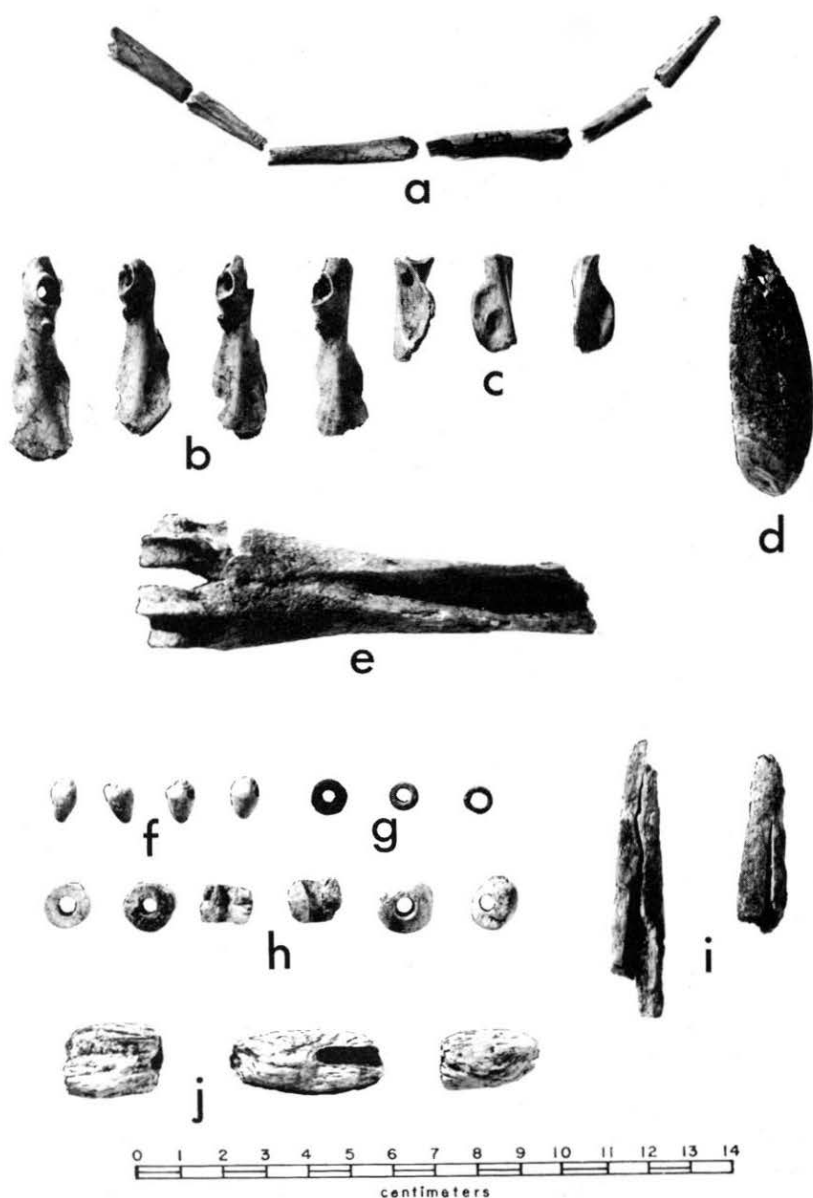
Beads made of various bones were found with two burials, SK 250 and SK 265. With SK 250 were the following:

left innominate bone (pelvis) of rabbit	5
right innominate bone (pelvis) of rabbit	5
wing tip bone, turkey	1
tubular bead of bird bone, 1 1/2" long	1

With SK 265 were the following:

left innominate bone of rabbit	4
right innominate bone of rabbit	7
wing tip bone, turkey	2
tubular beads of bird bone, 3/4" to 1 1/2" long	6

The rabbit pelvis had been perforated through the socket in which the head of the femur fits, and the perforations are less than 1/8" in diameter. The turkey wing tip bones are perforated diagonally through the epiphysial face to allow the bone to be strung as a necklace or other ornament. The tubular beads are mere segments of hollow bird bones, roughly polished. In most instances, the ends of the bones show scars of the cutting effort. Typical beads are illustrated in Plate IV.



## PLATE IV

Bone and shell artifacts. *a.* Bird bone beads. *b.* Pendants from rabbit pelvis bones. *c.* Pendants from bird wing bones. *d.* Cut bear canine tooth. *e.* Deer bone "beamer". *f, g, h, j.* Shell beads. *i.* Antler projectile points.

## SHELL ARTIFACTS

The most common artifact found in the mound is the shell bead. All are made of marine shells from Atlantic Ocean beaches, roughly 100 miles away at the nearest point. One almost complete conch shell (*Busycon carica*) was found with a bundle burial, SK 21, along with a fragment of a second shell which may have been a pin of some sort, possibly a hair ornament.

The beads can be divided roughly into two types. One is the small spiral shell of the *Marginella*, from which a small part of the whorl is rubbed away to make a hole through the shell and thereby facilitate stringing or sewing to a garment. Examples of this type of bead are shown in Plate IV. *Marginella* beads were found with the following bundle burials:

SK 7	40
SK 250	5
SK 259	10
SK 265	190
Burial found by John Phillips about 1925	57

The other type bead is made from various parts of the conch shell, usually the central column, and may be further classified according to shape and proportions. All of the beads are circular or roughly tubular and of varying length. One group consists of flat disks in which the diameter exceeds the length. Another is nearly spherical, and a third is definitely tubular with length greater than diameter. The following tabulation shows numbers and types of such beads found with various burials or loose in mound soil:

<i>Square or Burial No.</i>	<i>Disk Type</i>	<i>Spherical</i>	<i>Tubular</i>
SK 10	14		
SK 49			21
SK 74			7
SK 133	3		4
SK 139		2	13 (all broken)
SK 198	44	47	6
SK 205	2		2
SK 220			2
Square 30			2
Square 39	5		1
Square 50	31	6	3

The shell beads found were usually soft and chalky, though many were encased in a brown patina which held the bead

together. In some cases, the patina crust was hollow and the body of the bead entirely dissolved. The beads were generally so chalky or fragile that a lacquer coating was necessarily applied to preserve the beads. The lacquer used is a clear, spray-on, acrylic lacquer conveniently prepared and marketed in an aerosol dispenser. The majority of the tubular beads were broken, and in no instance could the halves be fitted together to make a whole bead.

All of the beads made from the conch shell seem to have been made from *Busycon carica*, the common conch of the Atlantic Coast from Florida to the Virginia Capes. No artifact made from the oyster, clam, or fresh-water mussel was found.

### CERAMIC ARTIFACTS

Artifacts of baked clay were neither numerous nor of great diversity. Those found are of two categories: pipes and vessels. One nearly complete pipe is a simple straight tube of poorly fired clay found with bundle burial, SK 10. The pipe is in excess of three inches long, and the maximum diameter (at the bowl rim) is  $1\frac{3}{8}$  inches, Plate IIId. The pipe tapers uniformly to a mouthpiece which had crumbled or dissolved into mud when found. The bowl has a  $7/8$ " internal diameter and is  $1\frac{1}{2}$ " deep. The stem is centrally perforated with a  $1/8$ " hole. The body of the stem was soft when found, although the bowl shards were better fired and in better condition. The pipe was preserved by spraying with acrylic lacquer. Two other small fragments of clay pipes were found in the general diggings in squares 61 and 63. One of these fragments is a shard of pipe bowl, and the other is a one-inch long section of stem  $1/2$ " in diameter. The clay in the pipe and the fragments is untempered, and the color is reddish brown. A pipe represented by two fragments found on the mound surface has a 1" long bowl,  $3/4$ " dia. in prolongation of the  $1/2$ " thick straight stem.

One complete pottery vessel was found loose in the soil of Square 42 near, but not directly associated with, burial SK 31. The vessel is a small cup with a rounded base. The cup is  $1\frac{1}{2}$ " high, and the rim diameter is  $2\frac{3}{4}$ ". The clay is a yellowish-tan with only a trace of sand tempering. Two  $1/8$ " holes had been made through the cup's walls prior to firing. These holes are  $3/8$ " below the top of the rim and are directly opposite each other. They were probably used to attach a handle or bail which would allow the cup to be used as a dipper or ladle. The inner

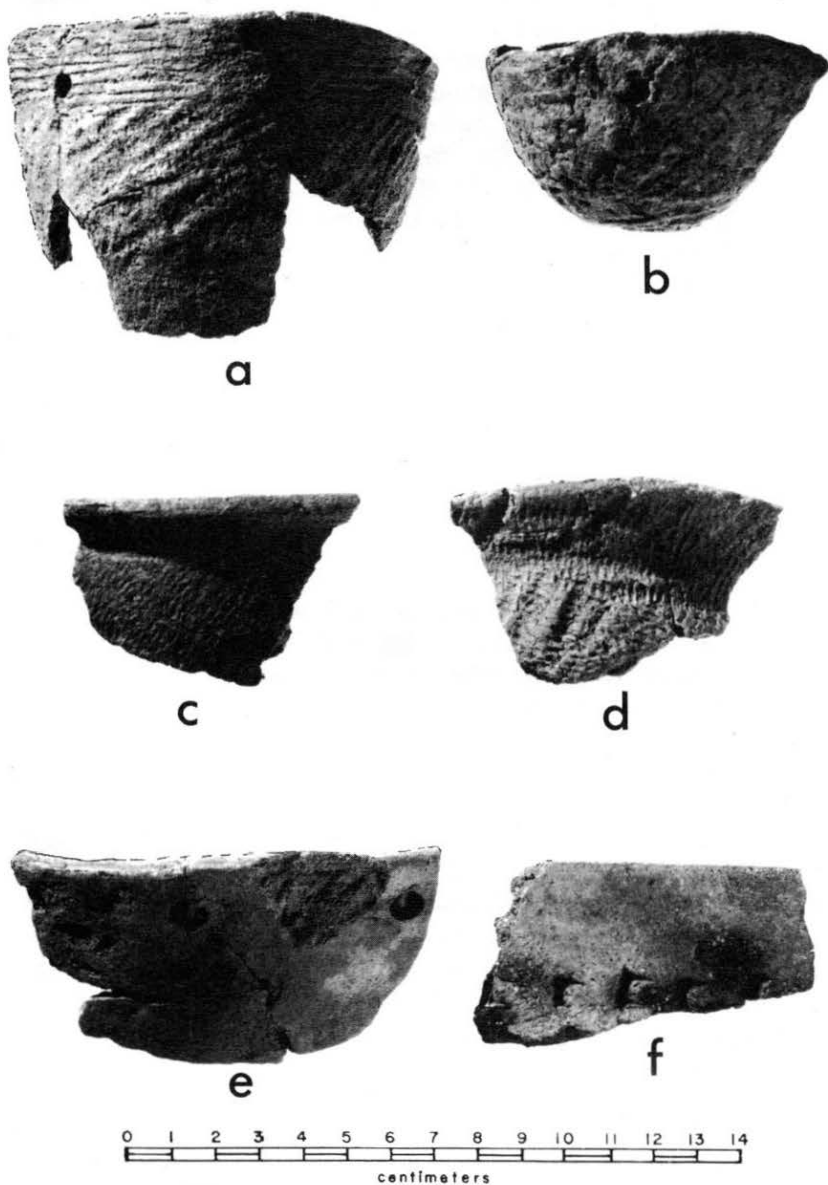


PLATE V  
Representative pottery from mound fill.

surface is smoothed, while the outer surface is completely covered with poorly-defined fabric impressions. The cup was found broken into five fragments which were readily cemented together. Plate Vb shows a side view of the cup.

Scattered loosely throughout the excavated area were the following sherds:

	<i>Smooth Ware</i>	<i>Fabric- impressed</i>
Rimsherds	14 (23%)	47 (77%)
Bodysherds	21 (13%)	144 (87%)
No. of vessels	5 (14%)	32 (86%)

The smooth ware is the minority ware and appears to be an imported or exotic ware in the area. From the fragments found, the following characteristics can be determined: The vessels are shallow, wide-mouthed bowls of indeterminate height. The bowls range from five and one-half to twelve inches in diameter across the rim. All the specimens are self-rimmed, and the rim tops are either square or round in cross-section. The clay is reddish-yellow, well-fired and has sand in varying percentages as tempering material. The walls of the bowls range from 1/8" to 3/8" thick. Both inner and outer surfaces are smoothed, and several appear to have been burnished or polished, though one sherd shows marks of scraping. The exterior surfaces near the rim frequently (3 out of 5 vessels represented) have some form of punctate design. Two of the three have a line of circular punctates 3/8" to 1/2" from the rim top, spaced 1/2" to 1" apart and 1/16" to 1/8" deep. These punctate marks seem to be impressions punched in the unbaked clay with the blunt end of a small circular stick or cane. The third design is a line one inch from the rim top made of impressions spaced roughly 1/2" apart. The impressions are those of a blunt end of split cane 1/4" in diameter pressed horizontally into the unbaked clay to a depth of 1/16". Plate V illustrates the two types of impressions.

The fabric-impressed ware is the majority type and is found plentifully on the surface of other sites in the vicinity of the mound. The vessels are generally small bowls with rounded or sub-conoidal bases and with generally straight sides rising to an undeveloped rim. Such straight rims characterize all but four (12.5%) of the 32 vessels represented. These four have small, everted rims with slightly constricted necks. The rim diameters range from 3 1/2 to 11 inches with the smaller sizes preponderating. The paste in every instance is sand-tempered, well fired,

and is generally some shade of red. A few sherds are grayish-buff on outer surfaces and tan on inner surfaces, and a very few (5 out of 191) are soot-blackened. Rims are generally round or square in cross-section and are generally undecorated. Five of the 32 vessels show some form of fabric impression on the rim top, as if the rim had been touched lightly with an edge of the folded fabric while the clay was still plastic. Two vessels show a trace of fabric-impressions on the inner face of the rim and extending about 1/2" below the rim. Outer surfaces of all vessels of this type are impressed with fabrics of either coarse or fine weave, with the coarser weave (88%) dominating. Inner surfaces in seven of the 32 vessels show distinct striations resulting from having been scraped with a shell or other tool during the modelling process. Since the sherds found were usually broken along a coil, it appears that coiling was the usual way to construct the vessels. Design on vessels of this type is limited to slight rim thickening on bowls with everted rims (2 of 4 such bowls) and to some over-stamping with a fabric-covered dowel (or thumb?). On one vessel a half-inch wide band of six incised or scratched lines encircles the neck 1/4" below and parallel to the plain rim. The lines are not continuous, but appear to have been made by repeated brushing with a notched tool, possibly a bone or shell. No cord-marked or simple-stamped ware was found in the mound excavation, and all sherds found are sand-tempered.

### DECORATIVE ART

Artistic efforts of the people of the McLean Mound site can be appreciated by studying the extant evidence as found on pipes and pottery. While their efforts to decorate more perishable artifacts may never be known to us, we can assume that their artistic urge found expression on many of the every-day things made and used. To what extent magic symbols entered into the art forms which have survived we may only imagine. The frequent repetition of certain geometric designs leads us to suspect magical rather than pictorial motifs in their inscribed art.

Designs on pottery are quite simple. It is quite likely that the fabric impressions of the common ware satisfied some esthetic requirement, in addition to whatever practical value they may have had. On the smoothed ware, there seems to have been a compulsion to fill part of the plain, blank surface, especially near the rim, with some sort of "filler" design.








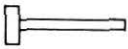
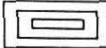
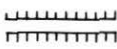
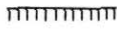



DESIGNS	OCCURRENCE			ON PIPES		
	*1	*2	*3	*4	*7	*10
	1	8	1	—	—	2
	5	1	—	—	—	—
	2	—	—	—	1	—
	3	—	—	3	1	3
	3	1	3	7	—	—
	—	1	—	—	—	—
	—	1	3	4	2	—
	2	—	—	—	—	—
	6	—	—	—	—	—
	—	1	—	—	—	—
	—	1	—	—	—	—
	—	—	2	—	—	—

FIGURE 10  
Design elements engraved on stone pipes.

Personal adornment is a form of art which we can appreciate from the non-perishable remains we find of this class. The most common items are the beads of shell and bone, illustrated and described previously. Of tattooing we have no direct evidence, but from the pigment ores found, we can assume some form of skin coloring, probably patterned and purposeful. Ethnological

references to both tattooing and body painting are abundant for coastal North Carolina.

Designs found on the stone pipes are usually geometric and oft-recurring shapes. Figure 10 shows some of the identifiable designs and the frequency of occurrence on the six pipes which bear incised designs.

### BURIAL CUSTOMS DEDUCED

From the evidence observed in the excavation, we can reconstruct, at least partially, some of the burial customs of the people responsible for the mound. During the excavation work we were frequently impressed with the apparent carelessness which seemed to mark the interments. The evidence for this is: (a) the general incompleteness of bundles which should have contained entire bodies; (b) the number of burials which contained extraneous human or faunal bones in the bundle; and (c) the charred and uncharred bones scattered at random through the mound body.

It appears that the first burials at the site were made in shallow pits dug into or through the humus originally covering the site (at least 5 instances). Later burials seem to have been placed on the surface and covered with sand gathered nearby. When sufficient burials had been made to make the site "sacred," it is probable that burial there became a "must" (or the reverse, burial elsewhere became taboo). Burials continued to be made in the same place until some event occurred which ended the custom—probably the removal of the tribe or group from the immediate vicinity of the burial area.

A typical view of grouped bundle burials is shown in Plate II.

### COMPARISON WITH OTHER NORTH CAROLINA SITES

The McLean Mound is an example of what appears to be a widespread cultural trait in North Carolina. Mounds constructed for various purposes occur in at least three parts of North Carolina, as follows: (Not included are unintentional accumulations of refuse such as shellheaps or elevated midden deposits).

1. The Cherokee region of the mountainous western part of the state—primarily temple mounds on streams draining into the Tennessee River.

2. The area occupied by the late prehistoric Pee Dee Culture in the piedmont section, primarily temple mounds.

TABLE IV  
OCCURRENCE OF CERTAIN CULTURE TRAITS  
ON  
REPORTED SAND BURIAL MOUND SITES IN N. C.

[illegible]

3. The coastal plain east of the Fall line (Raleigh-Rockingham) and south of a line from Raleigh to Cape Hatteras. These are exclusively small burial mounds made of sand.

For this study we omit further reference to mounds of the piedmont and mountain region and limit ourselves to the Coastal Plain and its burial mounds. These mounds are surprisingly uniform in structure and content. All are circular, low, made of local sand, and located on sandy ridges. They generally contain only secondary (bundle) burials and cremations. Artifact inclusions are of the same general types, as nearly as can be inferred from the published descriptions. Table IV tabulates the traits shared between the McLean Mound and the following mounds which have to date been reported. (Source materials not generally available have been reproduced in extract or in the entirety in the appendices shown).

#### LIST OF MOUNDS

<i>County</i>	<i>Mound Name or Locale</i>	<i>Appendix</i>
Harnett	Cameron (or Huckleberry)	I
Duplin	Mounds #1, 2, 3, 4	II
Sampson	Mound #5	II
Wake	10 miles S of Raleigh	II
Robeson	East of Red Springs	II
Robeson	Near Brooklyn P.O.	II
Robeson	Near Fair Bluff	II
Cumberland	10 miles S of Fayetteville	II
Cumberland	10 miles SW of Fayetteville	II
Cumberland	Near Hope Mills	III
Brunswick	McFayden Mound	IV

Other mounds are reported, and from unpublished data, they appear to be part of the same mound complex. One of these is in Hoke County.

Sparkleberry Bluff mound on Rockfish Creek near Hope Mills. (Mound destroyed by gravel pit operation).

Another was reportedly excavated on Roanoke Island in Dare County many years ago, but the published data are too fragmentary to permit comparisons.

#### COMPARISON WITH MORE DISTANT SITES

Since no mounds are reported from contiguous areas north of the line from Raleigh to Roanoke Island, we may assume that

the mounds listed in the foregoing section are either a local innovation or that they are the northern expression of a southern culture trait. Although secondary burials, particularly in ossuaries (Mass Burials) occur frequently in tidewater Virginia, Maryland and Delaware, we can demonstrate that the sand-mound complex has relationships which can be traced southward along the coastal plain to and around the southern tip of Florida. While the chronological and cultural positions of the sites compared have not as yet been defined, we suspect that there are cultural parallels or antecedents involved between most, if not all of the cited mounds. When radio-carbon dates become generally available, we should be better able to define the cultural and chronological relationships involved and to trace the sand-mound custom to its source.

Numerous examples of the sand-mound complex have been found in coastal South Carolina, mainly by Clarence B. Moore during the period 1895-1900. Among these are:

Mound near Bluffton, S. C.—sand mound 58' dia., 39" high. Contained cremated and loose bones, chips and sherds.

Mound on Callawassie Island—sand mound 48' dia., 40" high. Contained flexed and fragmentary burials, dog burials, cord-marked and plain pottery.

Mound near Hasell Point—sand mound 34' dia., 55" high. Contained cremated bones, plain and cord-marked sherds.

Mound at Indian Hill, Beaufort Co.—sand mound, 47' dia., 17" high. Contained cremated and bundle burials, cord-marked sherds.

Mounds near Button Hill, Port Royal Island, Beaufort Co., S. C.—Four sand mounds, 42-58' dia., 18-36" high. Contained cremated and bundle burials, triangular projectile points, plain and cord-marked sherds, mica and hematite.

A similar mound at the Kempfer place on Ladies Island was excavated in 1933 by W. K. Moorehead and reported by Regina Flannery in BAE Bulletin 133, Anthropological Paper No. 21. The mound at time of exploration was 70' in diameter and 41" high. At the center of mound was a large layer of charcoal-filled humus on which rested a mass of human bones representing 30-40 individuals. There was no anatomical order or grouping of the bones. The top of this mass of bones showed evidence of fire, and calcined bones were found in two other locations in the mound. A pitted sandstone ball was the only artifact found.

Clarence B. Moore also explored for and dug into mounds on the Georgia coast and inland on the major rivers, the Savannah and Altamaha. Among those he reports are the following:

Mound at Pipemakers Creek, Chatham Co., Ga., later named Irene Mound and dug during period 1937-39 by Caldwell, McCann and Hulse. Contained flexed burials as well as bundle and cremated burials. Cremated burials were found at the lowest levels of the burial mound, with possible dating to the Savannah River cultural period.

Mound on Joiner's Island, Liberty Co., Ga.—one of two sand mounds contained a pocket of calcined bones. Mound had been 38' dia., 3' high.

One sand mound of seven excavated near Lake Bluff, Liberty Co., Georgia, contained hematite and a mass of unburnt bones, including parts of eight skulls.

Of five sand mounds dug near Mitchell's Lake, Wayne County, four contained one or more bundle burials.

Sand mound near Reddish's Landing, Wayne County, 4' high and 45' diameter. Cremated and bundle burials found.

Two sand mounds near Matlock Water Road, Tattnal County, yielded cremated and bundle burials and shell beads.

Two mounds near Iron Mine Landing, Appling County, yielded cremated and bundle burials with shell beads.

Further south in the St. John's River area of northeast Florida, many sand mounds have been reported by C. B. Moore and others.

### POSSIBLE VILLAGE SITES NEARBY

In hopes of finding the village or house sites of the Indians interred in the McLean Mound, we searched every possible site for at least a mile in all directions from the mound. On the surface of every sandy elevation, we found traces of Indian activity. In the main, these traces were chips, fire-cracked stones, and whole or broken stemmed projectile points datable to Archaic times. On a few sites, we found small, triangular arrowpoints, and scattered sherds of fabric-impressed pottery similar to those found in the mound. These latter artifacts indicate light or sporadic occupancy by the people who buried their dead in the McLean Mound, or at least by people with a similar culture. It is probable that these sites are those of individual family groups scattered over the country-side in a dispersed community pattern. In such a community, each family would be self-sufficient,

yet near enough to related families for social contacts, communal hunts, defense, etc. Joint use of a common burial site would fit easily into such a communal system. Transporting a bundle of cleaned bones or of cremated bones and ash to the burial site would be the easiest way to dispose of the dead. Further, the bundles of bones or ash could be preserved among the living until a suitable, convenient, or auspicious time arrived for interment.

Of the sites found which yielded triangular points and fabric-impressed pottery, the nearest was found about 200 yards north of the mound. It lay on the north edge of the same sandy elevation on which the mound lay. The village, judging from surface indications, covered somewhat over one acre, extending along the L-shaped sand ridge parallel to the spring-fed swamp shown on the map, Figure 1. Surface indications include numerous sherds, fire-cracked stones, chips, and frequently a whole or broken projectile point, scraper, drill, hammerstone or chipped axe. A few fragments of brick and chinaware prove occupancy by later settlers, as well.

This site is on land owned by Mr. A. B. Breece of Fayetteville and is therefore called the Breece Site, Cumberland County, Cd<sup>v</sup>2. A representative collection of surface material from this site is on deposit at the Research Laboratories of Anthropology, University of North Carolina. A test square measuring 60 by 55 inches was put down to determine depths, soil profiles, sub-surface features, if any, etc. The profile depicted in Figure 11 indicates that the site had been occupied for a long time and that the pottery-using cultures are represented only in the plow-disturbed topsoil. The following tabulations shows cultural material found at each level in the test square.

#### Contents of Test Square, Cd<sup>v</sup>2

##### Level 1—1 Triangular point

0-6" 9 Fabric-impressed sherds 100%  
8 chips—(1 quartzite, 7 NC shale)

##### Level 2—4 point fragments—including 2 fragments of same point.

6-18" Savannah River type.  
74 chips—(3 quartz, 71 NC shale)

##### Level 3—1 Point—Guilford (?)

18-24" 16 chips—(2 quartz, 2 flint, 12 NC shale)



BREECE SITE - CD 2  
PROFILE OF TEST SQUARE

0-12"	LEVEL 1 — PLOWED ZONE P.P. #1	HUMUS, SHERDS, CHIPS, POINTS
12"-18"	LEVEL 2 — YELLOW SAND P.P. #2 P.P. #3	CHIPS, POINTS CRACKED STONES
18"-24"	LEVEL 3 — YELLOW SAND P.P. #4	CHIPS, POINTS
24"-32"	LEVEL 4 — YELLOW SAND	NO CULTURAL MATERIAL
	YELLOW WHITE SAND	

P.P. = PROJECTILE POINT

FIGURE 11  
Profile of test square at the Breece Site.

- Surface Collection— 2 triangular points  
1 Cord-marked sherd (04%)  
1 Plain sherd (04%)  
22 Fabric-impressed sherds (92%)

In September, 1962 additional testing was done at the Breece Site. Description of the work and the finds are to be found in Appendix V.

### DISCUSSION

Despite the finding of occasional food remains, potsherds, and chips in the soil composing the mound, we can be fairly certain that the mound was not built directly on a village site. It seems to have been placed conveniently near an inhabited place (the Breece Site) but was used as a central repository for the dead of a much larger population area. Not knowing the time span covered by the mound's interments, we cannot judge accurately the size of the population served, nor the death rates involved.

The almost exclusive presence of bundle (secondary) burials is significant. The relatively few cremations and the one (possibly two) flexed burials seem to represent exceptions to what must have been the general custom. We cannot determine the sociological nor religious motives behind the burial customs shown, except that we can point to their rather widespread distribution throughout the southeastern states. Nor can we assert confidently what relationships the customs may have had to the Algonquian tribes' charnel houses (quioccosan houses) or to the bone-cleaning and boxed preservation of bones by the Choctaws and others in the Southeast. Whether the bodies had been exposed to the elements until the bones were clean, or whether the bodies had been temporarily buried in shallow graves elsewhere cannot be determined. Either method would have produced clean bones, suitable for wrapping and for keeping in or about the cabins until time for permanent burial. Further, we cannot know what, if any, ceremonies or rituals were connected with the bundles while kept among the living nor at the time of final interment.

We can speculate that the individual bundles of bones were identified as to the original status or relationship of the deceased, and perhaps the double bundles which contained a male and a female individual were those of a married couple. The multiple bundles may have been other close relatives, possibly of the

same clan or family. The absence of infants and small children from the remains excavated implies that there may have been a different treatment reserved for dead infants and younger children. What this may have been, we cannot know until further work has been done in the sand mound area.

The "killing" of pipes and beads (or the selection of already-broken specimens) for burial with the dead seems to exemplify a widely-followed custom among the Indians of the southeast. Presumably, the broken or "killed" objects were used so that the spirit of the object would be free to accompany and serve the spirit of the deceased human in the spirit world.

The few bundles which contained industrial objects or refuse may indicate specialization of work among the living. The presence of what seems to have been an arrowmaker's kit with Burial 93 (a double burial of uncertain sexes) may have been the property of a well-known and highly-regarded maker of arrows. Unfortunately, this is the sort of information we can only infer, without being sure of our results.

The presence of materials from both the seacoast and the mountain areas of North Carolina in the mound demonstrates some contact with these areas. Whether the contact was by trade through intermediaries, or was the result of visits to the distant areas by people living in the mound's neighborhood is unknown. Since the McLean Mound people lived midway between the mountains and the seacoast, they may have been part of a well-established trade system, receiving and passing along objects from each direction, retaining some of the trade objects as payment or tribute for their own use.

The age of the mound and, inferentially, the culture represented, is of primary interest and importance to archeologists. The radio-carbon date of about 1000 A.D. would place the mound and the culture in the Middle Woodland Period. This date may be questioned by some who would attribute the smooth pottery to a later date, somewhat nearer 1500 A.D. In the light of present inadequate knowledge of the ceramics of the area, it may be premature to assert the later date, using ceramics as the sole criterion. The stone pipes, with their geometric decorations, have been found in sites of Late Woodland times, but we cannot say with certainty that such pipes were not made during earlier periods. The bone and shell artifacts are not in themselves sufficient to indicate age, since the types represented are found in many sites of both Middle and Late Woodland age. The medium-

large triangular projectile points seem to indicate a Middle Woodland age better than almost any artifact from the mound. We can be reasonably sure that triangular points generally belong in the period from 500 A.D. to 1650 A.D., with the size of the points diminishing as the latter date is reached. By inference, the points of 20 mm. and larger would be perceptibly older than the small (15 mm. or less) triangular points usually associated with the Late Woodland Period at the time of contact with Europeans, about 1600 A.D. A Middle Woodland date of 1000 A.D. for the mound would therefore be appropriate for the types of triangular projectile points found, to the exclusion of other types, in the mound fill and with burials. The fabric-impressed, sand-tempered pottery could be of Middle Woodland age, but the ceramic sequences of the area are not well enough known at this time to state this with assurance. In the absence of conclusive evidence to the contrary, we are inclined to accept the radio-carbon date of about 1000 A.D. as the date for the mound's construction. Since the charcoal dated came from fairly high in the mound (burial 78) the beginning date for the mound would be somewhat earlier, but an exact date cannot be asserted at this time. The middle Woodland date for this mound compares favorably with dates obtained from three accretional-type earth mounds in the western part of Virginia in the past few years. These dates are:

<i>Sites</i>	<i>Dates</i>	<i>Sample #</i>
Hirsch Mound, Bath County, Va. (1 sample)	1030 AD ( $\pm 130$ )	(SI-127)
Lewis Creek Mound, Augusta Co., Va. (2 samples)	1090 AD ( $\pm 240$ ) 1370 AD ( $\pm 200$ )	(SI-218) (SI-219)
East Mound, Augusta County, Va. (3 samples)	1050 AD ( $\pm 290$ ) 1310 AD ( $\pm 150$ ) 1220 AD ( $\pm 90$ )	(SI-365) (SI-366) (SI-367)

### CONCLUSIONS

The McLean Mound was a central repository for reburial of the dead from a dispersed community lying east of the Cape Fear River in the Fayetteville area. The size of the population served and the span of time during which the mound was used are not now known, nor determinable from present evidence.

The population seemed to have little wealth, or they chose not to bury it with the dead, as a rule.

The mound is the local expression of a sand-mound burial complex common to the coastal regions of the southeastern United States. It may also relate to ossuary-type burials found northward in Virginia, Maryland and Delaware, and indirectly, to earth mounds containing cremations and flexed and secondary burials in the western parts of Virginia.

The many unanswered questions raised by the current work and the analyses of the mound's contents indicate a need for further research in the coastal plain region of North Carolina and adjacent areas to determine cultural sequences and relationships.

Virginia State Library  
Richmond, Virginia

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## APPENDIX I

### NOTES ON THE CAMERON MOUND, HARNETT COUNTY

CHARLES MACCAULEY

Mr. Charles MacCauley of Southern Pines collected materials and data on this mound during the decade 1920-30. In May, 1929 he sent a small collection of artifacts to the University of Michigan Museum of Anthropology at Ann Arbor, Michigan. The following is a part of his letter of transmittal which accompanied the collection:

This mound, known as the 'Cameron' or Huckleberry Mound is in true sandhill territory of North Carolina, but in Harnett County just outside the present borders of Moore County. It is near a small bowl-shaped depression on the top of a sandy ridge, known as the Huckleberry swamp, and is really overgrown with tall (true) blueberry bushes. Both swamp and mound are within a few yards of the old plank road from Cameron to Fayetteville, now a country road.

The mound traditionally was opened some sixty years ago by railroad surveyors, and off and on ever since, by every Tom, Dick and Harry in the country.

Careful survey and search this last summer showed it originally to have been about fifteen feet high, diameter thirty, or thirty-five feet, depth from surface, three feet.

The work contained about one hundred skeletons, male, female, and children most of all which had been flexed before burial, and above all, as interred, had been burned a light fire of brush twigs, straw, etc.

Without much hope of finding anything worthwhile, we did secure a large platform pipe of steatite, another of trumpet shape, 2 1/2 inches long, similar to our pottery pipes, but of a material unknown to me, a necklace of shell beads, to which may have been attached the toe bones (12) of white-tailed deer, several lumps of red paint and a few fragments of mica, and the pottery fragments now going forward. The only arrowhead found was of our small triangular shape though many fragments large and small of the white quartz brought into

this territory for the manufacture of arrowheads was scattered through the mound. Also fragments of a small platform pipe, and of (apparently) a banner stone of greenish river slate.

I am forwarding:—(all from this mound)

1. a fragment (rim)  $4\frac{1}{2} \times 3\frac{1}{2}$  of brownish pottery evidently secured by these mound builders from much further westward.
2. two large, and three small fragments, of our usual sandhill material, but of better shape and design than usual.
3. a pot bottom such as we usually find.
4. several small fragments from their village site, now very deeply sanded and in a ploughed field.

This camp or village site is distant just one mile air line from the mound down in the valley in the curve of a small stream, and from the owner's statement several hundred arrowheads have been found there in the past forty years, also two stone mortars, made of common river boulders.



## APPENDIX II

### INDIAN MOUNDS OF THE CAPE FEAR

PROF. J. A. HOLMES

The following article is contained in *Chronicles of The Cape Fear River, 1660-1916* by James Sprunt, printed in Raleigh by Edwards and Broughton Printing Company, 1916. The article was written by Prof. J. A. Holmes, a geologist with the Bureau of Mines, U. S. Department of the Interior, who observed and excavated mounds while making geologic studies in coastal North Carolina in 1883.

(Wilmington, N. C., Weekly Star, October 26, 1883. Reprinted Journal Elisha Mitchell Scientific Society 1883-4, pages 73 to 79.)

So far as is known to me, no account of the Indian burial mounds which are to be found in portions of eastern North Carolina, has, as yet, been published. This fact is considered a sufficient reason for the publication of the following notes concerning a few of these mounds which have been examined in Duplin and some other counties in the region under consideration.

It is expected that the examination of other mounds will be carried on during the present year, and it is considered advisable to postpone generalized statements concerning them until these additional examinations have been completed. It may be stated, however, of the mounds that have been examined already, that they are quite different from those of Caldwell and other counties of the western section of the State, and of much less interest so far as contents are concerned. As will be seen from the following notes, they are usually low, rarely rising to more than three feet above the surrounding surface, with circular bases, varying in diameter from 15 to 40 feet; and they contain little more than the bones of human (presumably Indian) skeletons, arranged in no special order. They have been generally built on somewhat elevated, dry, sandy places, out of a soil similar to that by which they are surrounded. No evidence of an excavation below the general surface has as yet been observed. In the process of burial, the bones or bodies seem to have been laid on the surface, or above, and covered

up with soil taken from the vicinity of the mound. In every case that has come under my own observation charcoal has been found at the bottom of the mound.

Mound No. 1.—Duplin County, located at Kenansville, about one-half mile southwest from the courthouse, on a somewhat elevated, dry, sandy ridge. In form, its base is nearly circular, 35 feet in diameter; height 3 feet. The soil of the mound is like that which surrounds it, with no evidence of stratification. The excavation was made by beginning on one side of the mound and cutting a trench 35 feet long, and to a depth nearly 2 feet below the general surface of the soil (5 feet below top of mound), and removing all the soil of the mound by cutting new trenches and filling up the old ones. In this way all the soil of the mound, and for two feet below its base, was carefully examined. The soil below the base of the mound did not appear to have been disturbed at the time the mound was built. The contents of the mound included fragments of charcoal, a few small fragments of pottery, a handful of small shells, and parts of sixty human skeletons. No implements of any kind were found. Small pieces of charcoal were scattered about in different portions of the mound, but the larger portion of the charcoal was found at one place, 3 or 4 feet square, near one side of the mound. At this place the soil was colored dark and seemed to be mixed with ashes. There were here, with the charcoal, fragments of bones, some of which were dark colored, and may have been burned; but they were so nearly decomposed that I was unable to satisfy myself as to this point. I could detect no evidence of burning, in case of the bones, in other portions of the mound. Fragments of pottery were few in number, small in size, and scattered about in different parts of the mound. They were generally scratched and cross-scratched on one side, but no definite figures could be made out. The shell "beads" were small in size—10 to 12 mm. in length. They are the *Marginella roscida* of Redfield, a small gastropod, which is said to be now living along the coasts of this State. The specimens, about 75 in number, were all found together, lying in a bunch near the skull and breastbones of a skeleton. The apex of each one had been ground off obliquely so as to leave an opening

passing through the shell from the apex to the anterior canal—probably for the purpose of stringing them.

The skeletons of this mound were generally much softened from decay—many of the harder bones falling to pieces on being handled, while many of the smaller and softer bones were beyond recognition. They were distributed through nearly every portion of the mound, from side to side, and from the base to the top surface, without, so far as was discovered, any definite order as to their arrangement. None were found below the level of the surface of the soil outside the mound. In a few cases the skeletons occurred singly, with no others within several feet; while in other cases, several were found in actual contact with one another; and in one portion of the mound, near the outer edge, as many as twenty-one skeletons were found placed within the space of six feet square. Here, in the case last mentioned, several of the skeletons lay side by side, others on top of these, parallel to them, while still others lay on top of and across the first. When one skeleton was located above another, in some cases, the two were in actual contact; in other cases, they were separated by a foot or more of soil.

As to the position of the parts of the individual skeletons, this could not be fully settled in the present case on account of the decayed condition of many of the bones. The following arrangement of the parts, however, was found to be true of nearly every skeleton exhumed. The bones lay in a horizontal position, or nearly so. Those of the lower limbs were bent upon themselves at the knee, so that the thigh bone (femur) and the bones of the leg (tibia and fibula) lay parallel to one another, the bones of the foot and ankle being found with or near the hip bones. The knee cap, or patella, generally lying at its proper place, indicated that there must have been very little disturbance of the majority of the skeletons after their burial. The bones of the upper limbs also were seemingly bent upon themselves at the elbow; those of the forearm (humerus) generally lying quite or nearly side by side with the bones of the thigh and leg; the elbow joint pointing toward the hip bones, while the bones of the two arms below the elbow joint (radius and ulna) were in many cases crossed, as it were, in front of

the body. The ribs and vertebrae lay along by the side of, on top of, and between the bones of the upper and lower ribs, generally too far decayed to indicate their proper order or position. The skulls generally lay directly above or near the hip bones, in a variety of positions; in some cases the side, right or left, while in other cases the top of the skull, the base, or the front, was downward.

But two of the crania (A and B of the following table) obtained from this mound were sufficiently well preserved for measurement; and both of these, as shown by the teeth, are skulls of adults. C of this table is the skull of an adult taken from Mound No. 2, below.

Crania	Length	Breadth	Height	Index	Index	Facial
				of Breadth	of Height	
A	193 mm	151 mm	144 mm	.746	.746	74°
B	172 mm	133 mm	136 mm	.772	.790	66°
C	180 mm	137 mm	147 mm	.761	.816	63°

The skeletons were too much decomposed to permit the distinguishing of the sexes of the individuals to whom they belonged; but the size of the crania (adults) and other bones seem to indicate that a portion of the skeletons were those of women. One small cranium found was evidently that of a child—the second and third pairs of incisor teeth appearing beyond the gums.

Mound No. 2.—Located 1 3/4 miles east of Hallsville, Duplin County, on a somewhat elevated, dry, sandy region. Base of mound nearly circular, 22 feet in diameter; height, 3 feet, surface rounded over the top. Soil similar to that which surrounds the mound—light sandy. Excavations of one-half of the mound exposed portions of eight skeletons, fragments of charcoal and pottery, arranged in much the same way as described above in case of Mound No. 1. The bones being badly decomposed, and the mound being thoroughly penetrated by the roots of trees growing over it, the excavation was stopped. No implements or weapons of any kind were found. There was no evidence of any excavation having been made below the general surface, in the building of the mound, but rather evidence to the contrary. The third cranium (C) of the above table was taken from this mound.

Mound No. 3.—Located in a dry, sandy, and rather elevated place about one-third of a mile east of Hallsville, Duplin County. In size and shape this mound resembles those already mentioned: Base circular, 31 feet in diameter; height  $2\frac{1}{4}$  feet. No excavation was made other than what was sufficient to ascertain that the mound contained bones of human skeletons.

Mound No. 4.—Duplin County, located in a rather level sandy region, about one mile from Sarecta post office, on the property of Branch Williams. Base of mound circular, 35 feet in diameter; height  $2\frac{1}{2}$  feet. Soil sandy, like that which surrounds it. Around the mound, extending out for a distance varying from 5 to 10 yards, there was a depression, which, in addition to the similarity of soils mentioned above, affords ground for the conjecture that here, as in a number of other cases, it is probable the mound was built by the throwing on of soil from its immediate vicinity. Only a partial excavation was made, with the result of finding human bones, and a few small fragments of charcoal and pottery.

Since the above mounds were visited, I have obtained information as to the localities of mounds, similar to those described in the eastern, southern, and western portions of Duplin County; and I can hardly doubt but that a closer examination of this region will prove them to be more numerous than they are now generally supposed to be.

In Sampson County, the localities of several mounds have been noted; only one of these, however, so far as I am informed, has been examined with care. This one (Mound No. 5), examined by Messrs. Phillips and Murphy of the Clinton School, is located about  $2\frac{1}{2}$  miles west of Clinton (Sampson County), on the eastern exposure of a small hill. In general character it resembles the mounds already described. Base circular, 40 feet in diameter; height  $3\frac{1}{2}$  feet; soil sandy loam, resembling that surrounding the mound. Contents consisted of small fragments of charcoal, two bunches of small shell "beads," and parts of 16 human skeletons. These skeletons were not distributed uniformly throughout the portion of the mound examined. At one place there were 9, at another 6, and at a third 5 skeletons, lying close to,

and in some cases on top of, one another. In this point as in the position of the parts of the skeletons ("doubled-up") this mound resembles those described above. The bones were generally soft from decay. The small shells were found in bunches under two skulls; they are of the same kind (*Marginella roscida*, Redfield) as those from Mound No. 1, and their ends were ground off in the same way. No bones were found below the surface level, and there was no evidence of excavations having been made below this point. No stone implements of any kind were found in the mound. One-half of this mound was examined.

In Robeson and Cumberland Counties several mounds have been examined; and for information concerning these, I am indebted to Mr. Hamilton McMillan.

Five mounds are reported as having been examined in Robeson County, averaging 60 feet in circumference, and 2 feet high, all located on elevated, dry ridges, near swamps or water-courses; and all contained bones of human skeletons. One of these mounds, located about two miles east of Red Springs, examined by Mr. McMillan in 1882, contained about 50 skeletons. Many of these bones near the surface of the mound, in Mr. McMillan's opinion, had been partly burned—those nearer the bottom were in a better state of preservation. There was an "entire absence of skulls and teeth" from this mound—a somewhat remarkable fact. A broken stone "celt" was found among the remains; but with this one unimportant exception, no mention has been made of implements having been found.

In addition to the above, Mr. D. Sinclair, of Plain View, Robeson County, has informed me that he has seen four mounds in the southern portion of this county—two near Brooklyn post office, and two between Leesville and Fair Bluff, about five miles from the latter place.

In Cumberland County, two mounds are reported by Mr. McMillan as having been examined. One of these, located about ten miles south of Fayetteville, was found to contain the crumbled bones of a single person, lying in an east and west direction. There was also found in this mound a fragment of rock rich in silver ore. The other mound, located ten miles southwest from Fayette-

ville, near Rockfish Creek, was examined by Mr. Mc-Millan in 1860, and found to contain a large number of skeletons, \* \* \* \* bones were well preserved and, without exception, those of adults. The mound was located on a high, sandy ridge, its base about 20 feet in diameter; height 2 1/2 feet.

In Wake County one mound has been reported as being located on the northeast and several on the southwest side of the Neuse River, about seven miles east of Raleigh; and from the former it is stated that a large number of stone implements have been removed. But I have been unable to examine these or to obtain any definite information concerning them. One mound in this county, examined in 1882 by Mr. W. S. Primrose, of Raleigh, is worthy of mention in this connection, as it resembles in general character the mounds of Duplin County. This mound is located about ten miles south of Raleigh, on a small plateau covered with an original growth of pines. Base of mound circular, about 14 feet in diameter; height 2 feet. The contents of the mound consisted of small fragments of charcoal, and the bones of 10 or 12 human skeletons, much decayed, and arranged, so far as could be determined, without any reference to order or regularity. No weapons or implements of any kind were found.

### APPENDIX III

## THE EXPLORATION OF MOUNDS IN NORTH CAROLINA

CHARLES PEABODY

(American Anthropologist, n.s., vol. XII, no. 3, pp 425-433, 1910.)

The only mound of any size or any considerable importance opened by ourselves was in the group beyond Hope Mills (fig. 41). A somewhat detailed description of its excavation follows; the remainder of the mounds can be treated much more cursorily. The mound under consideration, known as mound 1 (fig. 42 and 43), was 15.2 meters long and 13.1 meters wide, the longer axis running from west to east thirty-five degrees south; the highest point was .762 meters above the level of the surrounding soil. Considerable digging had already been attempted, excavated portions are shown by shading.

In accordance with the better custom where feasible, practically the entire mound was cut through in sections; it was staked out at intervals of two meters, the north and south coordinates being numbered in Roman numerals, the east and west in Arabic. The extent excavated was comprised between staked I and IX and stakes 2 and 6. In many cases the trenches were carried quite deeper than the surrounding level, as not unfrequently the ground had been disturbed to greater depths. Thus eight trenches were distinguished, the four to the east being A, B, C, D, and those toward the west numbered 1, 2, 3, 4 (fig. 44). The soil of the mound being exceedingly easy digging, the work executed by a crew of from four to six men was carried on from both ends at once. It may be remarked in passing that, in most mound exploration in the United States, working through a mound from the western end, sometimes a great temptation when it is known that that section is particularly rich, is attended with the disadvantage that the predominant west winds of our latitudes tend to blow the dust from the excavation over the workmen; as a whole working from the east is more advantageous. As the work proceeded a description of the cross-sections of the



mound was taken every two meters no time was it necessary to create a breast more than 1.15 meters in height (at stake VI). Nothing especially striking occurred in the sections. Quantities of charcoal and discolored soil were scattered through and there were innumerable roots and twigs, in some cases extending far below the level of the surrounding field. The presence of these roots is of importance in only two regards: (1) they have been a pernicious agent in the destruction of bones and (2) the constant presence of the roots prevent the determination of how much of the charcoal and of other effects of are (notable the charring of the human bones) is due to man's agency and how much to the forest fire which at no remote period burned the mound over; fire will run a considerable distance underground. In my opinion much of the fine charcoal and of the discoloration of the ground are due to this cause, but the charring of the bones seems in large measure to be owing to something else. A "sod-line" was occasionally observed, notable at stake IV.

The mound contained great quantities of human bones, some of them calcined. They were in bad condition, friable and broken, so much so that not one skull sufficiently intact for measuring could be brought home. The experiment tried with an excellent skull discovered by my daughter of leaving it out over night to harden failed by reason of some predatory animals. Separate burials to the number of twenty-six were distinguished and noted in position on the map, but it is highly doubtful whether they are, the most of them, intentional burials at all. Where any order of interment was discernible the bundle type seemed to be adopted with but little regard to orientation, or to the position, or to the placing or direction of the skull. The shallowest burials were nos. 5, 7, 19, and 21, 25 centimeters down, and the deepest, no. 3, 91 centimeters down. Nos. 7 and 18 seemed to double and no. 23 contained three skulls. No. 4 contained an interesting femur which presents a fracture. Dr. W. C. Farabee, of Harvard University, who very kindly looked over the skeletal remains at my request, has furnished the following description: The fracture is of the shaft of the left femur about at the junction of the upper and middle thirds; the lower end shows the rounded shaft of

the bone fused in a large bone callose; the extremity of the shaft above the fracture remains projecting forward and outside. The large bone callose is considerably damaged by weathering.

Otherwise the bones showed no somatological features of interest. But few of the burials were accompanied with specimens; in no. 9 a fragment of a fragment of a pipe lay under the bundle of bones; in no. 13 there was a mass of bones with a stone celt under the north side; in no. 20 a biconical pipe of clay in fragments lay westward of the bones and a little higher up; and in no. 26 several hundreds of minute shell beads lay under the skull.

The fractured bone is represented in figure 5. Scattered human bones were met with elsewhere and in trench 3 (from stake VI to VII); from stakes 2 to 5 the soil was practically a mass of human bones without any rule or order of deposition. A study of the map shows that the human remains were largely localized in the northern quadrant of the mound. The mound was not rich in specimens; a short catalogue follows. In stone there were the celt mentioned above with skeleton 13, a projectile point of white quartz from trench B, a part of an elongated monitor pipe with skeleton 9, and a monitor pipe of the platform variety nor far from skeleton 14, fragments of projectile points and chips, and some yellow ochre.

In pottery there was found an excellent biconical pipe with skeleton 20 (see above); it is decorated with a V-shaped motive design with a curious figure possibly suggesting a house (Mr. C. C. Willoughby); at least it is as much a resemblance as the famous "*Signes tectiformes*" of Dordogne. Two conical fragments, probably the pointed ends of vases for insertion in the soft earth, were found and a moderate number of monotonously and rudely decorated fragments; with the exception of the pipe no complete vessel occurred.

In shell a gorget about five centimeters in diameter was found; it has the peculiarity of a perforation running parallel with the flat surfaces and of course may have served other purposes than that of decoration.

In this mound one meter west of stake V in the line of stake 3, and 60 centimeters down was a cache contain-

ing the following: one scraper of white quartz, two triangular points of a dark hard stone and eight of white quartz, two triangular points of a dark hard stone and eight of white quartz (of type 1 Ba) and of excellent workmanship, three leaf-shaped white quartz specimens, thirteen fragments of white quartz, one fragment of pottery, three pieces of red ochre, one of graphite, two rough stones with little or no working, a rough but worked flat smoothing stone, and a fragment of a pipe—with twigs growing through it. The length of the fractured bone is 23 centimeters.

A comparative absence of human bones was evident in the neighborhood of the cache; in fact, with the exception of the shell beads and a few other objects, and necessary connection between interment and other specimens was not to be made out.

The disposal of the bones, their localization in the northern quadrant of the mound and the massing of the remains of perhaps sixty individuals into a space of very few cubic feet point surely to secondary burial (common enough to be sure), but also to suddenness or haste in their putting away greater than would be the case were there no emergency at hand; accustomed as one may be to extraordinary postures and careless deposition one is surprised at the extreme exemplification of these features here.

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1. The reference is to the Report of the Committee on Archaeological Nomenclature in the *American Anthropologist* (n.s.), vol. II, no. 1, Jan.-March, 1900, pp. 114, ff.

## APPENDIX IV

EXPLORATORY EXCAVATION OF THE McFAYDEN  
MOUND, BRUNSWICK COUNTY, N. C.

STANLEY SOUTH

The following is an extract of a typewritten report prepared by Stanley South, archeologist at Brunswick Town State Historic Site, following a limited excavation undertaken by him and members of the Lower Cape Fear Chapter of the Archeological Society of North Carolina on February 4-5, 1962. Since the report received only limited distribution, it is considered important to extract relevant portions for publication in this report on the McLean Mound Site. This brings available comparative materials pertaining to the sand mound culture of coastal North Carolina together under one cover. We again thank Mr. South and the members of the Lower Cape Fear Chapter for allowing us to use their material in this manner. The full text will be published in a subsequent issue of the *Southern Indian Studies*.

The McFayden mound was pointed out to the Lower Cape Fear Archeological Society by one of its members, R. V. Asbury, Jr., who secured permission from the owner, Mr. McFayden, for the Society to explore the mound as a project. . . .

The mound had been examined previously by Mr. South and Mr. Asbury who excavated a five-foot square, finding a pit with a cremated burial. . . .

The mound is located on a natural sand ridge, and can be seen only as a small rise above the surrounding area. The position of the mound can be seen, however, by the presence of a group (of) holes dug over a forty-foot area, around which quantities of human bones can be seen. Only two or three sherds have been found among these bones on the surface. . . .

The mass of broken bones of Feature 1 were cleaned and found to be fragments of a secondary burial or burials containing parts of two skulls. The jaw bones were located several inches away from the skulls, and most bones appeared to have been broken before they were placed in the position in which they were found. Scattered among the bones were a number of flat, disc-

shaped shell beads. No articulation of any bones could be discerned. A dark outline could be seen around the bones measuring three feet in diameter. Near the northern edge of this pit two objects of interest were found. One of these was a fragment of a chlorite schist pipe stem with incised diamonds filled in with parallel lines as a decoration. The other interesting object was a chlorite schist snake head effigy. . . .

This feature was a concentration of burned bone fragments at the north edge of the square. A definite outline of the pit could not be determined, but from the concentration of burned bone fragments the feature could be plotted. The area was sifted and two triangular projectile points and a fragment were recovered.

A total of six sherds have been found at the McFayden Mound. These are sand tempered, thin sherds with a fabric-impressed exterior surface finish, and have been described and named *Cape Fear Fabric Impressed* in a recent survey of the Lower Cape Fear area. . . .

## INTERPRETIVE SUMMARY

In summarizing the two day look at the McFayden Mound by members of the Lower Cape Fear Archeological Society it can be said that the mound is a low mound approximately forty feet across, greatly disturbed by the activity of relic hunters. The outline of the mound can be determined by these holes, by the slight rise in the ground, and by the presence of bone on the surface of the area. . . . In some instances groups of bones were placed in a pile and the sand placed over them. . . . In some instances the piles of bones showed signs of burning, but usually they were piles of broken bones including fragments of skulls, jawbones, loose teeth, long bone fragments, etc., that had been gathered together and placed in piles, and covered with sand. . . . The piles of bones were added to the mound at various times, and more sand carried to cover them. Also added to the mound were piles of cremated bones which were sometimes covered as were the loose piles of broken bones, but some were placed in pits dug into the mound itself. The majority of the bones and cremations are located in the

fill of the mound, above the original surface of the ground. . . .

Since only a minor number of sherds and other artifacts have been recovered from the site the indication would be that the village site was located elsewhere, probably in the bottomlands nearer the streams. . . .

## APPENDIX V

### THE BREECE SITE—A SAMPLING

HOWARD A. MACCORD, SR.

On September 8 and 9, 1962, the members of the Upper Cape Fear Chapter, Archeological Society of North Carolina participated in a field trip to a known village site adjacent to the McLean Mound near Fayetteville. The trip and the digging were under the immediate supervision of Howard MacCord, who had excavated the mound during 1961 and who had obtained the necessary permission to excavate at the village site. The land is owned by Mr. A. B. Breece of Fayetteville. The purpose of the field trip was two-fold: to sample the cultural remains at the site, and to provide excavation experience to the members of the Chapter. Both objectives were achieved.

Saturday afternoon, on September 8th, fourteen members met at the site and worked for about four hours. They staked off a five-foot wide trench fifty feet long and began digging five-foot squares. They dug seven squares to a depth of 24 inches. Materials found were kept separate in three arbitrary levels, and all subsurface features were recorded on a plot map by MacCord. The following day (Sunday, Sept. 9th) six of the diggers from the preceding day plus nine others showed up and worked for about five hours, when rain halted excavation and required backfilling of the trench. Six squares were excavated to the depth of 24 inches and again a complete record was made of sub-surface features. The work done provided excellent training for those who participated, and for those who came only to watch, it gave an insight into the techniques and difficulties of archeological fieldwork.

Eleven sub-surface features were found in the test trench. Feature 1, a cache of quarry blanks was found at a depth of 15" in a small pit measuring 10" in diameter. The cache was made up of 10 stones, buried as a flat, circular mass ten inches across and 1 1/2 inches thick. The material of the stones is North Carolina Shale, and can probably be attributed to the Archaic Period, since this material was extensively used by the peoples of Archaic cultures.

Five hearths composed of fire-cracked stones clustered with various densities were found in relatively small areas at various depths. Some concentration of charcoal in the soil further sup-

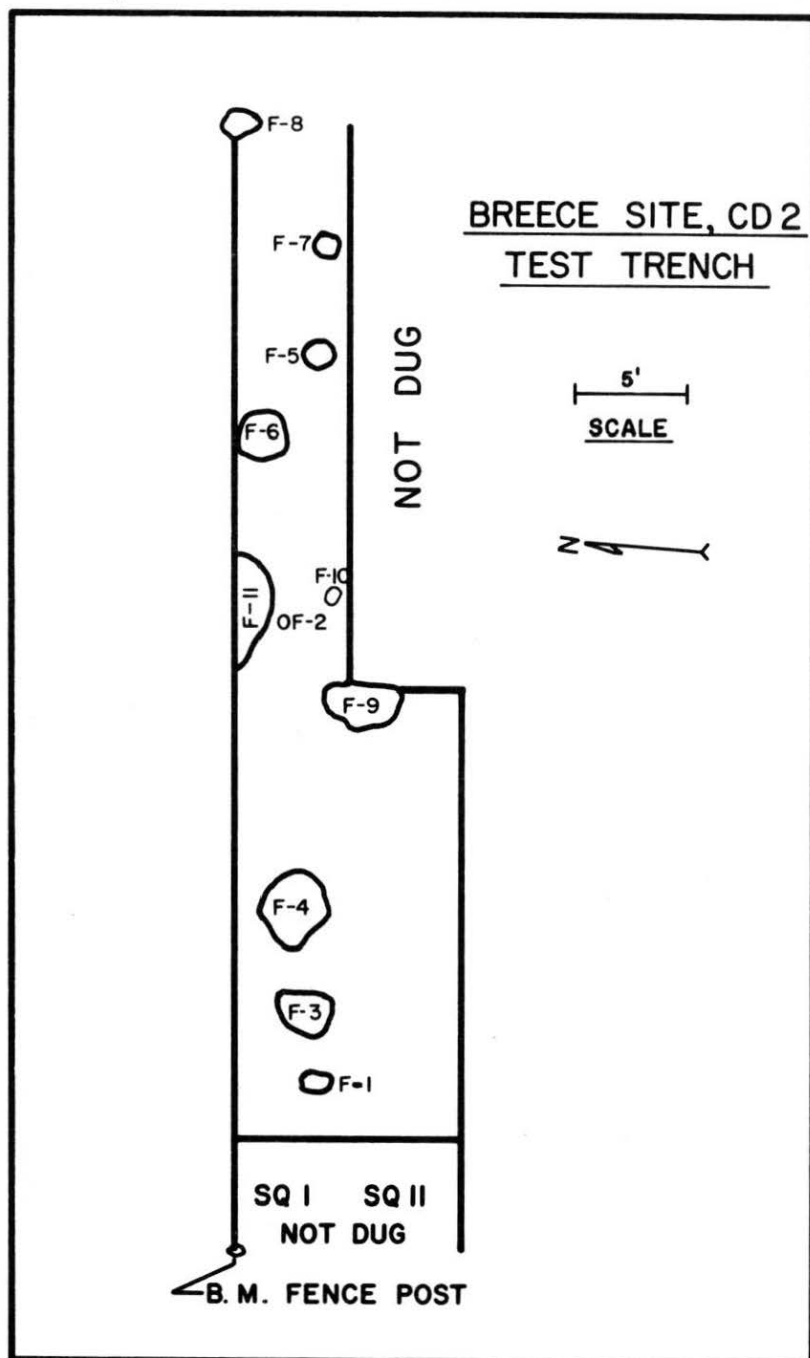


FIGURE 12  
Plan of the test trench at the Breece Site.



PIT PROFILES — BREECE SITE — TEST TRENCH

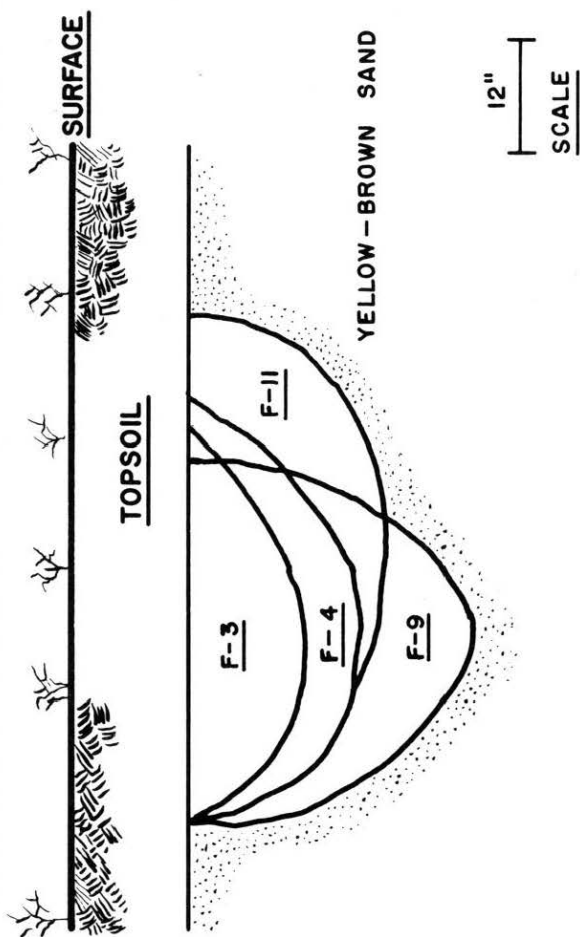


Figure 13  
Pit profiles at the Breece Site.

ports the designation of these clusters as hearths. No bones and no concentration of pottery accompanied the hearths. Details of each hearth are:

<i>Feature No.</i>	<i>Depth</i>	<i>No. of stones</i>	<i>Comments</i>
2	12"	6	Compacted ash and sand to a depth of 18" in an area 12" in diameter.
6	20"	8	Flake scraper adjacent hearth at same level, 4" away.
7	18"	4	None
8	24"	8	None
10	19"	6	None

Four pits of unknown original use were found. All were round or elliptical in horizontal shape and were bowl-shaped in cross-section, but with various depths at center. The details of each pit are:

<i>Feature No.</i>	<i>Dimensions</i>	<i>Depth from Surface</i>
3	18" × 36"	24"
4	36" × 40"	30"
9	18" × 32"	42"
11	54" × 54"	32"

Feature 5 was cluster of pottery fragments found at a depth of 12". The cluster was two inches thick and was scattered over an area 16" × 22". The sherds were not all of the same vessel but represented at least four vessels.

Pottery was concentrated in the top 12" of the site except where the deeper layers had been disturbed by pit digging, roots, rodent burrows, etc. This allows us to assign the pits which contained pottery to the period represented by the finds in the top 12" level. The cultural materials found in each level were as follows:

<i>Levels</i>	<i>Depths</i>	<i>Contents</i>
1	0-12"	—2 flake scrapers, 1 hammerstone, 6 projectile points. 290 potsherds.
2	12-18"	—2 flake scrapers, 2 hammerstones, 1 trianguloid knife, 6 projectile points, sandstone abrasives, and 144 potsherds.
3	18-24"	—1 flake scraper, 1 hammerstone, 1 projectile point and three fragments, and 34 potsherds.

The pits contained very little other than dark sand. Cultural material found in each pit is listed below:

Feature 3	3	Fabric-impressed sherds
Feature 4	7	Fabric-impressed sherds
	3	Cord-marked sherds
	2	Plain sherds
	1	Unclassified sherd
Feature 9	8	Fabric-impressed sherds
Feature 11	44	Fabric-impressed sherds
	7	Cord-marked sherds
Feature 5	56	Cord-marked sherds
	3	Fabric-impressed sherds
	4	Net-impressed sherds
	11	Smooth (plain) sherds

### CONCLUSIONS

The Breece Site is a multi-component site which has been occupied for several thousand years. There is an Archaic component represented by projectile points of Guilford and Savannah River types. These materials occur consistently below the ceramic levels and extend to depths of 24".

Above this pre-ceramic level is a 6-inch level containing many pottery fragments of which 50% are cord-marked and 25% fabric-impressed. Projectile points are small, contracting-stemmed, or are large, triangular points, all of which were probably used to tip arrows.

The top 12" of the site is largely plow-disturbed, but yields many pottery fragments as well as numerous chips and an occasional projectile point. The pottery is 17% cord-marked and 63% fabric-impressed. Projectile points are predominantly small isosceles triangles 3/4 to 1" long.

The fabric-impressed pottery seems most like the ware found in the McLean Mound. From this resemblance we postulate that the latest cultural refuse found at the Breece Site represents occupancy by the people who buried their dead in the McLean Mound.

# NOTES ON THE HUMAN BONES RECOVERED FROM BURIALS IN THE McLEAN MOUND, NORTH CAROLINA

T. D. STEWART

After completing excavation of the McLean mound, Howard MacCord delivered a large quantity of human skeletal material to the Museum of Natural History in Washington for analysis by the writer. The material arrived in some 275 cardboard boxes, cartons, and/or fruit baskets, but mainly shoe boxes. This enumeration of containers gives a general idea of the bulk of the collection and the sizes of the individual samples. According to MacCord (Personal communication dated July 14, 1967) "Bone preservation in the sand mound was generally deplorable. In some cases nothing remained but teeth, or a few scraps of skull. There was such a volume of just plain scrap (split long bones, bones with both ends completely gone, surfaces badly eroded, etc., etc.) that I discarded much of it after [cleaning and examination]. Often it would not stand cleaning—the sand was what held the bone particles together. Accordingly, I saved all teeth, skull fragments, pelvic fragments, bones with one or both ends intact, and such things which might be used to tell age, sex, size, and so on. Generally, though, there was very little to preserve on most of the 268 burials . . . [with the exception of] clusters of charred bones, which probably represent cremations (not *in situ*), [and] a flexed burial of a child . . . the others were all secondary (bundle) burials, sometimes of more than one individual."

In 1962, when the collection arrived, storage space in the museum was at a premium, because the building was undergoing modernization. Consequently the analysis was carried through as rapidly as possible and not under the best working conditions; in fact, much of it was done in one of the passage ways around the rotunda. Nevertheless, all observations were completed during the early fall of that year, including stereographic drawings of the best preserved skulls—10 calvaria (the part of the skull after the face is gone). Only the calvaria, the cremations, and a few specimens showing pathological changes, anomalies, etc., were saved for future reference; everything else was discarded immediately.

## BURIAL CHARACTERISTICS

Reviewing the examination notes now—5 years later—it is apparent to the writer that he gave most attention to determining the number of individuals represented in each burial sample and the sex and age of each individual. This procedure was carried out under the handicap that each burial sample was the result of a dual selection. Judging by what is known of Indian customs in regard to secondary burial, the bones constituting most of the burials in the mound had been brought there in various states of decay from other places, which constitute the primary burial sites. Parts of skeletons may have been lost to scavenging animals between the two times of burial; or only token collections of bones may have been removed from the primary sites to the secondary site. Over and above this selection, MacCord (see the above quotation) made a further selection from the samples the Indians had secondarily buried.

Mixture of skeletal parts can sometimes be detected by the presence of multiple examples of a particular part—for example, two or more right temporal bones—or by the presence of bones and/or teeth showing different stages of maturity and degeneration—for example, deciduous teeth along with worn permanent teeth and an edentulous jaw. Of course, in small lots of mixed skeletal parts it is possible by chance for no duplication to occur and this leads to the erroneous reporting of but a single individual. Also, small bone samples seldom provide the parts most useful for sexing and ageing, so in such cases sex must be judged from bone size and age must be given very general characterization. For all such reasons the resulting count of individuals, the sex ratio, and the age distribution are only to be regarded as approximations. Indeed, the writer feels unhappy about the necessity to disregard in this summary the multitude of question marks that are scattered throughout his original notes.

Of the 268 burials encountered in the mound, samples of all but 7 were submitted for examination, together with several miscellaneous lots of upper and lower jaws and temporal bones. No evidence of mixture was seen in 112 of the samples and therefore these were judged to be interments of single individuals. The remaining 149 samples included 21 consisting of burned bones only and 4 consisting of both burned and unburned bones (the burned portion of one of the latter was not submitted). Since burned bones are a problem of a different sort, they will be considered separately. Subtracting the 21 pure

cremations from the 149 leaves 128. Analysis of these 128 multiple burials yielded a total of 314 individuals definitely represented and a possibility of at least 12 more being represented. Thus to the 112 single interments can be added 314 (+12?) individuals from multiple interments, giving a total of 426 (+12?), not counting at least 32 individuals from cremations and unsubmitted samples. The miscellaneous bones not attributed to particular burials pose a problem, because they may be mates to bones already counted. The largest number of a particular bone in the miscellaneous lots (left temporal) is 43. In any case, it is safe to say that the recovered mound population was somewhere around 500.

Table 1 gives a break-down of the samples by age and sex. The consistency of the findings on males vs. females and adults vs. subadults as between single and multiple burials is rather striking, although it may reflect in some degree the writer's bias in evaluating these features. However, there can be little question about the poor representation of subadults, and particularly the youngest subadults, who are known to have been subject to high rates of mortality. No newborns and infants below 1 year of age were seen and very few children and juveniles. The excess of adult females over adult males may be valid also, since the bodies of Indian hunters and warriors killed away from their villages likely would not have been retrieved. Be this as it may, almost certainly the age and sex composition of the McLean mound population did not accord with the actual mortality rates.

In this connection it is noteworthy that Churcher and Kenyon (1960) in their demographic study of Iroquois ossuaries found only 10% of the remains to be under 16 years of age, and about half as many adult males as adult females.

TABLE I

*Analysis of the burial samples: Age and sex*

Categories of age and sex	Single burials		Multiple burials			Totals	
	No.	%	No.	?	%	No.	%
Adults Males	30	26.8	92	2	28.8	124	28.3
Females	39	34.8	124	3	39.0	166	37.9
Sex?	31	27.7	61	3	19.6	95	21.7
Subadults	12	10.7	37	4	12.6	53	12.1
	112	100.0	314	12	100.0	438	100.0

The 128 samples from multiple burials mentioned above can be analyzed further in terms of individual combinations. In the majority (66.4%) of these samples only two individuals were recognized; in 22.4, 8.6, 1.7 and 0.9% combinations of 3, 4, 5 and 6 individuals, respectively, were recognized. Giving attention only to the samples identified as dual burials, 37.7% consisted of an adult male and an adult female; 23.4% were adults, but the sex of one was in doubt; 19.5% were adults, but of the same sex; and the remaining 19.5% were either an adult and a subadult or two subadults. Had it been possible to complete the sexing in the category of two adults where one was recorded as of doubtful sex, probably this would have increased to around 50% the burials consisting of an adult male and an adult female. Such a high frequency for a combination of this sort suggests that the burials represent family groups and not random collections of the dead.

### CREMATIONS

Returning to the cremations, the burial samples in this category may well include just about all of the burned bones encountered by the archeologists, but still may include only small parts of the skeletons committed to the flames. The process of burning fractures the bones and eventually results in the pieces becoming mixed with ashes and charcoal so as to be only partly recognizable. Probably, therefore, many pieces of burned bone were overlooked by the Indians in making the collections for secondary burial. The small size both of the pieces of bone constituting the samples and of the samples themselves increases the difficulty of identifying the characteristics of the individuals involved. In addition, when the firing has been intense for a considerable period of time the bones are reduced to a mineral state and, although still recognizable as to form, are often somewhat distorted and seemingly reduced in size. Under these conditions size as an indicator of sex can be misleading.

Examination of the cremation samples from the McLean mound was undertaken in an effort to discover whether the custom had a pattern: Whether, for instance, individuals were always burned singly, and if so, whether the individual was adult or subadult, male or female, and whether the body was burned in the flesh or only after reaching the skeletal state. Unfortunately, so far as telling the difference between bones burned in the flesh and those burned in the skeletal state, the

writer knows of no infallible criteria. In two cases of medicolegally documented cremations in the open where he was able to inspect the burned bones, they were indistinguishable from the whitened mineral bones in some of the present samples. Whether or not the same results can be obtained, perhaps more rapidly, by burning a dried (or green) skeleton in the open seems not to be well established (Cf. Stewart, 1957, pp. 447-8).

Table 2 summarizes the observations on the cremation samples. The first thing to note is that most of the samples show evidence of intense firing, the bones often being reduced to a mineral state, and giving off a metallic sound when struck. Among the few samples showing less intense firing, two (nos. 117 and 185) contained skull fragments which were blackened throughout and in addition had whitened inner and outer surfaces. This suggests that the skulls from which these pieces came were no longer intact at this stage of firing; but whether the skulls had been flesh covered and had exploded from the heat, or whether the skulls had been dried and broken open before being placed in the fire, cannot be determined. All things considered, evidence has not yet been found to settle the problem as to whether these cremations represent ceremonies connected with secondary burial or occasional sacrifices for other reasons. One thing which may possibly connect the cremations with secondary burial is the seemingly parallel representation of individuals; there is a strong indication that, just as in the unburned burials, the incidence of individuals in the cremations tends to run in the frequency order 1, 2, 3.

### OSTEOLOGICAL CHARACTERISTICS

Turning now to the characteristics of the unburned bones, it is noteworthy that very few of the recovered skulls were still sufficiently intact or restorable to yield useful information about their shape. The term "calvaria" was applied to these specimens in the introduction because they lack faces. With one exception, they also lack the basal parts from which vault height is usually measured, and without a height index it is difficult to compare them in this respect with surrounding populations.

This deficiency in the McLean mound skulls stimulated the writer to undertake a special investigation to determine whether or not a height measurement from the midpoint on a line between the two ear openings would give an index which could be interpreted in a comparable fashion to the one not available. To



TABLE 2  
ANALYSIS OF CREMATION SAMPLES  
Appearance of bones

Size of sample	Blackened on outside	Blackened throughout	Blackened internally, throughout whitened on outside	Whitened (mineral bone)	Individuals recognized
35 small pieces	—	—	—	x	?
Half of cigar box	—	—	—	x	1 adult (sex?)
Handful	—	—	x	x	?
Double handful	—	—	x	x	?
Double handful	—	—	—	x	1 adult (sex?)
Half of cigar box	x	—	x	x	1 adult (sex?)
Quarter of cigar box	—	x	x	x	?
Nr. full shoe box	—	few	—	x	1 adult (sex?)
Half of cigar box	—	—	—	x	1 adult (sex?)
Half of cigar box	—	—	—	x	2 adults (sex?)
Half of cigar box	—	—	—	—	1 child
Half of cigar box	x	x	x	few	1 adult (sex?)
Half of cigar box	—	—	—	—	1 subadult
Half of cigar box	—	—	—	—	1 adult (sex?)
Double handful	few	few	—	x	1 child
Handful	—	—	x	—	1 adult (sex?)
2/3 of shoe box	—	—	—	x	2 adults (sex?)
(Not submitted)	?	?	?	?	?
3/4 of shoe box	x	x	x	—	1 adult (sex?)
Double handful	—	—	—	—	1 adult (sex?)
2 double handfuls	—	x	x	x	1 subadult
Half of shoe box	—	x	x	x	1 adult (sex?)
Double handful	—	—	—	x	1 adult (sex?)
Double handful	—	—	—	x	1 adult (sex?)
Big double handful	x	x	x	x	1 adult (sex?)
Handful	—	—	—	x	1 adult (sex?)
Handful	—	—	—	—	1 adult (sex?)
Double handful	—	—	x	—	1 adult (sex?)
Double handful	—	—	—	x	1 adult (sex?)
Double handful	x	x	—	x	1 adult (sex?)

solve this problem he took both the basal and the ear heights on several series of whole skulls known to cover the whole range of height. It turned out that there is good agreement in all the series when each of the two heights is expressed relative to the mean of the length and breadth; in other words, when the mean ear height index is high, so is the mean base height index, and contrarily when one index is low, the other is low also. Thus by comparison with this model it became clear that the Indians buried in the McLean mound were high headed like most Eastern Indians.<sup>1</sup>

The principal vault measurements of the McLean mound calvaria are given in Table 3. The two sexes show a size difference in favor of the males, but an indicial difference in favor of the females. In the case of the mean ear height index the combined sexes yield a figure of 73.3, which probably represents a mean base height index of 88-89. As stated above, this is indicative of extreme highheadedness. The cranial index, which compares breadth to length, is in the dolichocephalic or moderately

TABLE 3  
Metrical description of the calvaria (mm.)

Burial number	Sex	Max. length	Max. breadth	Cranial index	Ear height	Mean ear ht. ind.
29#1	M?	179	127	70.9	116	75.8
29#2	F	172	136	79.1	111	72.1
29#3	M	184	131	71.2	118	74.9
29#4	F	176	127	72.2	107	70.6
90#2	F	172	126	73.2	110	73.8
103	M	181	132?	72.9	109	69.6
108#1	M	186	131	70.4	111	70.0
108#2	M	187	134	71.6	122	76.0
137	F	172	127	73.8	114	76.2
220	F	170	130	72.0	108	76.5
265	M	172	137	79.6	110	71.2
Mean	M(6)	181.5	132.0	72.8	114.3	72.9
	F(5)	172.4	129.2	74.1	110.0	73.8

1. A paper resulting from this investigation was read by the writer at the 30th International Congress of Americanists in Spain in 1964. In order to get earlier publication than seemed likely in the *Actas y Memorias* of the Congress, the paper was submitted by invitation to the editor of a volume honoring Juan Comas of Mexico and appeared there in 1965.

In Table 3 of this publication the last two headings need to be interchanged: The next to last should read "Ecuador (8)" and the last should read "N. Carolina (9)." Two more skulls have been reconstructed and added to the North Carolina (McLean mound) series since 1965 to make the total 11.

longheaded range. This skull shape is wide spread to the north along the coastal zone of the Middle Atlantic States; it has been reported also from a few places in the Piedmont. Almost nothing is known about the occurrence of this skull shape southward along the coast. Indeed, the general impression, derived from sources like Hrdlicka's *Catalog of Crania* (1940) and Hulse's report (1941) on the Irene Mound site skeletons, is that the South Atlantic States were occupied by roundheads.

The presence or absence of artificial deformity in the McLean mound population is a matter of considerable general interest, since so many of the Southeastern Indians had this custom, and the writer was well aware of this while conducting his examination of the skeletal remains. The 11 intact calvaria show no deformity. In addition, 20 less complete skulls were noted as being undeformed. Another skull is stated to have a bulging occiput associated with presence of an interparietal bone, which does not suggest deformity. This leaves only four skulls about which any uncertainty was expressed regarding shape, and only one of these seems to have aroused a real suspicion of the presence of some occipital deformity. From this paucity of notations regarding deformity the writer believes now that in most of the samples the skull parts were either missing or in too poor a condition to render a judgment possible. However, if he failed to record a judgment when it could have been made, it seems more likely to mean the absence than the presence of deformity.

Remembering MacCord's description of the bone samples submitted for examination, it is not surprising that only two long bones—a left femur and a left radius from different individuals—were found to be complete enough to yield length measurements. Both were considered adult males. In lieu of better means of expressing these long bone lengths in terms of Indian stature, Stevenson's (1929) formulae for North Chinese may be used, giving the following results:

Bur. 109: Maximum femur length of 44.7 cm.=5' 7"  
(170.7±2.2 cm.).

Bur. 141: Maximum radius length of 24.9 cm.=5' 8"  
(173.1±2.7 cm.).

From these meager indications the McLean mound population seems likely to have been within the stature range of recent Southeastern Indians.

As usual in Indian skeletal collections, some of the male femora exhibited marked development of the linea aspera into

what has been called a "pilaster." In two instances from different burials (nos. 92 and 141) the pilaster had a minimum width of 9-10 mm. and added greatly to the anteroposterior diameter throughout the middle third of the shaft (31-32 mm. as compared with a width of 22-23 mm.). Occasionally, too, tibiae tended to be very narrow from side to side. In the most extreme case seen (no. 108) the width at midshaft was only 17 mm. as compared with an anteroposterior diameter of 33 mm.

Other osteological characteristics noted include three anomalies: Ear exostoses, dehiscences (or perforations) of the tympanic plate, and septal apertures of the humerus (actually of the olecranon fossa at the distal end of the humerus). Sex differences in the incidences of the anomalies cannot be stated because the poor condition of the particular bones made sexing unreliable. A total of 246 temporal bones of both sexes, divided about equally between the right and left sides (but not always paired), showed only 8 (s.25%) with ear exostoses. In size they ranged only from a trace to small. The frequency is about the same for each side.

In 1963 the writer summarized what is known about the frequency of ear exostoses in Indian remains from the Middle Atlantic States. The frequencies of the different sizes of exostoses were reduced to a single weighted percentage by means of the

Stevenson formula:  $\frac{A + 2B + 3C}{3}$  where A is % small, B %

medium, and C % large. Expressed in this way, seven tidewater series from New Jersey through Virginia were found to have from about 1 to 3.4%. The McLean mound population falls within this range with a weighted percentage of 1.08.

By contrast the writer noted also in 1963 that the weighted percentage of ear exostoses tends to be much higher in western Virginia (10.2 at Hayes' Creek mound, Rockbridge Co., Virginia) and reaches the highest frequency at the Indian Knoll site in Kentucky (22.2). Southwestern North Carolina apparently also comes within the area of high incidence, because the writer noted in 1941 that 23 out of 58 right and left temporal bones from the Peachtree site near Murphy had exostoses. Since details as to the sizes of the individual exostoses in the Peachtree sample are not available, all that can be said is that the weighted percentage in this instance would have been at least 13.

Dehiscences of the tympanic plate were recorded in the same categories of size. In 135 cases from the McLean mound,

both sexes and right and left sides combined, 22 openings were recorded as small, 3 as medium and 1 as large. This gives a weighted percentage of 7.6, which is slightly lower than the lowest figure reported thus far for the Middle Atlantic States (Townsend site, Delaware). This feature does not show a distinct difference in frequency between coastal and inland sites.

Septal apertures appear to be unusually common and rather large in the McLean mound population. In 41 cases, both sexes and right and left sides combined, there were 6 small, 11 medium and 12 large openings, giving a weighted percentage of 52. The highest figure previously reported is 36.5% for western Virginia Hayes' Creek site). Along the coast percentages range from 20.4 to 33.0. Noteworthy, however, is the difference between the two sides in the McLean mound population: The weighted percentage for the right side is only 36.5, whereas that for the left is 68.3. Perhaps this great disparity indicates some bias in the present small sample, since septal apertures occur much more often in females than in males and on the left side than on the right.

### PATHOLOGY AND MISCELLANEOUS

The surfaces of long-buried human bones may exhibit one or more of the following three kinds of change: 1) Destructive and reparative responses to disease during life; 2) deliberate alterations by man, either in the course of surgery during life, or in connection with some ceremony after death; and 3) natural deterioration after death due to the action of soil acids, earth pressure, animal teeth, plant roots, etc. Ample mention has already been made of the damage to the bones from the McLean site from deliberate ceremonial procedures and natural deterioration. Supporting visual evidence of the latter is supplied in plates 1 and 2. Shown in Plate 1 is damage to the skull vault that gives the initial impression of being an acute stage of syphilis, but actually is natural deterioration augmented by breakage during excavation.

Plate 2 shows a perforation of the frontal bone that might be mistaken for a surgical trephination, except for the presence on the beveled edge of striations running normal to the curving border. Most likely this opening represents an enlargement by rodent tooth action of a pre-existing defect.

The collection also gave evidence of the types of surface change, particularly in the long bones, which Hoyme and Bass (1962) described in detail for the skeletal collections from the



PLATE I

Perforation of frontal bone no. 88 is not a deliberate trephination by man, but the result of rodent tooth action. The long axis is directed almost anteroposteriorly (anterior end at top) and hence parallel to the mid-sagittal line, which is to the left of the outer edge of the opening. Visible at the lower right hand corner is a portion of the coronal suture. The opening through the inner table has the following maximum diameters in the specimen: 12 x 26 mm.

Tollifero and Clarksville sites in southern Virginia. Their insistence on the explanation that such changes can "only be interpreted as signs of cutting off strips of flesh, taking the under-

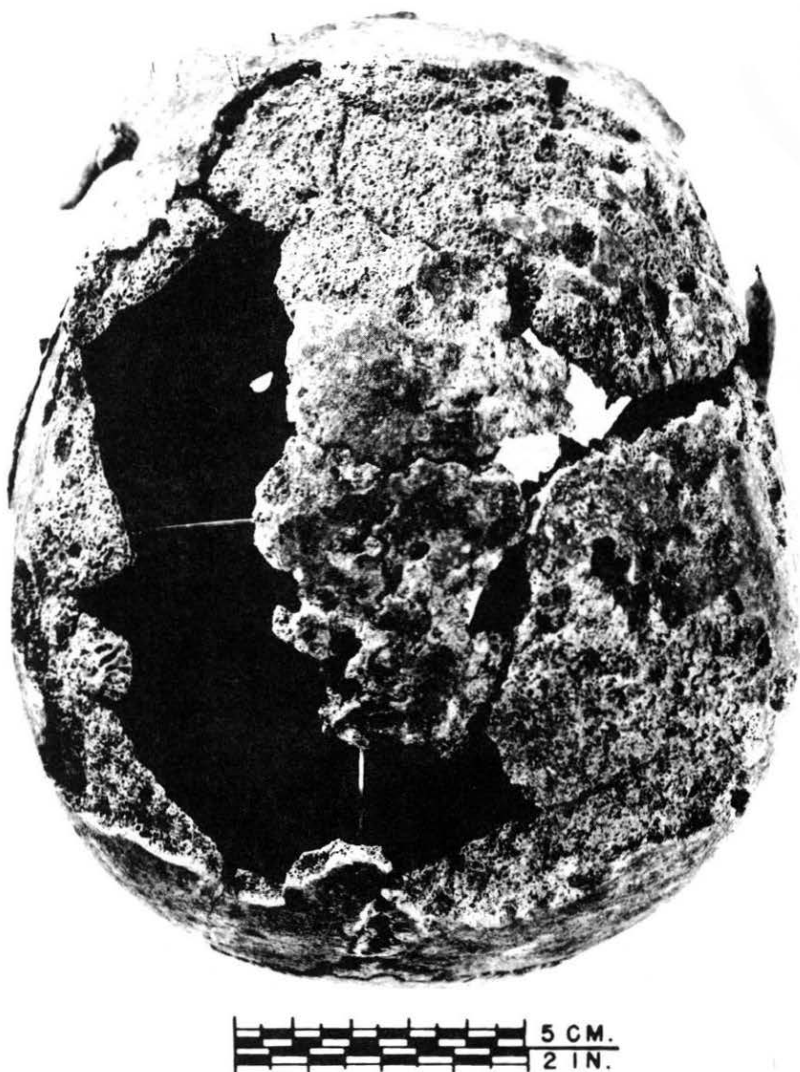


PLATE II

Top view of skull no. 265 showing extensive bone damage resembling the ravages of acute syphilis, but actually resulting from natural processes of deterioration augmented by breakage during recovery and cleaning. Note that the area of destruction is surrounded by intact bone.

lying bone as well" (p. 381) seems to the writer to need further study. The McLean mound collection, besides not being suitable for such study, had already been examined and discarded by the time the suggestion was made. The writer saw no cut marks in



association with any of the bone damage mentioned above. However, one piece of femur shaft (no. 134) exhibits a 14 mm.-wide flattened surface (running 38 mm. to the point of breakage) which is certainly artificial and old, but whether made by cutting, rubbing or flaking cannot be determined.

Another bone abnormality possibly reflecting a custom is worth mentioning. The distal end of an adult right humerus (no. 226, sex?) exhibits a shallow grooving of the lateral supracondylar ridge for a distance of about 15 mm. The ridge appears to have been pushed forward as perhaps from the pressure of a constricting armband when the biceps contracted. The medial supracondylar ridge is unaffected, perhaps because of its heavier muscle cover.

Turning now to pathological changes, 9 specimens, probably representing 7 individuals, show varying degrees of healed periostitis and osteitis. The bones involved are the tibiae (nos. 16, 29#4, 108), fibula (no. 265), femur? (no. 41), humerus and ulna (no. 223), and clavicle (no. 34, a pair). In no case is the shaft enlargement very marked, which seems more indicative of trauma than anything else. The low incidence of this condition is impressive; sites of post-Columbian date tend to a high incidence.

Fractures, especially those of the green-stick variety, cannot always be recognized when the bones are as fragmentary as in this collection. However, there can be little doubt about four cases: A right ulna (no. 53, lower half), a left ulna (no. 205, upper half), a left tibia (no. 41, midshaft), and a fibula? (no. 4, midshaft?). All are completely healed and only in the tibia and fibula is deformity present (in minor degree only). Healed fracture probably explains another specimen judged to be part of the upper shaft of a right femur (no. 156), and if so, considerable deformity may have been present.

Deficiency disease may be represented in two thickened skull vaults (nos. 15 and 236), in a skeleton with bowed long bones (no. 140), and in a very light-weight tibia (no. 265). Since the thickening of the skulls is only moderate (9 and 11 mm., respectively), a mild anemia may have been present in childhood and fully overcome. The nature of the bone bowing is not understood. In this instance (an adult female) the tibiae show rather marked anterior bowing, the femora show moderate lateral bowing (the anterior bowing also present could be normal), and an ulna (only the left is present) shows rather



exaggerated forward curvature of the upper end. The light-weight tibia may be an example of osteoporosis.

There remains to note that the details of the most common diseases—those involving the teeth and the joints—were not observed in detail because of the difficulty in recording their multitudinous features in a meaningful way when bone damage and loss is so extensive. In general, it was evident that jaws, either completely or almost completely edentulous, were common. The tooth loss was due to the usual combination of abscesses (from caries and the rapid wearing down of the dental crowns) and alveolar bone recession (from periodontal disease). Not even a general impression was obtained of the amount of arthritis present, because, as MacCord noted, the ends of the long bones, where joints are located, could not be saved. The almost complete absence of whole vertebrae indicates that the same thing applies to the spinal column, which is the best place to look for arthritis.

#### COMMENT

This is the first time that the writer has had the opportunity to study a large number of separate secondary burials carefully collected from a mound in one of the Eastern Coastal States. The uniqueness of the collection justifies the attention he has given it. Heretofore his experience with large assemblages of secondary burials has been in connection with subsurface pits (so-called "ossuaries") in the Chesapeake Bay area. Although seemingly variants of the same custom, the mound form of secondary burial offers an advantage over the ossuary, from the standpoint of analysis, in that the components of the burial population are separate. The intermingled remains that have been found in ossuaries were probably placed there in some sort of similar groupings but all evidence of this—perhaps in the form of skin robes holding bundles together—quickly disappeared. From this point of view alone it is unfortunate that bone preservation in the McLean mound was so bad. Nevertheless, the evidence suggests that the groupings represent relatives.

There is no way of knowing, of course, whether each burial in the McLean mound was entirely distinct from every other one. Assuming disjunction, the estimate of around 500 individuals for the recovered mound population approaches that of the largest recorded ossuary in the Chesapeake Bay area, namely 618 (Mayoane ossuary no. 4: Stephenson et al., 1963, p. 73).

Interestingly, the occurrence of cremations in the McLean mound is matched also in the ossuaries reported from the Chesapeake Bay area (Cf. Stewart, 1940). However, in the latter area no single ossuary has been reported to contain such a large number of separate lots of burned bones as the 25 from the McLean mound. The seven lots of burned bones found in Moyaone ossuary no. 4 may be a record for the Chesapeake Bay area. On the other hand, there were no burned bones in an ossuary on Nanjemoy Creek, a tributary of the Potomac River (excavated under the supervision of the writer and not yet described).

Although the evidence from the cultural objects found in the McLean mound points more to the south than to the north, the physical type of the bearers of the culture is not well known anywhere along the coast to the south or in the Southeast in general. Further work may correct this situation, but for the present it seems best to regard the mound population as having its physical affinities mainly to the north.

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## APPENDIX I

*Analysis of Burial Samples  
from the McLean Mound, N. C.:  
Numbers of individuals, age and sex*

<i>Burial no.</i>	<i>Single</i>	<i>Multiple</i>
1	Adult, F	
2	—	3(4?), adults (sex?), subadult (13-15 years)
3	—	, adults (1F, 2M)
4	—	, adults (1F, 3 sex?)
5	—	, adults (1M, 1F, 2 sex?)
6 (Part cremation)	—	2 , adult (F), adolescent (M)—cremation not counted
7	—	4(5?), adolescent, infant (ca. 1 year), others?
8	—	3 , adults (2M, 2F, 1 sex?), child (6-7 years)
9 (Cremation)	?	?
10	—	2 , adults (1M, 1F)
11 (Not submitted)	?	?
12	—	2 , adults (2F)
13	Adult, M	—
14	—	2 , adults (2F)
15 (Part cremation)	—	2 , adults (2F)—cremation not counted
16	—	3 , adults (2 sex?), child (6-7 years)
17	—	2 , adults (1F, 1 sex?)
18	—	3 , adults (1F, 1 sex?), child (age?)
19	—	4 , adults (1M, 2F), adolescent
20	—	3 , adults (1M, 1 sex?), adolescent
21	—	2 , adults (1M, 1F)
22	—	3 , adults (1F, 1 sex?), child (6-7 years)
23 (Part cremation)	—	3 , adults (1M, 2F)—cremation not counted
24	—	2 , adults (1M, 1F)
25	—	3 , adults (1M, 1F), child (3-4 years)
26	Adult (sex?)	—
27	—	2 , adults (1M, 1F)
28	—	2 , adults (2F)
29	—	4 , adults (2M, 2F)
30	—	3 , adults (1F, 1 sex?), juvenile (under 12)
31	—	2 , adults (M, 1F)
32	Adult, M	—
33	Adult, F	—
34	Adult, F	—
35	Adult, F	—
36	—	2 , adults (1M, 1F)
37	Adult, F	—
38	Adult, M	—
39	—	3 , adults (1M, 1F, 1 sex?)
40	Adolescent	—
41	—	2 , adults (2F)
42	—	3 , adults (1M, 2F)
43	—	2 , adults (1M, 1F)

Burial no.	Single	Multiple
44	Adolescent	—
45	Adult, F	—
46	Adult, sex?	—
47	Adult, sex?	—
48	Adult, F	—
49	—	4 , adults (1M, 2 sex?), child (1-2 years)
50 (Not submitted)	?	?
51	Adult, M	—
52	—	2 , adults (1M, 1F)
53	—	2 , adult (M), adolescent
54	Adult, M	—
55 (Cremation)	?	?
56	—	2(3?), adults (2F)
57	—	2 , adults (1M, 1F)
58	—	2 , adults (1M, 1 sex?)
59	—	3 , adults (1M, 2F)
60	—	2 , adults (1M, 1F)
61	—	2 , adults (1M, 1 sex?)
62	—	3 , adults (1M, 2F)
63	—	4 , adults (1M, 2F, 1 sex?)
64 (Cremation)	?	?
65 (Cremation)	?	?
66	Adolescent	—
67	—	2 , adults (1M, 1F)
68	—	2 , adults (1F, 1 sex?)
69	—	2 , adults (1F, 1 sex?)
70	—	3 , adults (1M, 1F), adolescent
71	—	2 , adults, (1F, 1 sex?)
72	Adult, F	—
73	—	2 , adult (F), juvenile
74	—	2 , adults (1M, 1F)
75	—	2 , adults (1M, 1F)
76	—	2 , adults (1M, 1F)
77	—	2 , adult (M), adolescent
78	Adult, M	—
79	Adult, F	—
80	—	2 , adult (F), child
81	—	2 , adults (1M, 1F)
82	Adult, F	—
83	Adult, F	—
84 (Cremation)	?	?
85	—	2 , adults (1M, 1F)
86 (Cremation)	?	?
87	—	2 , adults (1F, 1 sex?)
88	Adult, F	—
89	—	3 , adults (1M, 2F)
90	—	2 , adult (F), adolescent
91	—	2 , adults (1F, 1 sex?)
92	—	4 , adults (4F)
93	—	2 , adults (2 sex?)
94	—	2 , adults (1M, 1 sex?)
95	Adult, M	—
96	Adult, F	—
97	Adult, F	—
98	—	2 , adults (1M, 1F)
99	—	2 , adults (2F)
100	—	2 , adults (1M, 1F)
101	Adolescent	—
102	—	2 , adults (1M, 1F)
103	—	2 , adults (1M, 1F)
104	Adult, F	—
105	—	2 , adult (F), adolescent

Burial no.	Single	Multiple
106	—	2 , adults (1F, 1 sex?)
107	—	3 , adults (M, 1F), adolescent
108	—	4 , adults (1M, 1F, 1 sex?), child
109 (Cremation)	?	?
110	Adult, sex?	—
111	Adult, sex?	—
112	Adolescent	—
113	Adult, sex?	—
114	—	2 , adults (1M, 1F)
115	Adult, M	—
116	Adolescent	—
117 (Cremation)	?	?
118	Adolescent	—
119	Adult, sex?	—
120	Adult, sex?	—
121	—	2(3?), adults (1M, 1 or 2F)
122	—	3 , adults (2M, 1F)
123	Adult, M	—
124	Adult, F	—
125	Adult, M	—
126	—	3 , adults (1M, 2 sex?)
127	Adult, sex?	—
128	—	3 , adults (3F)
129	Adult, M	—
130	—	4 , adults (2M, 1F), child (7-8 years)
131	—	2 , adults (2 sex?)
132	—	3 , adults (2M, 1F)
133	—	2 , adult (1 sex?), child (near 5 years)
134	—	2 , adults (2F)
135	Adult, M	—
136	—	2 , adults (2F)
137	—	5 , adults (1M, 3F), child (near 8 years)
138	—	2 , adults (1F, 1 sex?)
139	—	2 , adults (2M)
140	Adult, F	—
141	Adult, M	—
142	Adult, M	—
143	Adult, F	—
144	Adult, sex	—
145	Adult, F	—
146	—	3 , adults (1M, 1F, 1 sex?)
147	—	2(3?), adults (2F, possible also a M)
148	—	2 , adults (1M, 1F)
149 (Not submitted)	?	?
150 (Not submitted)	?	?
151	Adult, sex?	—
152 (Cremation)	?	?
153	Adult, sex?	—
154 (Cremation)	?	?
155 (Not submitted)	?	?
156	Adult, sex?	—
157	—	2 , adult (sex?), subadult
158	Adult, sex?	—
159	Adult, F	—
160	Adult, sex?	—
161 (Not submitted)	?	?
162	—	3 , adults, 1M, 2 sex?)
163	Adult, F	—
164	—	2 , adults (1M, 1F)
165	Adult, F	—

<i>Burial no.</i>	<i>Single</i>	<i>Multiple</i>
166	Adult, M	—
167	—	3 , adults (1M, 1F, 1 sex?)
168 (Cremation)	?	?
169	Adult, F	—
170	—	2(3?), adults (1M, 1F), possibly a subadult
171	—	3(4?), adults (1M, 2 sex?), possibly a subadult
172 (Part Cremation)	—	2 , adults (1 F, 1 sex?)—cremation not submitted
173	—	4 , adults (1M, 3F)
174	—	2 , adults (1M, 1 sex?)
175	Adult, M	—
176	—	3 , adults (1M, 2F)
177	—	2 , adults (1M, 1 sex?)
178 (Not submitted)	?	?
179	—	2 , adults (2 sex?)
180	Adult, sex?	—
181	Adult, sex?	—
182	Subadult	—
183	—	1(2?), adult (M), possibly a subadult
184	Adult, F	—
185 (Cremation)	?	?
186	Adult, F	—
187	—	2 , adult (M), adolescent
188	Adult, M	—
189	—	2 , adults (1M, 1F)
190 (Cremation)	?	—
191	—	3 , adults (3M)
192	Adult, M	—
193	Adult, M	—
194	Adult, F	—
195	Adult, sex?	—
196	Subadult	—
197 (Cremation)	?	?
198	Child (near 8 years)	—
199	—	2 , adults (1M, 1F)
200	Adult, sex?	—
201	—	2 , adult (F), child
202	Adult, sex?	—
203	Adult, M	—
204 (Cremation)	?	?
205	Adult, F	—
206	Adult, F	—
207	Adult, F	—
208	Adult, M	—
209	Adult, sex?	—
210	—	2 , adults (1M, 1F)
211	Adult, sex?	—
212	Adult, F	—
213	Adult, M	—
214	Adult, F	—
215	—	2 , adults (2 sex?)
216	—	2 , adults (2F)
217	Child (ca. 8 years)	—
218	—	2 , adult (M), adolescent
219	—	2 , adult (M), juvenile (12+ years)
220	—	2 , adolescent, child (under 6 years)

221	—	2	, adults (2 sex?)	
222	—	3(4?)	, adults (2M and possibly a F), child	
223	—	2	, adults (1M, 1F)	
224	Adult, M	—		
225	Adult, sex?	—		
226	Adult, sex?	—		
227	—	1(2?)	, adults (1F and possibly another, sex?)	
228 (Cremation)	?	?		
229	—	3	, adult (M), child, other?	
230	—	2	, adults (1M, 1F)	
231	—	2(3?)	, 2 juveniles, possibly an adult M	
232	—	1(2?)	, adults (1M, possibly another, sex?)	
233	Adult, F	—		
234	Adult, F	—		
235	Adult, M	—		
236	Adult, F	—		
237	—	2	, adults (2F)	
238	Adult, F	—		
239	Adult, F	—		
240	—	2	, adults (2M)	
241	Adult, sex?	—		
242 (Cremation)	?	?		
243	—	2	, adults (1M, 1 sex?)	
244	Adult, sex?	—		
245	Adult, F	—		
246	Adult, M	—		
247	Adult, sex?	—		
248	Adult, sex?	—		
249 (Cremation)	?	?		
250	Adolescent	—		
251	Adult, M	—		
252	—	2	, adults (1M, 1F)	
253	—	5	, adults (1M, 1F, 2 sex?), sub- adult	
254	Adult, sex?	—		
255	Adult, M	—		
256	Adult, sex?	—		
257 (Cremation)	?	?		
258	Adult, F	—		
259	Adult, M	—		
260	Adult, sex?	—		
261	Adult, F	—		
262 (Cremation)	?	?		
263	Adult, M	—		
264	Adult, M	—		
265	—	2	, adults (2M)	
266	—	2	, adult (F), subadult	
267	—	3	, adults (1M, 2F)	
268 (Cremation)	?	?		