

THE ANTHROPOLOGY OF  
ST. CATHERINES ISLAND  
4. THE ST. CATHERINES PERIOD  
MORTUARY COMPLEX

CLARK SPENCER LARSEN AND DAVID HURST THOMAS

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## CONTENTS

Abstract .....	273
Introduction .....	273
Acknowledgments .....	274
Chapter 1. The Archaeology of Marys Mound .....	275
Excavation Strategy .....	275
Stratigraphy .....	276
Ceramics .....	281
Additional Artifacts .....	285
Skeletal Remains .....	287
Chapter 2. The Archaeology of Johns Mound .....	292
Stratigraphy .....	292
Cultural Associations .....	298
Skeletal Remains .....	313
Chapter 3. Biocultural Implications .....	325
Appendix I. Human Skeletal and Dental Summary Statistics .....	330
Appendix II. Nonhuman Skeletal Remains from Johns and Marys Mounds .....	335
Appendix III. Seasonal Growth Variations in Prehistoric <i>Mercenaria mercenaria</i> from Marys and Johns Mounds .....	338
Literature Cited .....	340



## ABSTRACT

The results of archaeological excavations of two St. Catherines period burial mounds—Marys Mound and Johns Mound—by field crews from the University of Georgia and the American Museum of Natural History are presented. Analysis of the ceramics recovered from the two mortuary localities suggests that both mounds were constructed during the terminal phase of the St. Catherines period, probably during the late twelfth or early thirteenth century A.D. Study of the human skeletal remains suggests that these people were physically robust and enjoyed good health, both

skeletal and dental. Analysis of nonhuman skeletal remains shows that most identified taxa are present on St. Catherines Island today. In addition, the presence of the domestic pig, *Sus scrofa*, in association with one interment from Johns Mound, points to historic (Altamaha) period use of this locality. Thin-section analysis of whole clams (*Mercenaria mercenaria*) from both sites indicates that time of harvesting or death for all specimens falls within "late fall" to "late spring" (November to May).

## INTRODUCTION

This volume is the fourth in a series on the Anthropology of St. Catherines Island. Previous publications have considered the natural and cultural history of the area (Thomas et al., 1978), the Refuge-Deptford mortuary complex (Thomas and Larsen, 1979), and the general implications of biocultural anthropology for coastal Georgia populations (Larsen, 1982); a short discussion was also published comparing a small series of antebellum burials from St. Catherines and Colonels islands (Thomas, South, and Larsen, 1977).

Fieldwork still continues on St. Catherines Island with the long-range objectives of exploring the cultural ecology and biocultural adaptations of this coastal region. A 20 percent systematic random sampling of St. Catherines Island has been completed and more than 140 sites have been tested. These data, when available, should shed light on the changing ecological relationships in this area over the past 4000 years. An extensive excavation program has also been undertaken in the area of Wamassee Creek, focusing on the later period cultural interactions.

The present volume is another attempt to expand the available data base for St. Catherines Island. The University of Georgia excavated two sites, Johns Mound and Marys Mound, in 1969 and 1970, as part of its fieldwork program on St. Catherines Island (fig. 1). It was data from these two sites that

prompted Joseph R. Caldwell to propose and describe the St. Catherines period mortuary complex (summarized in Caldwell, 1971); however, his untimely death halted further analysis of this important topic.

Crews from the American Museum of Natural History continued excavations of Marys Mound in 1977 and 1978. We provide in this volume the basic data and inferences derived from our 1977 and 1978 excavations. But, in order for us to discuss this research, it is necessary to synthesize the earlier University of Georgia excavations at both St. Catherines period sites. Descriptions for Johns Mound must be obtained entirely from field notes, unpublished reports, drawings, and photographs of the 1969–1970 excavations. Through the generous cooperation of the faculty of the University of Georgia, all these notes, artifacts, and skeletal materials have been returned for study and curation to the Laboratory of Anthropology, St. Catherines Island. All the material culture and skeletal remains have been re-examined, but we must still rely on field notes for stratigraphic detail.

Because of the unusual circumstances surrounding these data, our objectives must be largely descriptive, attempting to supply the basic data, and providing interpretations only cautiously. The first two chapters include descriptions of the excavation methods used and the materials encountered in Johns

and Marys mounds. Procedures for description, measurement and analysis of the human skeletal remains have been given by Larsen (1980a).

Unfortunately, much of the human bone found in the 1969–1970 excavations was lost following excavation; in fact, parts or all of some burials were left *in situ* after initial exposure. In such cases, we are forced to rely on the University of Georgia burial descriptions and preliminary analysis (Butler, n.d.) for information regarding age and sex of some individuals. The individual burial descriptions in this chapter contain all available information regarding age, sex, burial type and orientation, skeletal elements present, and nonmetric variants and noncarious pathological conditions.

Although we realize that caution is in order, an interpretive section has been added to the descriptions. In Chapter 3, Larsen discusses the biocultural implications of the St. Catherines mortuary data, once again compared with available data from the Georgia coast.

Three appendixes provide ancillary information. Appendix I summarizes the cranial, dental, postcranial, and stature data from Johns and Marys mounds. Appendix II, prepared by Donald K. Grayson, describes the nonhuman skeletal remains from these two sites. Appendix III summarizes the seasonality research on the clams in the shell cores of Marys and Johns mounds. Chester B. DePratter contributed to the ceramic descriptions.

#### ACKNOWLEDGMENTS

Once again with pleasure we thank the Edward John Noble Foundation for the generous support of the fieldwork and analysis described in this volume. Special thanks to Mr. and Mrs. Frank Y. Larkin for their personal help and encouragement in all stages of anthropological research on St. Catherines Island.

We also appreciate the aid of Mr. John Toby Woods, Jr. It was he who originally suggested excavation of Johns Mound to J. R. Caldwell, and the interest shown by Mr. Woods has greatly facilitated our own research. The other members of the permanent

staff of St. Catherines Island provided valuable assistance: Mr. Lynn Holman, Mr. John Lukas, Mr. Jim Evans and Mr. Royce Hayes.

We further thank those who helped in various stages of the project. Dr. George R. Clark II conducted the seasonality analysis reported in Appendix III. Mr. Dennis O'Brien prepared the burial drawings, artifact illustrations, stratigraphic profiles, and maps from both the University of Georgia and American Museum excavations. Ms. Susan Bierwirth and Mr. O'Brien were responsible for all American Museum of Natural History field excavation photographs. Mr. Thomas Roe photographed the Marys Mound burial 6 pathology and cut bones, Johns Mound burial 21 pathology, and the isolated polished human phalanx.

A number of individuals aided in the preparation and analysis of the human skeletal remains: Donald Alpinier, Matthew Bartholomew, Carol Churma, Anthony Collins, Thomas Goodin, Edward L. Hughes, Michael Kading, and Mary E. O'Halloran.

We especially thank those who toiled under a hot Georgia sun during the American Museum excavation of Marys Mound: Matthew Bartholomew, Jane Epstein, Nancy Ettlinger, Robert Kelly, Barbara Kranichfeld, Ann Marie Lunsford, Dennis O'Brien, Debra Peter, Susan Rosenthal, Trudy Thomas, Morris Ubelaker, John Wells, Leonard Williams, and Karen Wollaeger. The human skeletal summary statistics (Appendix I)—cranial, dental, postcranial, and stature—were calculated using the computer facilities of the Smithsonian Institution while Larsen was a Predoctoral Fellow in the Department of Anthropology at the National Museum of Natural History.

Finally, we thank Ms. Margot Dembo for her valuable editorial assistance. Ms. Joan Buttner typed various drafts of the manuscript, and Mr. Fred Wayne helped at divers stages of its preparation. Their work is gratefully acknowledged.

We dedicate this volume to the memory of Joseph R. Caldwell, whose pioneering work on the Georgia coast provided the foundation for subsequent research in prehistoric studies on St. Catherines Island and elsewhere.

## CHAPTER 1. THE ARCHAEOLOGY OF MARYS MOUND

Marys Mound (9 Li 20) is a low circular sand mound located in a large open field near the northern end of St. Catherines Island (fig. 1). This north pasture area was cleared in the early 1950s to create a grazing area for cattle, and has been maintained by purposely set fires and bulldozing (fig. 3). The grass cover now includes Bermuda, spangle grass and purple broomsage; slash pine (*Pinus eliottii*), longleaf pine (*Pinus palustris*), live oak (*Quercus virginiana*), and laurel oak (*Quercus laurifolia*), all grow on the north pasture area. This disturbance, together with intermittent pothunting, has adversely impacted on Marys Mound.

The mound is named for a local tradition, which holds that this is the burial site of Mary Musgrove, an important figure in the early history of the Georgia Colony (see Thomas and others, 1978, pp. 213–218; see also Todd, 1981). Although Mary Musgrove and her husband, the Rev. Thomas Bosomworth, are known to have resided on St. Catherines Island during the 1760s, the exact year of Mary Musgrove's death and the location of her grave are unknown. Writing in 1784, Capt. Hugh McCall noted that Thomas Bosomworth "took possession of, and resided on St. Catherines Island, where Mary died sometime after, and he married his chambermaid. Finally, the remains of this trio were deposited in the same graveyard on this island, for which they had so long contended" (McCall, 1811–1816, p. 165). When White prepared his history of Georgia, he noted only that "tradition designated the spot where the Bosomworths were buried" (White, 1854, p. 22).

According to John Toby Woods, local tradition suggests that the Bosomworths were buried in an Indian-style mound on the northern end of St. Catherines Island, a suggestion which receives slight support from archaeologist C. B. Moore, who visited St. Catherines in 1896. While excavating on the north end, Moore noted that one burial mound "was a somewhat larger one which, being a valued land mark, we did not touch" (Moore, 1897, p. 89). Moore's "valued land

mark" could conceivably have been the feature known locally as Marys Mound.

In this chapter we describe the archaeological excavations at Marys Mound, begun by the University of Georgia and completed by the American Museum of Natural History. Neither team of archaeologists found a shred of evidence to indicate that this was the burial place of Mary Musgrove; the site is simply too early. Furthermore, sufficient excavation has now been conducted for us to state with some certainty, that Marys Mound does not presently contain the grave of Mary Musgrove. If the site so functioned in the past, all evidence has apparently been removed by clearing and cultivation.

### EXCAVATION STRATEGY

Systematic investigations began at Marys Mound in 1970, when a field crew from the University of Georgia excavated a 10 ft. by 60 ft. trench along the east-west axis of the mound. A second trench, approximately 10 ft. by 20 ft., was then placed along the north-south axis (fig. 2). These excavation units were apparently not backfilled and the remaining deposits suffered badly from subsequent disturbance by cattle and hogs. A very brief preliminary report (Caldwell, n.d.) is available to supplement University of Georgia field notes and sketches; unfortunately, no photographs are available of the 1970 excavations.

The American Museum of Natural History reinstituted excavations at Marys Mound in May 1977 (fig. 3). After a three week session, the site was encased in black plastic and lightly backfilled to protect the remaining deposits. Three more weeks of excavation occurred in May 1978, after which the entire site was covered with black plastic and completely backfilled mechanically.

The general excavation strategy followed by the American Museum of Natural History has already been outlined by Thomas and Larsen (1979). Briefly, a series of contiguous 2 m. square units were excavated in arbitrary 10 cm. levels, following natural stratigraphic



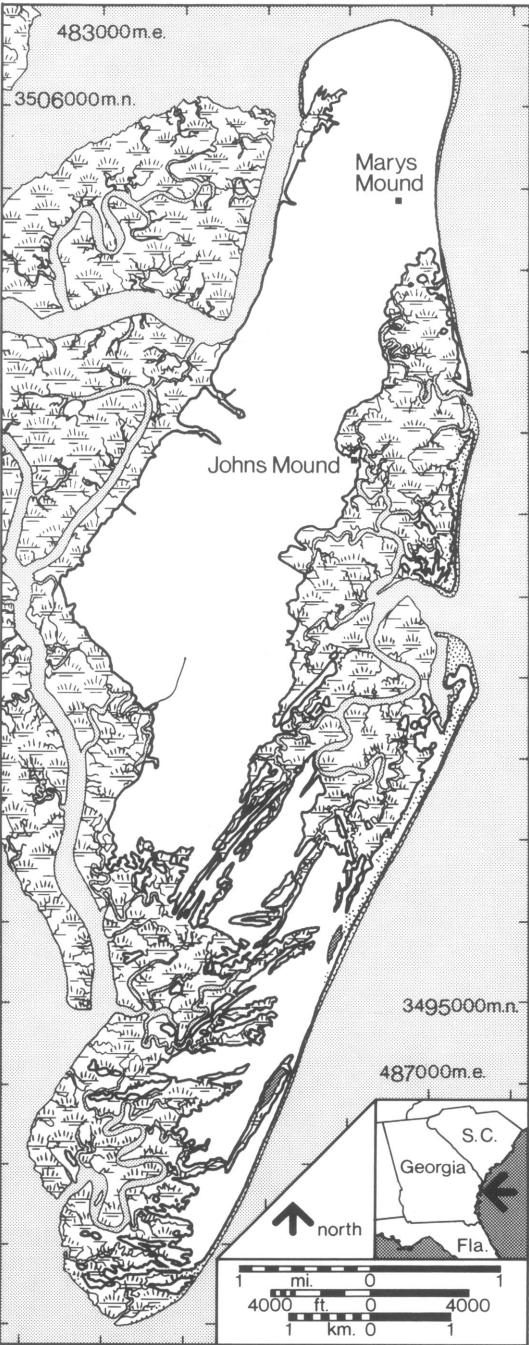


FIG. 1. Map showing location of Johns and Marys mounds.

TABLE 1  
Measured Stratigraphic Section of Marys Mound<sup>a</sup>

Unit	Thick- ness (cm.)	Description
IV	15	<i>Secondary humus</i> and <i>plow zone</i> , grayish brown sand, dense root mat Contact abrupt
IIIb	15	<i>Mound fill</i> , brown sand, occasional charcoal flecks Contact abrupt
IIIa	20	<i>Shell lens</i> —oyster, clam, whelk—very thin sterile sand lens at bottom of unit Contact abrupt
II	10	<i>Primary humus</i> , very dark gray sand, heavily carbonized, small charcoal pieces common Contact abrupt
I	38+	<i>Sterile substratum</i> , yellowish brown sand Bottom not exposed

<sup>a</sup> This section labeled “b” in figure 4.

breaks whenever encountered. Three adjacent trenches were excavated in this manner (fig. 2). A permanent brass and concrete datum stamped “AMNH 108” was placed to the north of the mound.

STRATIGRAPHY

The University of Georgia has generously granted access to all artifacts, field notes, and sketches from the 1970 excavations and in this chapter we synthesize these findings with the more recent American Museum excavations into a single comprehensive sequence for Marys Mound. The measured stratigraphic section of Marys Mound (table 1) describes the four stratigraphic units encountered, and it is possible to relate the cultural activities at Marys Mound to this master-profile (figs. 4, 5).

The first use of the Marys Mound area is

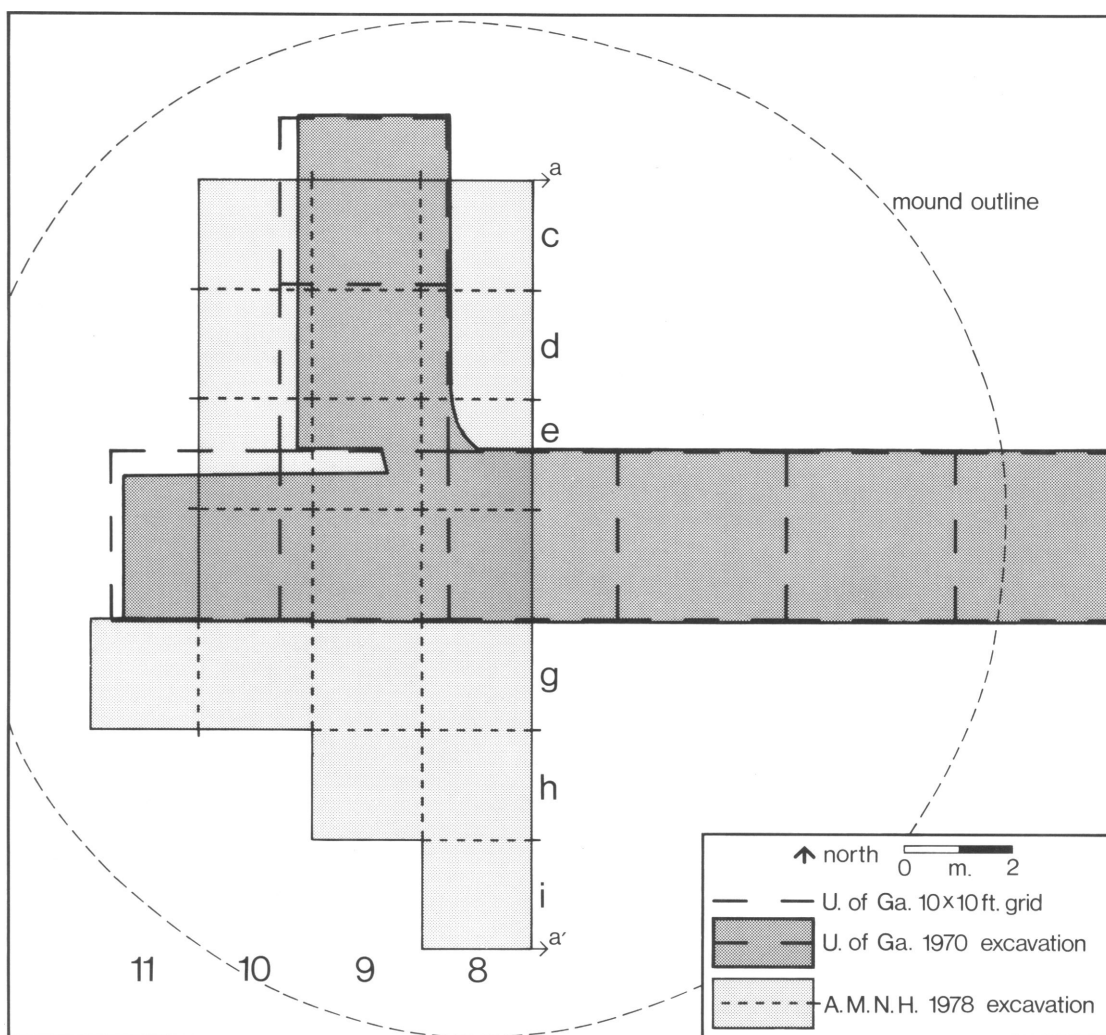


FIG. 2. Plan view of both University of Georgia and American Museum of Natural History excavations at Marys Mound.

evident in the premound humus (Unit II). This dark gray sand contained abundant charcoal, and eight potsherds: Deptford Check Stamped, Refuge Simple Stamped and Refuge Plain (table 3). These sherds suggest a fleeting Refuge III phase occupation (see table 2, which first appeared in DePratter, 1979, for occupational sequences on the Georgia coast), but the small sample pre-

cludes further inference. The absence of shell in association with these ceramics correlates with other known Refuge occupations, both on St. Catherines Island and other locations on the Georgia coast (DePratter, 1979). Similar sites have been found elsewhere on the North Pasture as part of systematic testing of this area by the American Museum.



FIG. 3. An overview across the North Pasture of St. Catherines Island (looking northwest), showing the first day of excavation by the American Museum of Natural History at Marys Mound, 1977.

One radiocarbon date is available on charcoal recovered in the primary humus: A.D.  $700 \pm 70$  (UGA-1687). Since Refuge III occupations are generally considered to date from about 900 B.C. to 400 B.C. (see table 2), this evidence suggests that considerable time elapsed between the deposition of the sherds and the actual mound construction. Although A.D. 700 falls into the Wilmington period, there are no cultural remains from Marys Mound which can be assigned to that

time period (although Wilmington shell middens occur within 1 km.).

We recognize three distinct stages of construction at Marys Mound (all of which are sub-units of the major stratigraphic Unit III on table 1).

#### STAGE I

Figure 6 shows a schematic reconstruction of Stage I, during which two pits were excavated into the primary humus. The larger



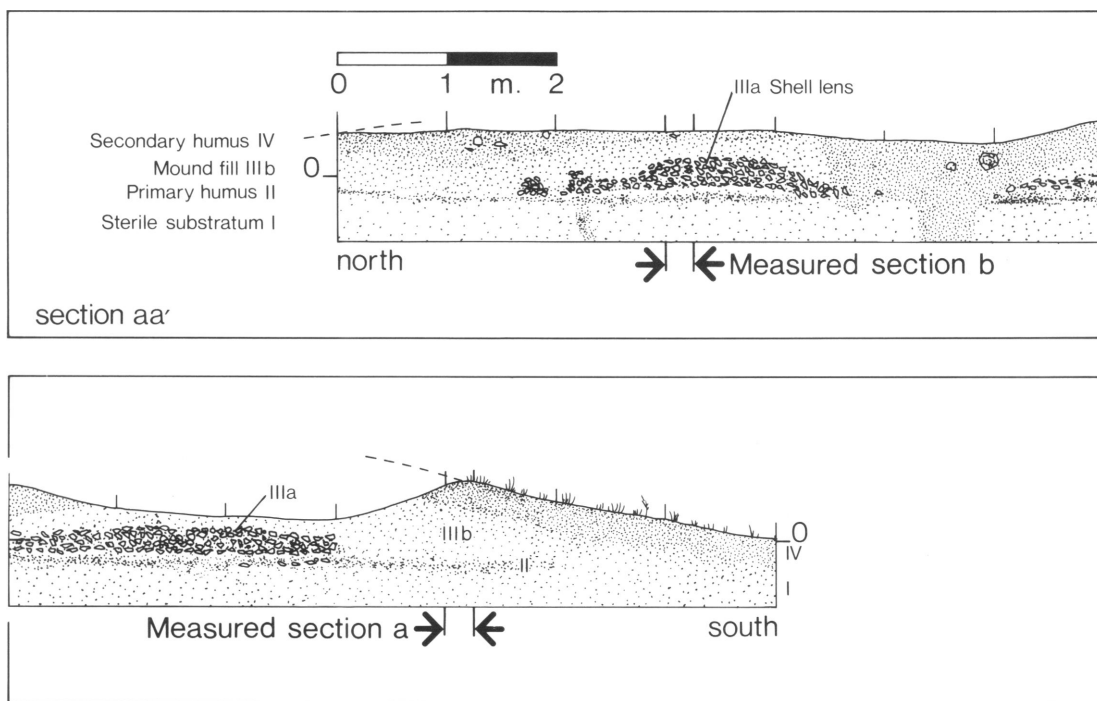


FIG. 4. Stratigraphic profile of Marys Mound; section taken between a and a' in figure 2.

pit is pentagonal in outline, approximately 2.5 m. across and about 1 m. deep. This pit was partly lined with logs, and fragments of at least four vessels were spread out like a pavement over the pit floor; University of Georgia field notes are unclear whether the vessels were broken in place, or thrown in as fragments.

No human bones were found in the pentagonal pit, but four burials were placed in the adjacent pit which was approximately 1.5 m. in diameter and located immediately to the west (fig. 6). Apparently these pits were then filled to the original ground level, and a number of logs placed in parallel fashion across the top. The area was fired, leaving remains of burnt logs and oxidized sand surrounding the pit. A minor humus zone over the central feature indicates that an interval of time elapsed before actual mound construction.

The vessels found in the pentagonal pit are illustrated on figures 9 and 10; they can be

typed as follows: St. Catherines Cord Marked (Vessel 5), Savannah Fine Cord Marked (Vessel 6), St. Johns Plain (Vessel 3), and Sarasota Incised (Vessel 4). The St. Catherines and Savannah vessels are common occurrences in prehistoric sites along the Georgia coast, but the St. Johns Plain and Sarasota Incised vessels, tempered with diatomaceous earth, are undoubtedly imports from Florida.

The co-occurrence of ceramics from the St. Catherines period (generally dated A.D. 1000–1150) and the Savannah period (A.D. 1150–1300) suggests that the two submound pits date to a transitional interval, approximately A.D. 1150. Additional support for this estimate is also found in the upper levels of the mound.

#### STAGE II

Stage II of mound construction commenced with the placement of a large shell feature covering the two premound pits (figs.



FIG. 5. Photograph of master profile of Marys Mound, taken May 1978, looking southeast. Note the break in the shell lens caused by earlier excavation by the University of Georgia.

5 and 7). Shell from this feature was apparently borrowed from a midden site, since it contained an abundance of inclusive sherds (table 3) and animal bone (described in Appendix II); we have also conducted thin-section analysis on 29 complete clam shells from the Stage II feature, which suggests that the midden accumulated between "late fall" and "late spring," i.e., November–May (see Appendix III).

A single radiocarbon date was processed on oyster shells from the Stage II shell feature: A.D.  $1255 \pm 55$  (UGA-1685). It is interesting to note that many of the St. Catherines period sherds from this feature contained both sand and clay tempering, further suggesting that at least part of the midden itself dates from the St. Catherines-Savannah interval (table 3). The combined radiocarbon and ceramic evidence strongly suggests that

Stage II construction occurred sometime during the late twelfth or early thirteenth century A.D.

### STAGE III

Stage III represents the final episode of construction at Marys Mound (fig. 8), although it is possible that additional mound fill layers (and even burials) could have been removed by plowing and pothunting. Stage III consists of a thick sand covering which contained Burial 6. Two large pits were also encountered on the western fringe of the mound, but these are probably the result of disturbance by local relic collectors. Near the periphery of the shell core, in association with one of the pits, were the remains of a badly disturbed interment of a single individual (Burial 5) with an extra human foot.

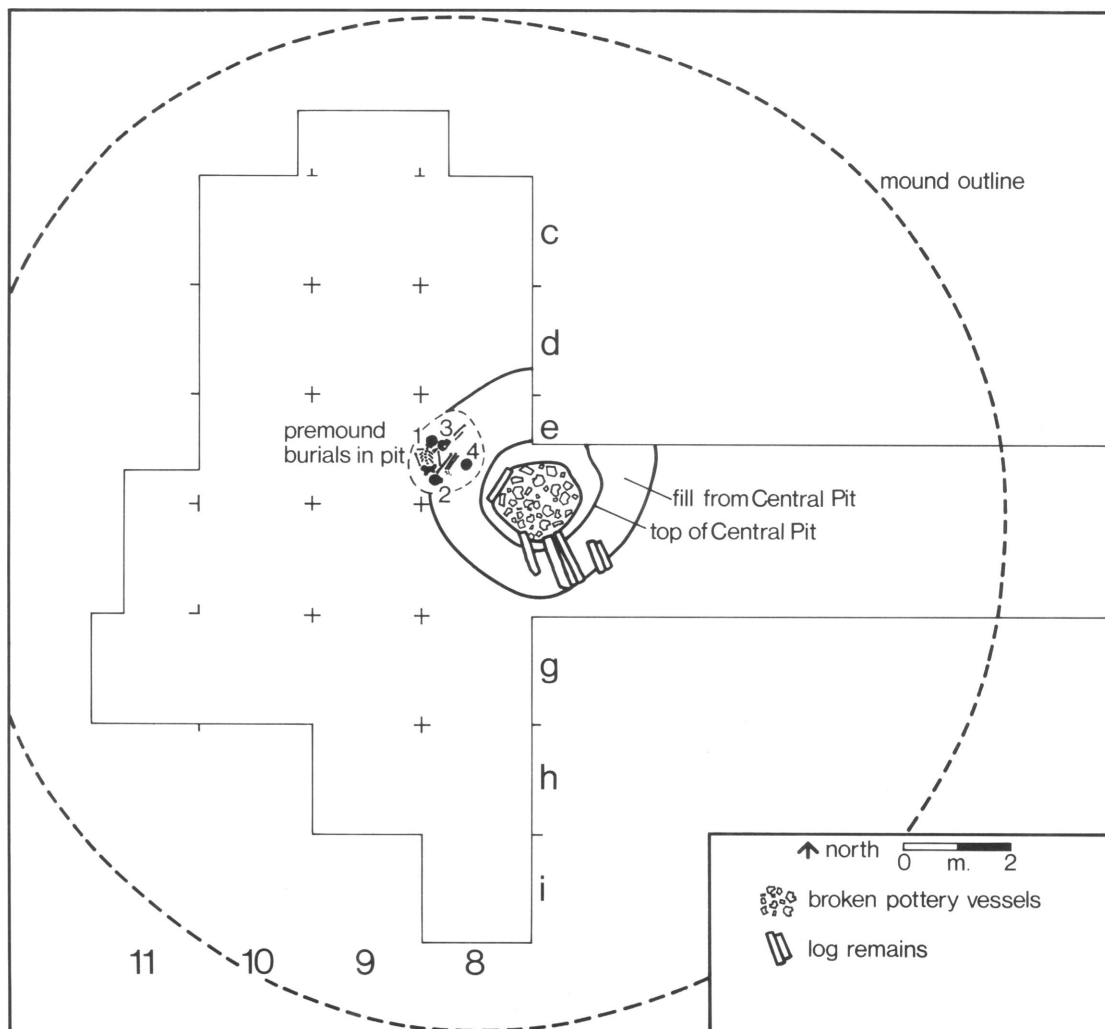


FIG. 6. *Stage I* construction at Marys Mound (excavation and filling of pre-mound pits).

Figure 11 shows two additional restorable ceramic vessels which had been removed from Marys Mound sometime during the 1930s; we have no idea of the within-site provenience. Vessel 1 is a fragmentary Savannah Cord Marked pot, and Vessel 2 is a small, complete jar of the St. Catherines Burnished Plain type. Although these two vessels possibly derive from the disturbed pits mentioned above, we have no direct evidence for such a linkage.

### CERAMICS

The sherds recovered from the excavations at Marys Mound are listed on table 3. As discussed above, we think that the ceramics from the pre-mound humus date from the Refuge period, although a single Deptford Cord Marked sherd from the mound fill might suggest slightly later occupation as well.

The pre-mound pit contained four reconstructable vessels:



TABLE 2  
Ceramic Sequence for the Northern Georgia Coast (DePratter, 1979)

Periods	Phases	Ceramic Types	Dates <sup>a</sup>
Altamaha	Altamaha	Altamaha Line Block Altamaha Incised Altamaha Plain Altamaha Check Stamped Altamaha Red Filmed	A.D. 1700
	Irene II	Irene Incised Irene Complicated Stamped Irene Burnished Plain Irene Plain	A.D. 1550
Irene	Irene I	Irene Complicated Stamped Irene Burnished Plain Irene Plain	A.D. 1400
	Savannah III	Savannah Complicated Stamped Savannah Check Stamped Savannah Fine Cord Marked Savannah Burnished Plain Savannah Plain	A.D. 1300
Savannah	Savannah II	Savannah Check Stamped Savannah Fine Cord Marked Savannah Burnished Plain Savannah Plain	A.D. 1250
	Savannah I	Savannah Fine Cord Marked Savannah Burnished Plain Savannah Plain	A.D. 1200
	St. Catherines	St. Catherines Net Marked St. Catherines Fine Cord Marked St. Catherines Burnished Plain St. Catherines Plain	A.D. 1150
St. Catherines	Wilmington II	Wilmington Plain Wilmington Brushed Wilmington Heavy Cord Marked	A.D. 1000
Wilmington	Wilmington I	Wilmington Heavy Cord Marked Walthour Check Stamped Walthour Complicated Stamped Wilmington Plain	A.D. 600
	Deptford II	Deptford Complicated Stamped Deptford Cord Marked Deptford Check Stamped Refuge Simple Stamped Refuge Plain	A.D. 500
Deptford	Deptford I	Deptford Linear Check Stamped Deptford Cord Marked Deptford Check Stamped Refuge Simple Stamped Refuge Plain	A.D. 300
			400 B.C.

TABLE 2—(Continued)

Periods	Phases	Ceramic Types	Dates <sup>a</sup>
Refuge	Refuge III	Deptford Linear Check Stamped	900 B.C.
		Deptford Check Stamped	
		Refuge Plain	
		Refuge Simple Stamped	
	Refuge II	Refuge Dentate Stamped	1000 B.C.
		Refuge Plain	
		Refuge Simple Stamped	
St. Simons	Refuge I	Refuge Simple Stamped	1100 B.C.
		Refuge Punctated	
		Refuge Plain	
		Refuge Incised	
	St. Simons II	St. Simons Incised and Punctated	1700 B.C.
		St. Simons Incised	
		St. Simons Punctated	
		St. Simons Plain	
	St. Simons I	St. Simons Plain	2200 B.C.

<sup>a</sup> Estimated dates in uncorrected C<sup>14</sup> years.

VESSEL 5 (AMNH 28.0/244):  
ST. CATHERINES CORD MARKED  
Figure 9a

This small jar is 17.5 cm. in diameter, and 17 cm. deep. Decoration appears to have been formed by impressing the surface with thick, twisted cords, perhaps part of a basket or mat (fig. 9b). Caldwell (n.d.) suggested that decoration resulted from impressing with wicker fabric that had a heavy warp and pliable weft. The interior of the vessel had been scraped as part of the wall thinning process, and the resulting lines were subsequently smoothed over.

VESSEL 6 (AMNH 28.0/2575):  
SAVANNAH FINE CORD MARKED  
Figure 9c

This small bowl is 22 cm. in diameter and 12.5 cm. deep. Tempering consists of sand and grit, and most of the surface has been cord marked in oblique fashion up to the rim; a small portion of the vessel has been cross-stamped (fig. 9d). The base was stamped with the edge of the paddle, a feature common to Savannah period ceramics. A narrow

strip of clay just below the rim was also stamped, and the interior showed slight evidence of scraping.

VESSEL 3 (AMNH 28.0/241):  
ST. JOHNS PLAIN  
Figure 10c

This large vessel is 28 cm. high, with a maximum diameter of 30 cm.; the diameter at the mouth is 16 cm. Tempering consists of diatomaceous earth, and both the inner and outer surfaces are finely burnished.

VESSEL 4 (AMNH 28.0/2578):  
SARASOTA INCISED  
Figure 10a

This small jar is 14 cm. in diameter and 16 cm. high. Like Vessel 3, it is tempered with diatomaceous earth. Decoration consists of paired zigzag incised lines, and the zone between them is filled with punctates (fig. 10b).

Vessels 3 and 4 are undoubtedly related to identical materials from Florida (Wiley, 1949), and they were almost certainly imported from that area.

The shell feature (Stage II) contained a

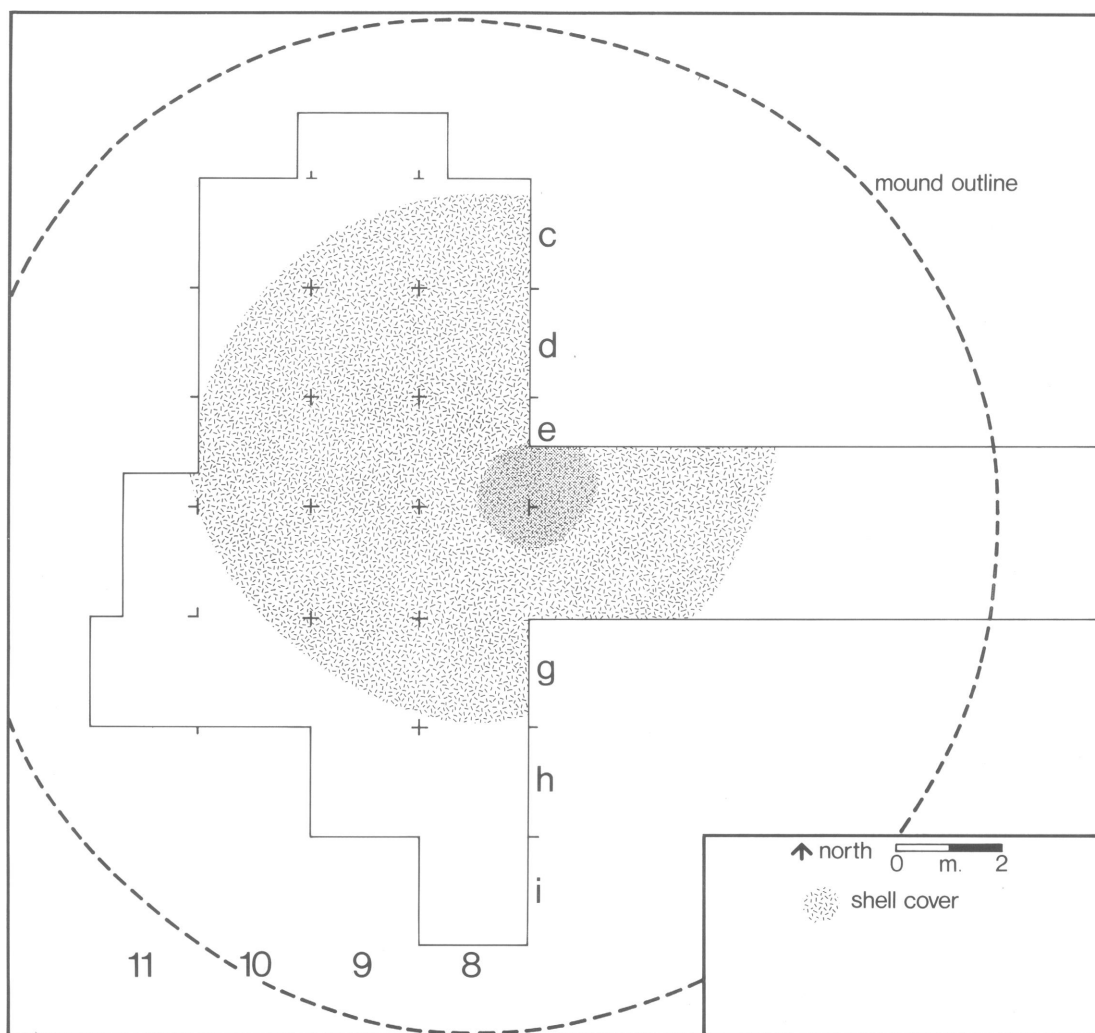


FIG. 7. *Stage II* construction at Marys Mound (addition of shell feature).

small quantity of Refuge and Deptford sherds as well as the more abundant St. Catherines-Savannah materials (table 3). Many of the Stage II ceramics combine St. Catherines and Savannah period traits, suggesting a transitional interval between the two periods. In addition, there were 28 St. Johns Plain sherds in the Stage II feature, at least 16 of which belong to a large jar (similar to Vessel 3). Three St. Johns Check Stamped sherds were also found scattered throughout the shell feature.

Relatively few sherds were found in the sand cover (Stage III), and the types are roughly the same as those found in Stage II contexts.

Eighteen additional sherds were recovered during the University of Georgia excavations, but these lack detailed provenience data. Included in this group are isolated examples of Deptford Cord Marked and St. Simons Plain, plus a Refuge Plain hone.

The two Marys Mound vessels lacking provenience are described as follows:



TABLE 3  
Ceramics Recovered from Marys Mound

	Premound Humus	Premound Feature (Stage I)	Shell Feature (Stage II)	Sand Fill (Stage III)	Surface Backfill, etc.
Savannah Fine Cord Marked	—	1 <sup>a</sup>	14	1	1
Savannah Burnished Plain	—	—	10	1	—
Savannah Plain	—	—	10	—	—
St. Catherines Cord Marked	—	1 <sup>a</sup>	46	8	6
St. Catherines Burnished Plain	—	—	3	—	—
St. Johns Plain	—	1 <sup>a</sup>	28	—	3
St. Johns Check Stamped	—	—	3	—	—
Sarasota Incised	—	1 <sup>a</sup>	—	—	—
Walthour Complicated Stamped	—	—	—	2	1
Deptford Complicated Stamped	—	—	3	—	1
Deptford Check Stamped	3	—	—	—	—
Deptford Check Stamped abrader	—	—	1	—	—
Deptford Cord Marked	—	—	—	—	1
Deptford Cord Marked abrader	—	—	—	—	1
Refuge Plain	4	—	2	—	1
Refuge Plain abrader	—	—	—	1	—
Refuge Plain hone	—	—	—	—	1
Refuge Simple Stamped	1	—	1	—	1
Refuge abrader	—	—	2	—	—
Sand tempered plain	—	—	2	—	—
Clay tempered simple stamped	—	—	—	1	—
Residual clay tempered cord marked	—	—	1	1	—
Residual clay tempered plain	—	—	1	—	—
St. Simons Plain	—	—	—	—	1
Totals	8	4 <sup>a</sup>	127	15	18

<sup>a</sup> Whole or reconstructable vessels.

#### VESSEL 1 (AMNH 28.0/274):

##### SAVANNAH CORD MARKED

##### Figure 11b

This small conical bowl is 14 cm. in diameter and 11 cm. deep. The cord marking is generally vertical along the flaring sides (fig. 11c), but horizontal on the base. The interior has been smoothed and shell scraped. The available sherds comprise only about half of the vessel.

#### VESSEL 2 (28.0/273):

##### ST. CATHERINES BURNISHED PLAIN

##### Figure 11a

This small, complete jar is 8 cm. deep and 13 cm. at the maximum diameter; the mouth diameter is 4.5 cm. The exterior is almost

completely smooth, except for a few protruding clay temper particles. The interior is fairly rough, and has not been burnished. Two small holes for suspension have been placed on opposite sides of the mouth.

#### ADDITIONAL ARTIFACTS

Nonceramic artifacts were rare in Marys Mound. Several bone implements were recovered by American Museum crews from the shell feature; all were probably refuse inclusions in the midden shell used to construct this feature. The distal end of a polished bone pin was recovered in Unit G9 (fig. 12a). The fragment, oval in cross-section, is 4.7 cm. long, 0.7 cm. wide, and 0.5 cm. thick. A large bone awl, probably of deer

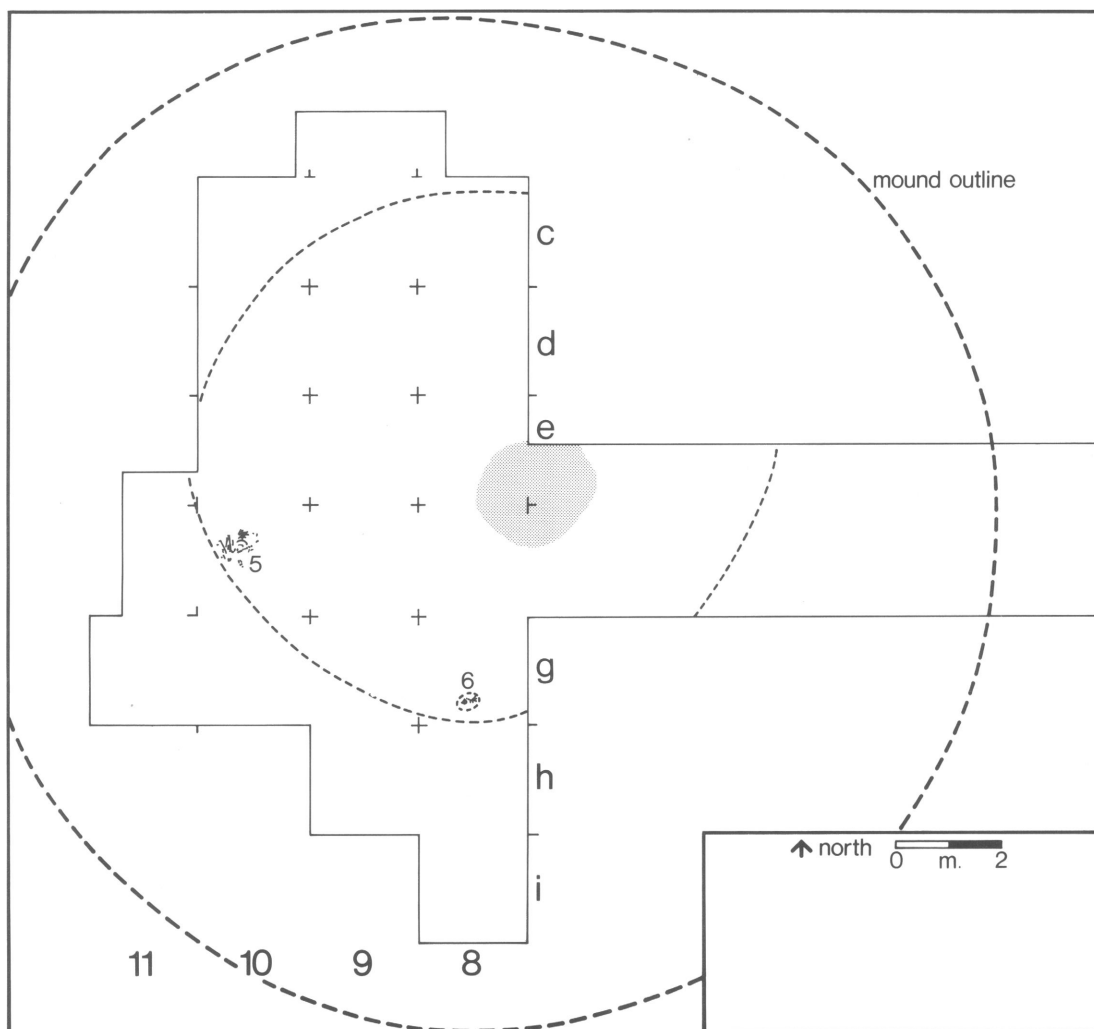


FIG. 8. *Stage III* construction at Marys Mound (addition of mound fill and additional burials).

bone, was recovered nearby in Unit G8 (fig. 12b). This artifact is 12 cm. long, 1.6 cm. wide, and 0.5 cm. thick. The distal end is sharpened to a point, but the tip is missing. The working surface shows evidence of use, but it is not highly polished. Unit F10 contained a splinter bone awl, made of artiodactyl long bone (fig. 12c). This artifact is 5.9 cm. long, worked only on the distal (rounded) end.

The University of Georgia also recovered

a small, angular chert fragment in the mound fill, but provenience data has been lost.

Three whelk shell artifacts were also found in Stage II deposits. All three whelks had one or more holes in the outer whorls, and showed evidence of sharpening at the distal end of the columella. Two whelks showed extensive battering along the knobs on the shoulders. Four additional whelk artifacts were found in the shell feature, but they are too badly broken for analysis. One shell,

found in the University of Georgia excavations, shows evidence of an attempt at perforation of the outer whorl, but the hole was never completed. All of these shell artifacts had probably been discarded in the midden used for Stage II fill.

### SKELETAL REMAINS

Six burials and one bone scatter were found in the excavations at Marys Mound.

Stage I, the pre mound pit, contained four individuals:

**BURIAL 1:** female, 35–39; flexed (?), head to the north; complete cranium, mandible, fragments of left and right ilia, ischia, clavicles, scapulae, humeri, right ulna, right radius, left femur, right hamate, right capitate, right lunate, right triquetral, right lesser multangular, right scaphoid, pisiform, all cervical vertebrae, thoracic vertebrae, lumbar vertebrae, ribs, right metacarpals (2–5), hand phalanges (two proximal, two middle, one distal); mandibular left lateral incisor, left third premolar through first molar, right canine through first molar, third molar; maxillary left second molar (third premolar through first molar and third molar represent premortem loss); right fourth premolar through second molar. Nonmetric variants: two right and two left lambdoidal ossicles. Pathology: marked resorption of left maxilla-left zygoma most likely a result of extensive premortem tooth loss.

**BURIAL 2:** preadult, 13; bundle (?), head direction unknown; complete cranium, mandibular left and right corpora; right metacarpals (2, 3, 5, one diaphysis), hand phalanges (two proximal, two middle, two distal), foot phalanx (proximal); mandibular left central incisor, lateral incisor, third premolar, first molar through third molar, right central incisor through third molar, maxillary left lateral incisor through third molar, right central incisor through first molar. Nonmetric variants: left asterionic bone, no nasal suture.

**BURIAL 3:** child, 4; bundle, head direction unknown; fragments of frontal, parietals, temporals, sphenoids, left zygoma, occipital, miscellaneous vault, complete mandible, rib and metacarpal or metatarsal diaphyseal fragments; mandibular left and right deciduous canine through deciduous second molar, maxillary right third molar.

**BURIAL 4:** skeletal remains unavailable for study; no information regarding burial treatment.

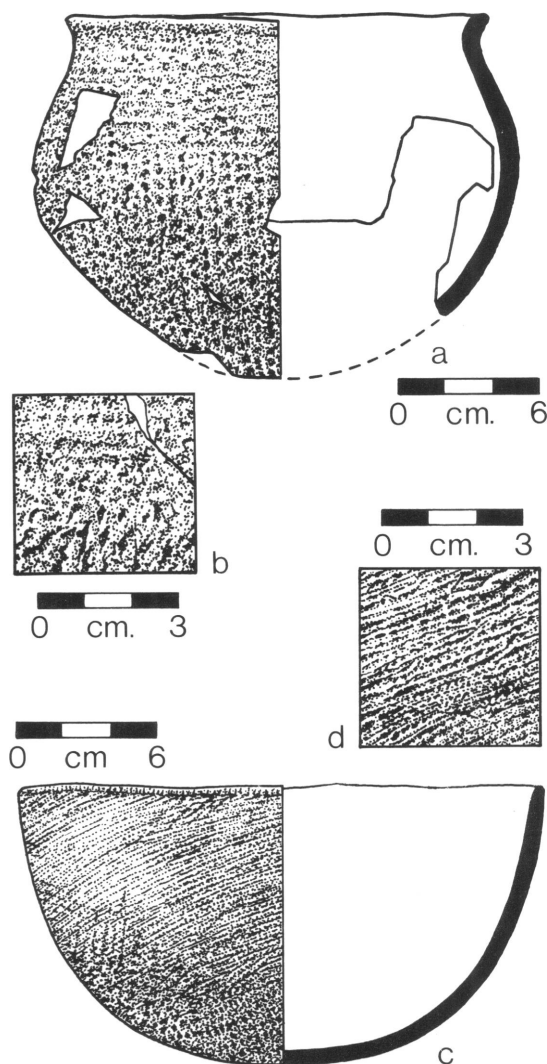


FIG. 9. Complete vessels found in the pre-mound pentagonal pit at Marys Mound. a. Vessel 5 (AMNH 28.0/244), a St. Catherines Cord Marked jar; b. detail of a, showing fiber impressions; c. Vessel 6 (AMNH 28.0/2575), Savannah Fine Cord Marked bowl; d. detail of c, showing oblique cord marking.

No burials were placed inside the shell core (Stage II), but two individuals were placed on top of the shell feature, so we classify them as belonging to Stage III. Burials 5 and 6 were found in shallow intrusions into

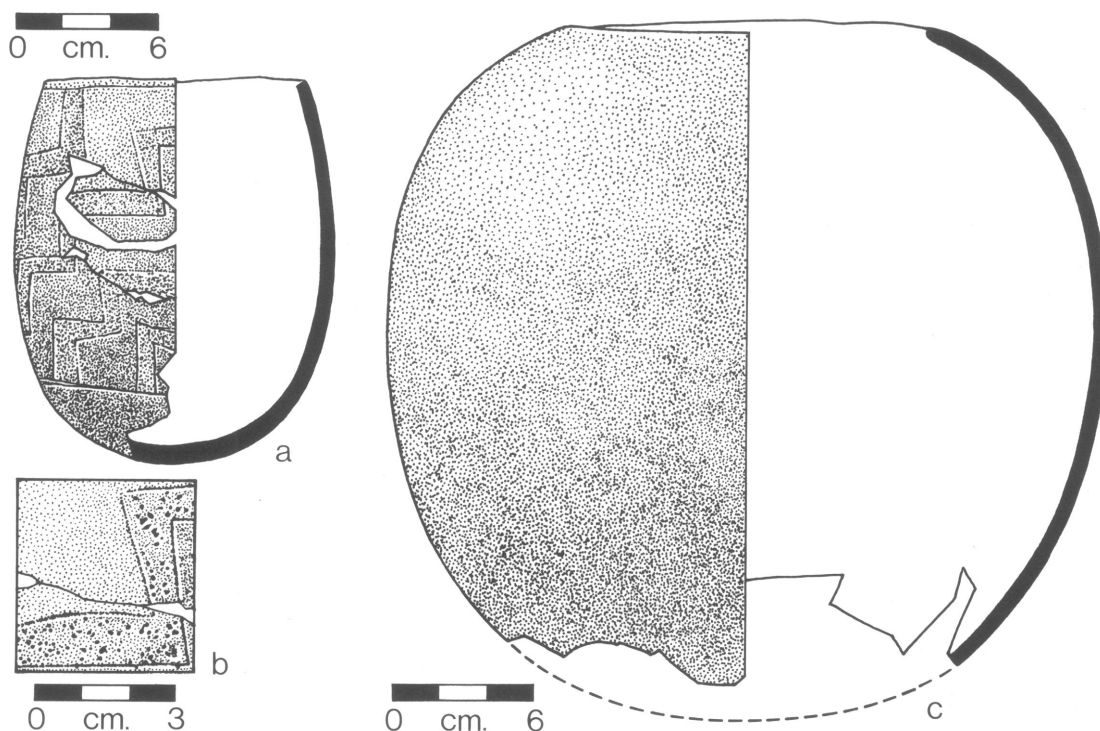


FIG. 10. Florida imports found in the pre mound pentagonal pit at Marys Mound. a. Vessel 4 (AMNH 28.0/2578), a Sarasota Incised jar; b. detail of a, showing paired zig-zag lines with zone of punctates; c. Vessel 3 (AMNH 28.0/241), a large St. Johns Plain globular jar.

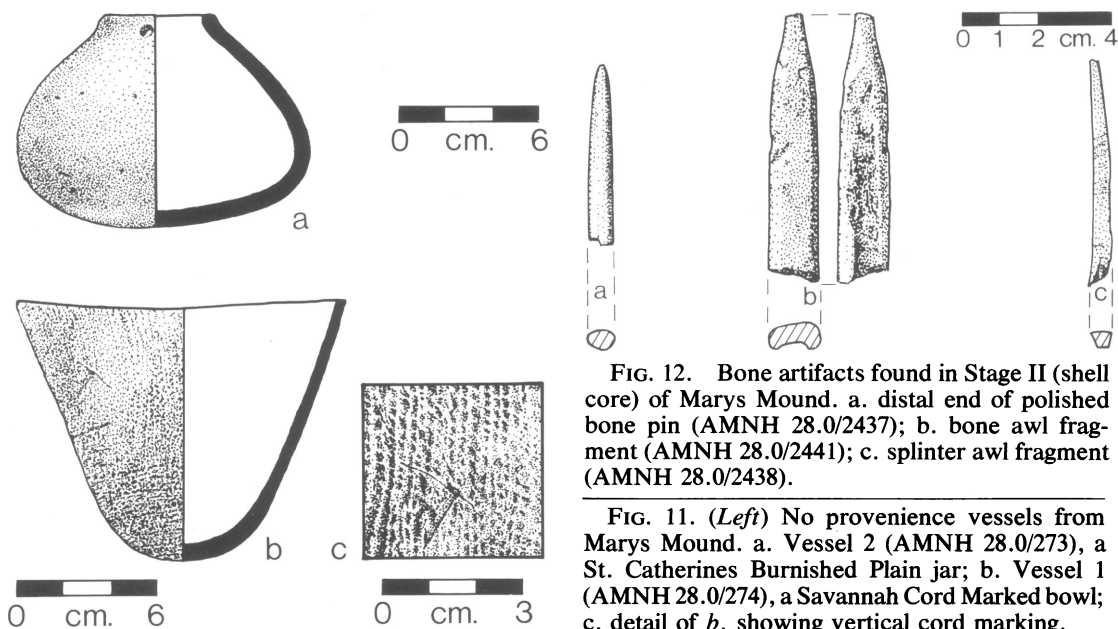


FIG. 12. Bone artifacts found in Stage II (shell core) of Marys Mound. a. distal end of polished bone pin (AMNH 28.0/2437); b. bone awl fragment (AMNH 28.0/2441); c. splinter awl fragment (AMNH 28.0/2438).

FIG. 11. (Left) No provenience vessels from Marys Mound. a. Vessel 2 (AMNH 28.0/273), a St. Catherine's Burnished Plain jar; b. Vessel 1 (AMNH 28.0/274), a Savannah Cord Marked bowl; c. detail of b, showing vertical cord marking.



FIG. 13. Photograph of Burial 5 from Marys Mound; note margin of shell core to the north and east of the human bones.

the shell core. The burial pits were then filled with clean white sand (fig. 13).

**BURIAL 5** (figs. 13 and 14): adult, female (?); flexed, head to the northeast; fragments of left zygoma, right temporal, miscellaneous vault, frontal, occipital, maxilla, fragments of left and right ilia, left ischium, scapula, left and right humeri, radii, ulnae, femora, patellae, tibiae, fibulae, calcanea, tali, naviculars, right cuboid, left and right first cuneiform, right second cu-

neiform, right third cuneiform, left metatarsals (1, 5), right metatarsal (1), proximal (1-5), middle (1-5), and distal (1-5) foot phalanges, left and right scaphoid, left lunate, left triquetral, pisiform, right greater multangular, right lesser multangular, left and right capitates, left hamate, metacarpal (1), proximal (2, 1-5), middle (4, 1-5), and distal (4, 1-5) hand phalanges, ribs, neural arches and centra from lower thoracic through upper lumbar vertebrae; mandibular left central incisor, lateral incisor, third premo-



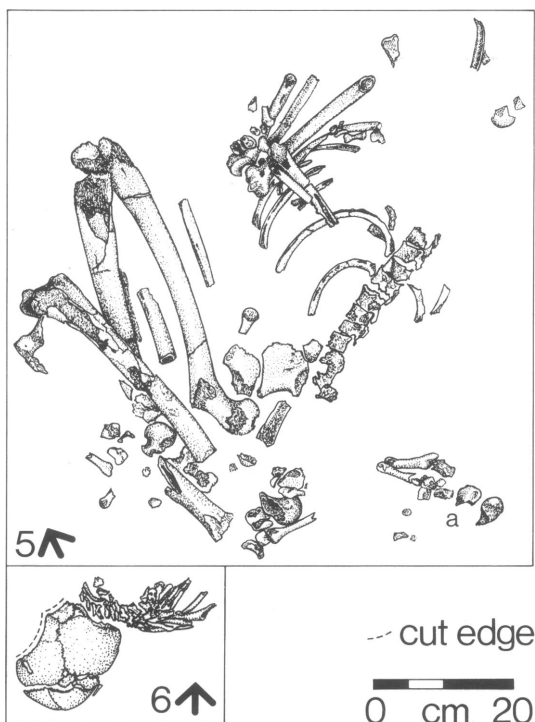


FIG. 14. Drawings of Burials 5 and 6 at Marys Mound; letter (a) indicates position of extra adult left foot.

lar, second molar, third molar, right central incisor, third premolar, second molar, third molar, maxillary left central incisor, canine through fourth premolar, third molar, right canine through third molar. Also present is an extra adult left foot: fifth metatarsal, metatarsal diaphysis, second and third cuneiforms, cuboid, calcaneus, navicular, talus, distal fibular articular process.

BURIAL 6 (figs. 14 and 15): child, 2; incomplete articulated skeleton; most of the right cranial vault and face, right arm, and skeletal elements inferior to the vertebral column were removed from this individual prior to burial. Several cut-marks are present on the cranial bones (fig. 15); head to the west; fragments of left maxilla, left mandible, left frontal, left zygoma, left and right temporal, left occipital, miscellaneous vault; left clavicle, left scapula, left humerus, left radius, left ulna, proximal (2, 2-5), middle (1, 2-5), distal (1, 2-5) hand phalanges, ribs, neural arches and bodies of all cervical and thoracic vertebrae. Pathology: cribra orbitalia (fig. 16).

The small disturbed bone scatter consisted of a number of fragments of adult human bone: parietal, one long bone diaphysis fragment, one left capitate, two proximal hand phalanges, and one distal hand phalanx.



FIG. 15. Photograph of Burial 6 from Marys Mound showing cut-marks (broken line) on cranium.

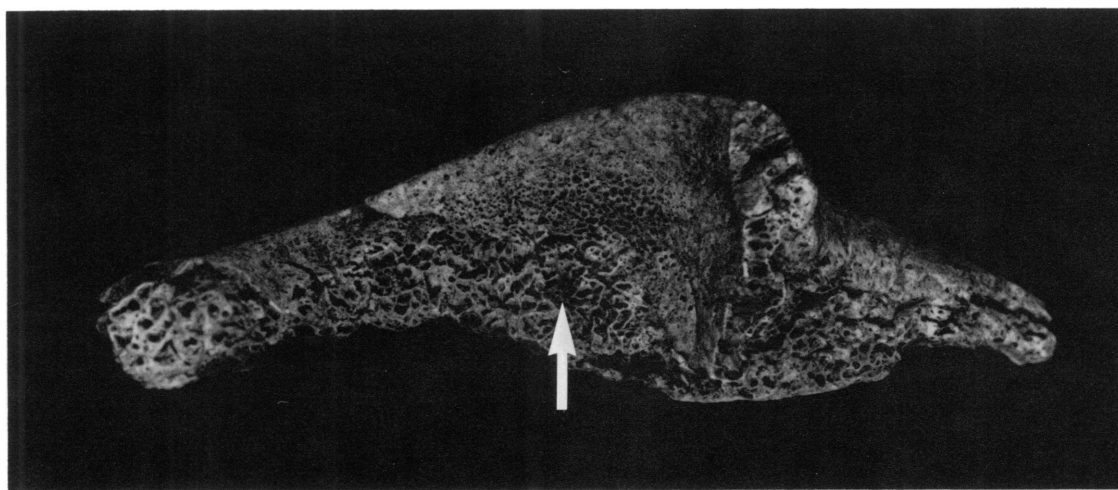


FIG. 16. Photograph showing Burial 5 (Marys Mound) left frontal with cribra orbitalia (arrow).

## CHAPTER 2. THE ARCHAEOLOGY OF JOHNS MOUND

Johns Mound (9 Li 18) is a low sand burial mound, originally about 1.5 m. high, located on the Atlantic side of St. Catherines Island (fig. 1), just outside the eastern periphery of the antebellum King New Ground Field (Thomas et al., 1978, fig. 4). Johns Mound was entirely excavated by the University of Georgia, under the direction of J. R. Caldwell. Preliminary reports are available describing both the 1969–1970 excavations (Caldwell, n.d.) and some of the skeletal sample (Butler, n.d.). All the original field notes, photographs, artifacts, and extant skeletal materials have been returned to the Laboratory of Anthropology on St. Catherines Island for curation and storage. Although this chapter relies heavily on preliminary reports and unpublished field notes, all artifacts and burials were reanalyzed by the authors.

Mr. John Toby Woods, Superintendent of St. Catherines Island, initially suggested to Caldwell that this site would be a promising spot for excavation, and Johns Mound is named after Mr. Woods.

The excavation strategy is illustrated in figure 17. Work at Johns Mound commenced in the summer of 1969 with excavation of a 10 ft. by 30 ft. east-west trench; the field notes refer to this as the “Main Excavation.” A “North Extension” and “South Extension” were also added that year. The 1970 field crew extended operations to the eastern half of the mound, dividing the “Eastern Extension” into a series of lettered 10 ft. squares. The “Southwest Quad” and the “Northwest Quad” were also excavated in 1970 (fig. 17).

### STRATIGRAPHY

The physical stratigraphy of Johns Mound is summarized in a measured stratigraphic section (table 4), reconstructed from the University of Georgia field notes (the original sections are no longer accessible). These physical stratigraphic units are comparable with those defined earlier for the nine Refuge-Deptford mounds excavated on St.

Catherines Island (Thomas and Larsen, 1979). The major north-south and east-west profiles (figs. 18 and 19) are keyed into the general plan view of the excavation (fig. 17).

The stratigraphy and constructional stages of Johns Mound can be summarized in a four-part sequence.

### PREMOUND STAGE

A number of features predate actual construction of Johns Mound. “Pit B” (figs. 20 and 21) and a “Fiber-tempered pit” (location unknown) contained only St. Simons period ceramics (table 5). St. Simons sherds were also found scattered throughout the mound fill, presumably redeposited from earlier occupations of the area. Two additional pre-mound features, “Pit A” (figs. 20 and 21) and the “Sq. A shell pit” contained only St. Catherines period ceramics. Some of the

TABLE 4  
Measured Stratigraphic Section of Johns Mound<sup>a</sup>

Unit	Thickness (in.)	Description
IV	17.0	<i>Secondary humus</i> , grayish brown sand, dense root mat in places Contact abrupt
IIIc	45.0	<i>Mound fill</i> , brown sand Contact abrupt
IIIf	4.0	<i>Shell lens</i> —oyster, clam, whelk Contact abrupt
IIIa	18.6	<i>Mound fill</i> , brown sand Contact abrupt
II	not present	<i>Primary humus</i> , very dark gray sand, small charcoal pieces common Contact abrupt
I	22.6+	<i>Sterile substratum</i> , yellowish brown sand Bottom not exposed

<sup>a</sup> Reconstructed from University of Georgia field notes.

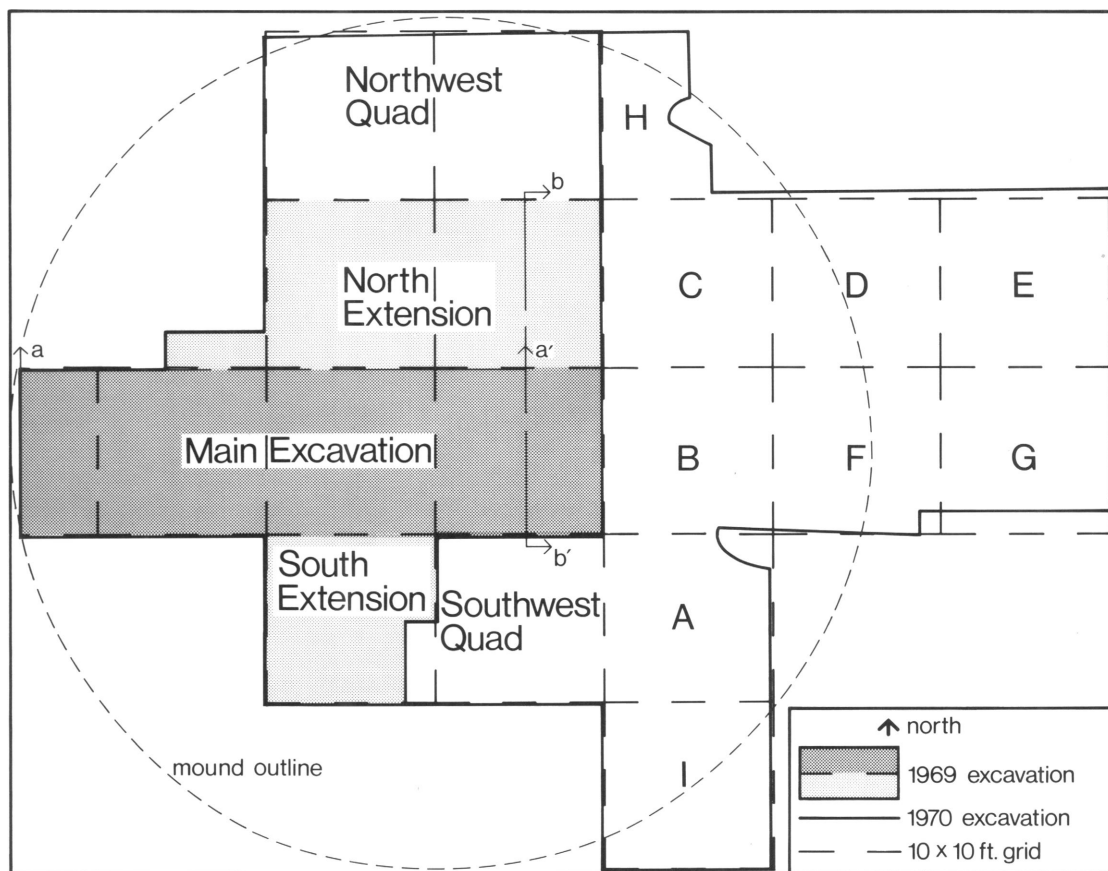


FIG. 17. Excavation strategy at Johns Mound.

burials listed on table 9 may be from a pre-mound cemetery, but the field notes do not allow identification of specific burial associations.

#### STAGE I

The "Central Pit" was then excavated (fig. 20). Although this feature is described as "pentagonal" in the field notes (and in Caldwell, n.d.), the feature appears to be nearly round in the field sketches and photographs; the Central Pit is approximately 3.5 m. in diameter (fig. 20) and about 1.2 m. deep (fig. 18). Fill from excavation of this pit formed a distinct ring around the margins, a pattern evident in some Refuge-Deptford

mounds as well (Thomas and Larsen, 1979, fig. 10). The Central Pit apparently penetrated a dark, shell midden area, probably an old midden accumulation rather than a purposeful mound base.

The Central Pit was then log-lined; a radiocarbon sample from one of these charred logs dated to A.D. 1053  $\pm$  60 (UGA-61). Although field notes are unclear on this point, a whole St. Catherine's Burnished Plain bowl (Vessel 8) was apparently placed near the Central Pit; pieces of charcoal, two bone pins (fig. 28c, d), and a lump of red ocher were found near Vessel 8. A partly disarticulated child burial (apparently between 3 and 5 years old) was found on the floor of the Central Pit, along with additional adult bone

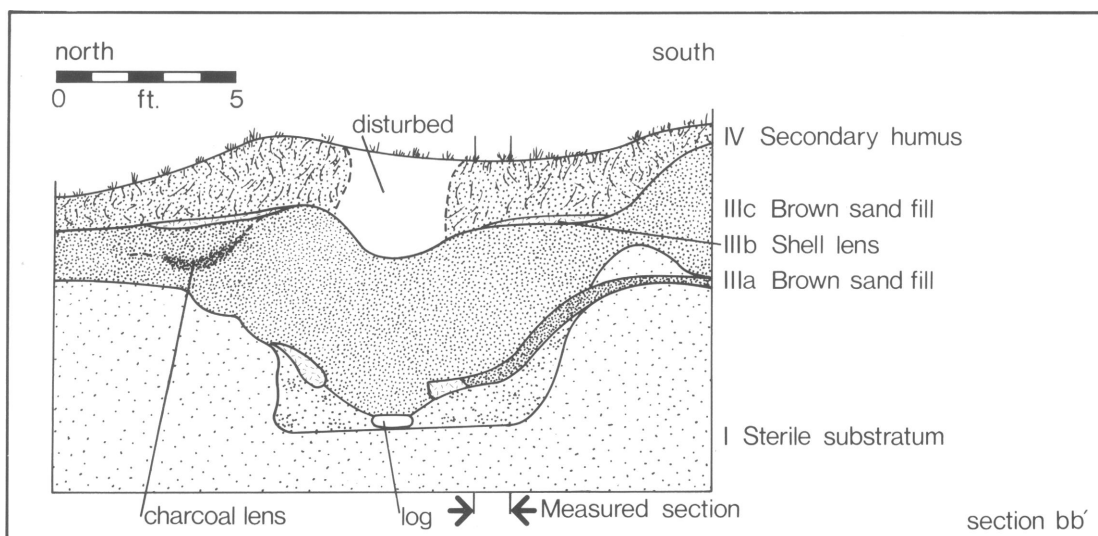


FIG. 18. The major north-south stratigraphic profile at Johns Mound; location is plotted as section b-b' in figure 17.

fragments; unfortunately, these bones are unavailable for study.

Human burials were then placed around the Central Pit (fig. 20). Field drawings suggest that these burials may have penetrated

margins of the original dark midden. Other burials associated with the pit, generally with an east-west orientation, cut through pre-existing burial pits (fig. 22). This area was called the "Old Cemetery" in the field notes,

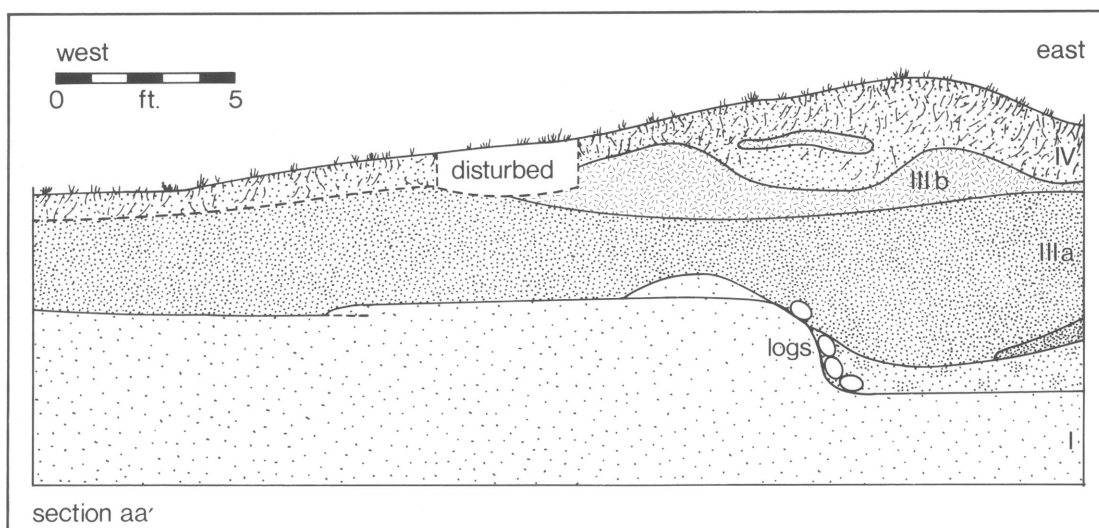


FIG. 19. The major east-west stratigraphic profile through the Central Pit at Johns Mound.



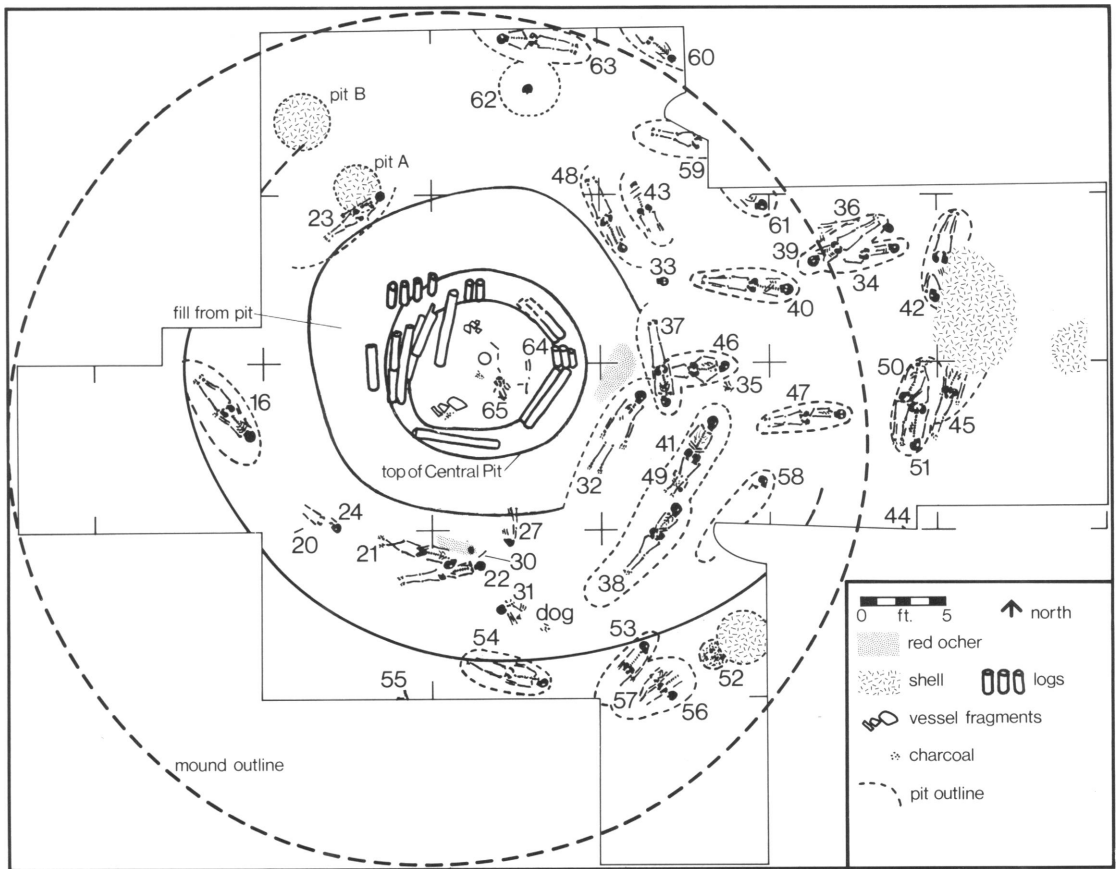


FIG. 20. Stage I construction at Johns Mound.

and we think that Burials 34, 39, 40, 46, 47, and 59 are indeed older than the others (although exact relationships are unclear).

Burials 37, 48, and 52 (fig. 23) were then added. These burials are considered to be later because their pits cut into the spoil dirt of the Central Pit.

The Central Pit was then closed with a log covering, and the central area covered with a sand layer several centimeters thick. Burials 17 and 18 were placed around the margin of the covered pit (fig. 24), and additional sand was piled over the entire central portion of Johns Mound (figs. 18 and 19).

Seven burials, involving 15 individuals, were then placed in the fill covering the Cen-

tral Pit (Burials 9, 10, 11, 12, 13, 14, and 19). Burial 11, a mass bundle accompanied by nearly 200 shell beads, was placed directly above the log platform (fig. 24).

The logs over the Central Pit apparently collapsed a short time later. During this collapse, a leg of Burial 17 slid down into the upper portion of the log-covered tomb. Because the knee joint was articulated at the time of displacement, it is possible to use the relative rate of decomposition (see Thomas and Larsen, 1979, pp. 146–147) to estimate the span of time between interment of Burial 17 and collapse of the log covering. If this was a summer burial, collapse of the log cover must have occurred only a month or so



FIG. 21. Premound pits A (bottom) and B at Johns Mound, looking west.

after the individual in Burial 17 had died. If the burial occurred during the fall or winter, several months could have elapsed between his death and the collapse of the log tomb.

#### STAGE II

A shell layer was then constructed in the central portion of Johns Mound (fig. 25).

These shells, mostly oysters, were probably freshly collected in the early winter rather than taken from a midden (as occurred in Marys Mound, described in Chapter 1). This shell layer was approximately 15 m. across, in places thicker than 1 m. (fig. 19). A cone-shaped depression was discovered near the center of the Stage II shell layer. Burial 1



FIG. 22. Photograph showing excavation of Eastern Extension of Johns Mound (the "Old Cemetery"), looking northeast; Burials 38, 41, and 49 are visible in the foreground.

had been placed inside this depression, accompanied by a St. Catherines period bowl. A radiocarbon sample from the Stage II shell produced a date of A.D.  $1119 \pm 60$  (UGA-64).

The cone-shaped depression might not be an original feature of the shell core. One of the University of Georgia profiles from the center of the mound shows an intrusion, extending through the shell layer into the Cen-

tral Pit. This intrusion, probably aboriginal, removed part of the original shell core, and Burial 1 appears to have been placed in this depression some time later.

### STAGE III

All mound fill is grouped with Stage III, as are burials which postdate construction of the shell core and interment of Burial 1. A number of constructional subphases were

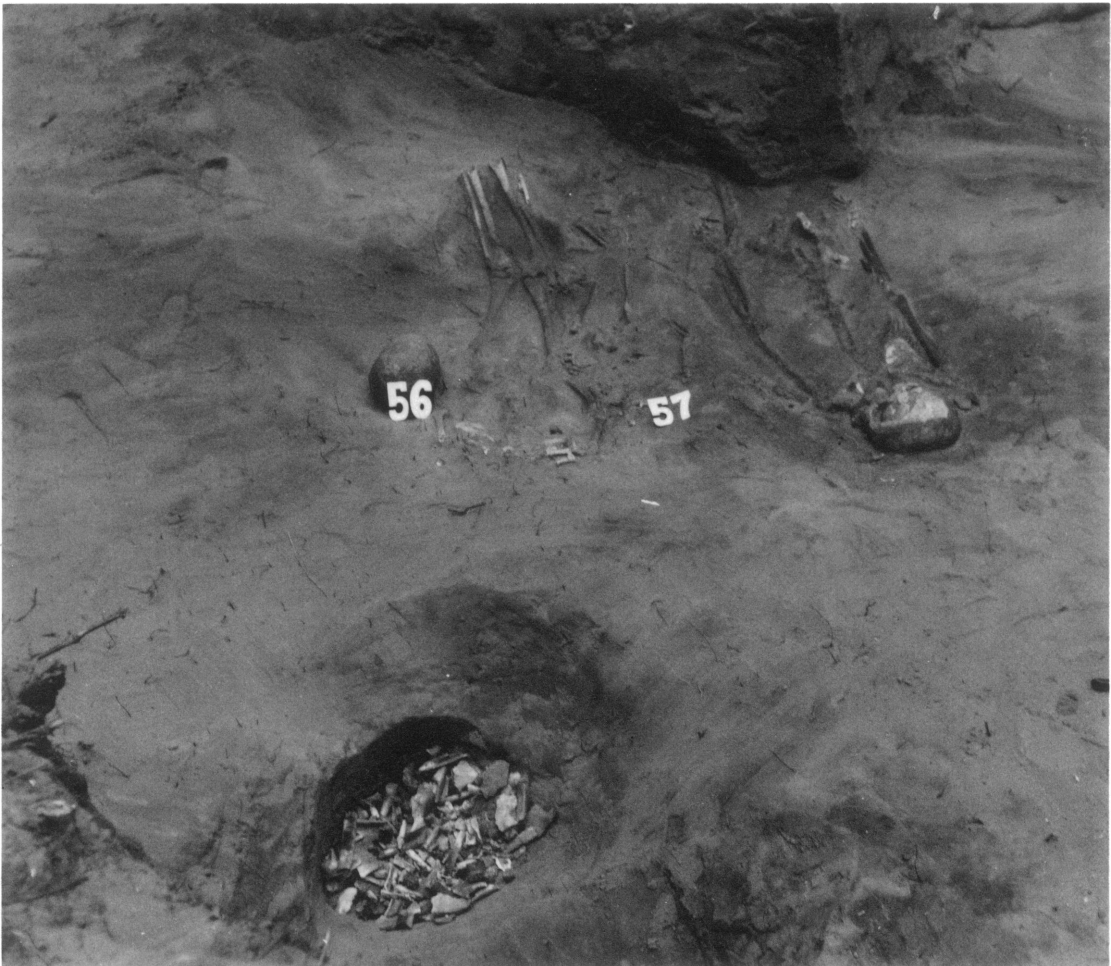


FIG. 23. Burials 56 and 57 are labeled. The bone-filled pit is Burial 52 and the other extended burial to the right is Burial 53. Photograph taken looking west.

undoubtedly involved, but these episodes cannot be defined from available field notes, maps, and photographs. The presence of a shell layer somewhere above Burial 1 suggests that there may have been visible stratigraphy within Stage III deposits.

Only eight burials (2, 3, 4, 5, 6, 7, 8, and 15) can definitely be associated with Stage III construction (see table 6, fig. 26). Burials 2, 3, 4, and 8 were associated with Savannah or later sherds, suggesting that Stage III postdates the St. Catherines period. Burials 2 and 8, in fact, are most likely historic pe-

riod interments because they were associated with Altamaha ceramics (table 6). The former individual was found with the partial skeletal remains of domestic pig, *Sus scrofa* (table 17). It is noteworthy that the domestic pig, to our knowledge, has not been documented previously in an archaeological context from the Georgia coast.

#### CULTURAL ASSOCIATIONS

The artifacts found in Johns Mound can be described using the following sequential

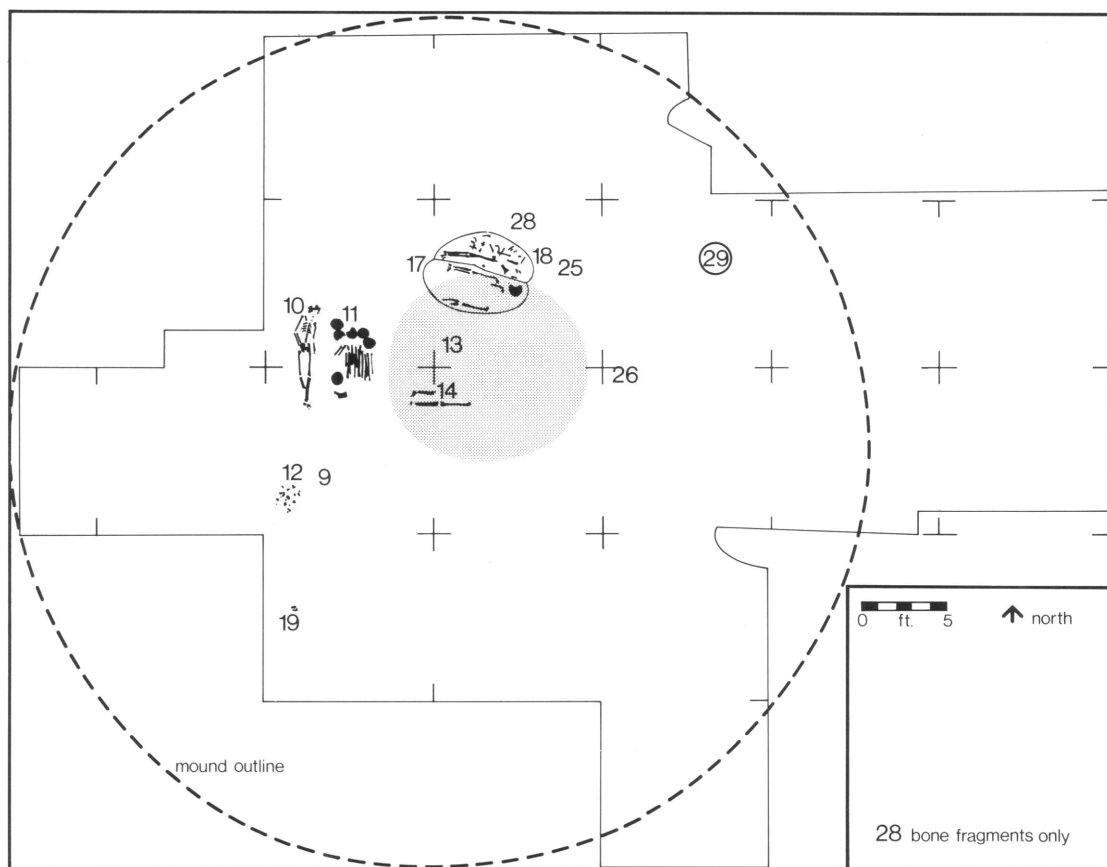


FIG. 24. *Stage I* construction at Johns Mound, continued. Burial 29 is circled to denote general provenience within Square C.

construction stages and a residual category called simply "Mound Fill."

#### STAGE I

The artifacts associated with the Central Pit, including Vessel 3, suggest that Stage I construction occurred during the St. Catherines period.

**VESSEL 3 (AMNH 28.0/252):  
ST. CATHERINES BURNISHED PLAIN  
Figure 27a**

This bowl has straight sides; the maximum diameter is 23.5 cm. and the maximum depth is 11.5 cm. Tempering consists of abundant

fine- to medium-sized clay fragments. The exterior surface has a vertical fluting, created by burnishing the entire surface except the base. The interior is shell scraped.

In addition, 38 (of the 43) sherds contained in the Central Pit are also from the St. Catherines period (table 5). The relatively abundant St. Catherines Fine Cord Marked sherds from the Central Pit undoubtedly belong with the two cord marked vessel fragments found on the pit floor; several of these sherds are stained with red ocher. The five sherds in the pit fill not from the St. Catherines period derive from premound occupations.

Both the Premound and Stage I interments



TABLE 5  
Premound and Stage I Ceramics from Johns Mound

	Premound				Stage I				
	Square A Shell Pit	Pit A	Pit B	Fiber Tem- pered Pit	Central Pit	Burials			
						9	10	12	14
St. Catherines Fine Cord Marked	4	1	—	—	36	5	1	1	—
St. Catherines Burnished Plain	—	1	—	—	2	1	—	1	—
St. Catherines Plain	—	—	—	—	—	—	—	—	—
Wilmington Heavy Cord Marked	—	—	—	—	—	1	—	—	—
Deptford Cord Marked	—	—	—	—	—	—	—	—	—
Refuge Simple Stamped	—	—	—	—	3	—	—	—	—
Refuge Plain	—	—	—	—	—	—	—	—	—
Refuge Fabric Impressed abrader	—	—	—	—	—	—	—	—	—
St. Simons Incised	—	—	—	—	—	—	—	—	—
St. Simons Punctated	—	—	—	—	—	—	—	—	—
St. Simons Plain	—	—	6	2	—	—	—	—	—
Sand tempered cord marked	—	—	—	—	1	—	—	—	—
Sand and grit tempered stamped	—	—	—	—	—	—	—	2	—
Residual clay tempered cord marked	—	—	—	—	1	—	—	—	—
Clay and grit tempered decorated	—	—	—	—	—	—	—	—	1
Grit tempered plain	—	—	—	—	—	—	—	—	—
Grit tempered stamped	—	—	—	—	—	—	—	—	—
Sand tempered plain	—	—	—	—	—	—	—	—	—
Totals	4	2	6	2	43	7	1	4	1

lack associated artifacts, and it is hard to separate the burials between these two stages (table 5). However, the Premound and Stage I burials do seem roughly contemporary, in light of the St. Catherines period ceramics found in the pit fill.

Few Stage I burials contained deliberate artifact associations, although several of the skeletons (10, 21, 22, 24, 30, 32, 34, and 60) had been sprinkled with red ocher. Field notes indicate that Burial 32 was accompanied by a crushed vessel, but that pot is missing from the Johns Mound collection. Another missing pot (Vessel C) accompanied Burial 23. A single shell disk bead was found with Burial 27, and the mass bundle burial (Burial 11) contained at least 199 shell disk beads. These beads ranged between 4 and 6 mm. in diameter, and from 1.5 to 7 mm. in thickness. A single whelk colu-

mella bead was also found with Burial 11 (fig. 28a).

Sherds were found with 17 Stage I burials; some of these sherds were included in the burial pit fill, others merely were found near the burials outside of the pit. Twelve of these burials were associated with ceramics from the St. Catherines period; the other burials contained chance inclusions of St. Simons, Refuge, or Deptford sherds.

The additional ceramics (table 5) suggest that most of the Premound and Stage I burials date from the St. Catherines period, and no later sherds occurred with Stage I burials.

## STAGE II

A whole pot, Vessel 1, was associated with Burial 1, in the intrusion into the shell core:

TABLE 5—(Continued)

Stage I													
Burials											Mound		Totals
17	18	21	22	27	30	34	38	41	42	43	61	Fill	
1	—	2	—	2	1	—	—	4	3	5	—	7	73
—	1	—	—	—	—	—	1	—	—	—	—	3	10
—	—	—	—	—	—	—	—	—	—	—	—	2	2
—	—	—	—	—	—	—	—	—	—	—	—	—	1
—	—	—	—	—	—	—	1	—	—	—	—	—	1
—	—	—	—	—	—	—	—	—	—	—	—	2	5
—	—	—	—	—	—	—	1	—	—	—	—	—	1
—	—	—	—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	—	—	1	—	—	—	—	—	—	1
—	—	—	—	—	—	—	—	—	—	—	—	1	1
—	2	—	—	—	1	—	7	1	—	—	1	—	20
—	—	—	—	—	—	2	—	—	—	—	—	—	3
—	—	—	1	—	—	—	—	—	—	—	—	—	3
—	—	—	—	—	—	—	—	—	—	—	—	—	1
—	—	—	—	—	—	—	—	—	—	—	—	—	1
—	—	—	—	—	—	—	—	—	1	—	—	—	1
—	—	—	—	—	1	—	—	—	—	—	—	—	1
—	—	—	—	—	1	—	—	—	—	—	—	—	1
1	3	2	1	2	4	3	10	5	4	5	1	16	127

VESSEL 1 (AMNH 28.0/245):  
ST. CATHERINES BURNISHED PLAIN  
Figure 27b

This small bowl is 12.9 cm. in diameter and 7.5 cm. deep. A fine line has been incised below the rim. Temper is abundant, consisting of fine to medium clay particles. The exterior of the vessel is burnished, but not fluted (like Vessel 3). The interior has been scraped and then burnished. Part of this vessel is stained with red ocher.

Sherds were absent from the shell core itself, and only seven sherds can be surely identified with Stage II. A collection labeled "Northeast corner, shell chamber" contained three Savannah Fine Cord Marked sherds, two St. Catherines Fine Cord Marked sherds, and a single St. Catherines Plain sherd. One St. Catherines Fine Cord

Marked sherd was found within the intrusion into the shell core.

The three Savannah period sherds found in the Stage II fill were probably intrusive, since both Vessel 1 and the radiocarbon date are from the St. Catherines period.

STAGE III

A partial vessel was associated with Burial 8:

VESSEL 4 (AMNH 28.0/253):  
ALTAMAHA INCISED  
Figure 27c, d

Caldwell (n.d.) suggested that this partial vessel was an unusual type, but examination of the piece shows it to be a portion of an Altamaha Incised jar, later extensively used

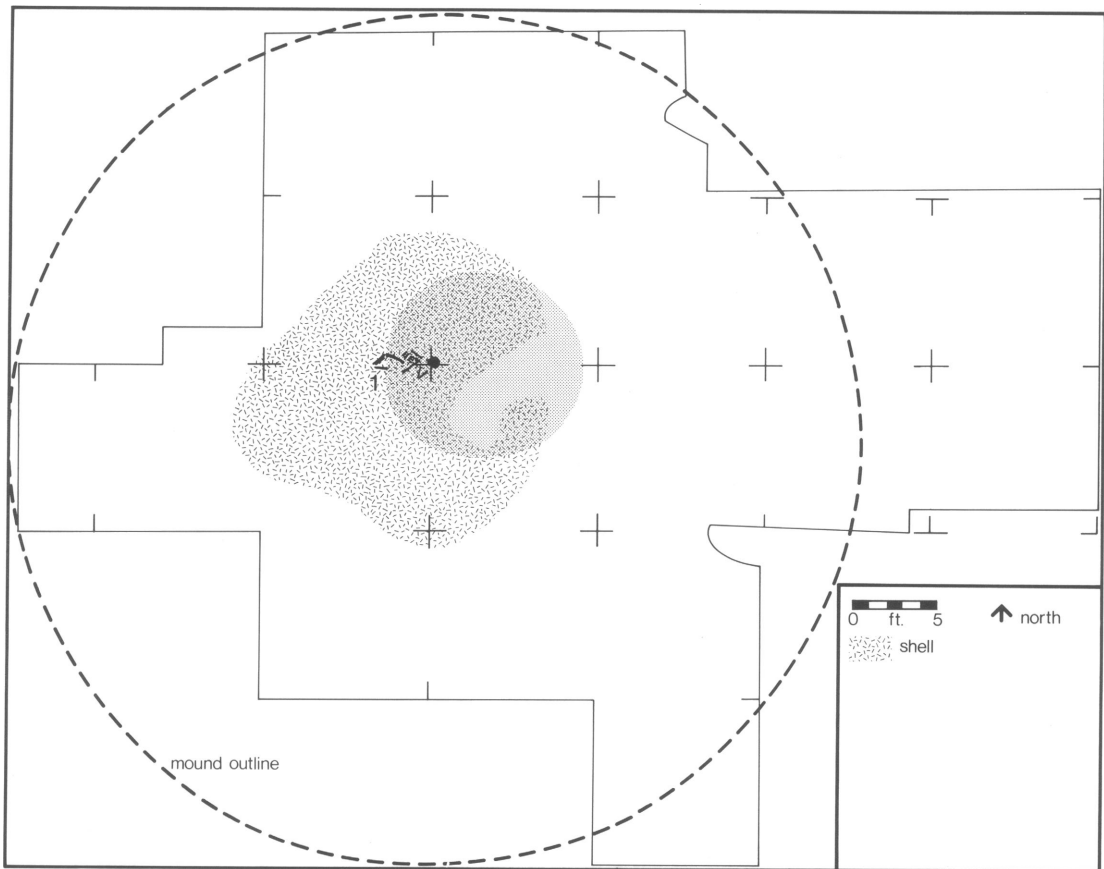


FIG. 25. *Stage II* construction at Johns Mound.

as a honing surface. Although only about 20 percent of the vessel was recovered, it seems to have been about 19 cm. in diameter and 20 cm. high. The neck of the jar is burnished and the lower body is smoothed over, with some signs of stamping. The shoulder of the jar is incised and multiple honing grooves occur on the lower part of the body (fig. 27d). The rim is decorated with a single row of poorly executed reed punctations. Tempering is heavy grit.

Several shell middens from the St. Catherines and Savannah periods were found beneath the margins of Stage III mound fill. Many of the St. Catherines sherds contain quantities of sand and grit, lacking in similar

Stage I and II ceramics. This suggests that Stage III of Johns Mound (like Marys Mound) dates from the transitional interval between the St. Catherines and Savannah periods.

The virtual absence of post-Savannah sherds in these shell middens suggests that Johns Mound had reached its final size by the beginning of the Savannah period. Burials contained within Stage III deposits presumably date to the St. Catherines-Savannah transitional interval and later.

#### GENERAL MOUND FILL

A number of associations cannot be localized to a specific construction stage (table 6),

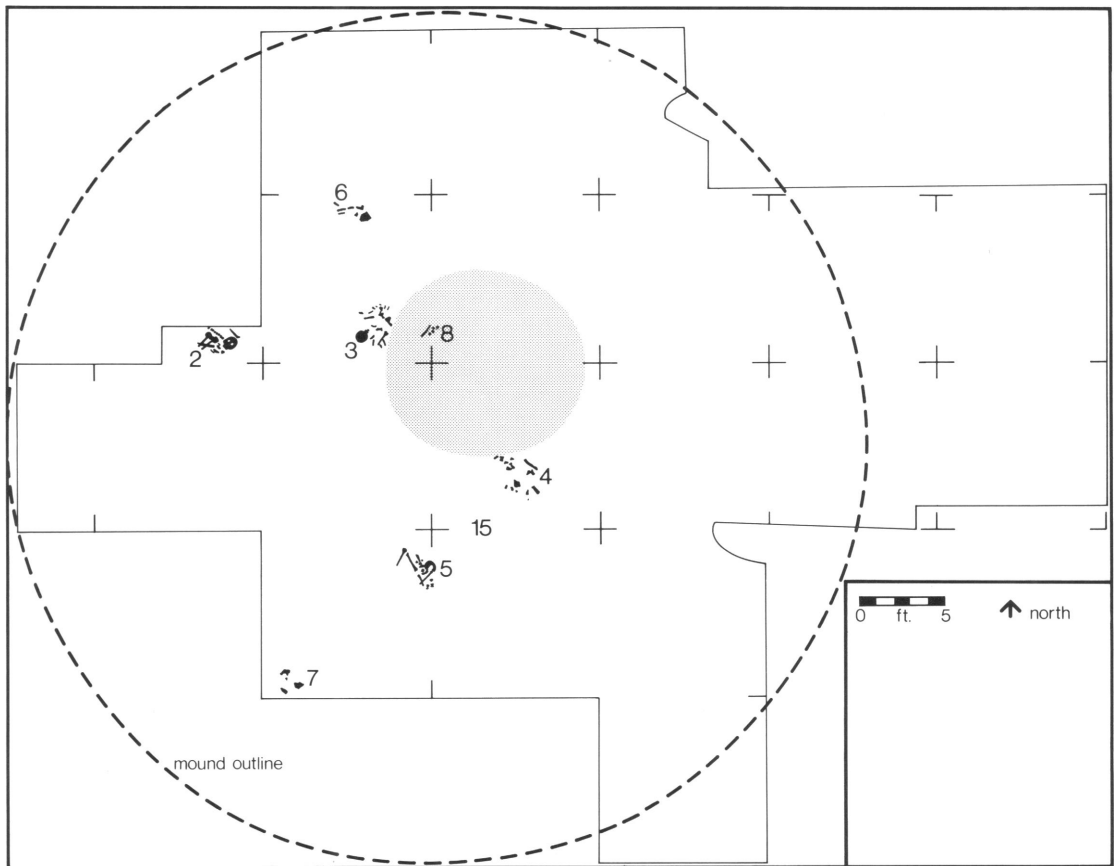


FIG. 26. *Stage III* construction at Johns Mound.

and it is necessary to group these into this residual category.

Only one St. Johns sherd was found at Johns Mound, as contrasted to the significant quantity at Marys Mound.

A number of whole or reconstructable vessels were found, but provenience information for these vessels has been lost, and they are not included on table 6:

**VESSEL 8 (AMNH 28.0/246):**  
**ST. CATHERINES BURNISHED PLAIN**  
 Figure 27e

This bowl is 10.7 cm. in diameter and 4.5 cm. deep. Size of clay tempering particles ranges from medium to large. Both the in-

terior and exterior of the vessel were carelessly smoothed and hastily burnished; the interior shows limited shell scraping. Both interior and exterior walls are rough because of protruding tempering materials.

**VESSEL 7 (AMNH 28.0/247):**  
**ST. CATHERINES BURNISHED PLAIN**  
 Figure 27f

This small bowl is 9.7 cm. in diameter and 8.3 cm. high, and temper is medium to large clay particles. The interior is crudely burnished, but the outside is more carefully finished. A fine orange slip is evident over the entire surface.

TABLE 6  
Stage II and Later Ceramics from Johns Mound

	Stage II					Stage	
	Burial 1	Northeast Corner Shell Chamber	Possible Intrusions Into Shell Core	Shell Above Burial 1	Sand Fill Stage II	Burial 2	Burial 3
Altamaha Line Block Stamped	—	—	—	—	1	1	—
Altamaha Complicated Stamped	—	—	—	—	—	—	—
Altamaha Red Filmed/Stamped	—	—	—	—	—	1	—
Altamaha Incised	—	—	—	—	—	1	—
Altamaha Punctated	—	—	—	—	—	1	—
Altamaha Plain	—	—	—	—	—	1	—
Altamaha Cord Marked	—	—	—	—	—	—	—
Altamaha Stamped	—	—	—	—	—	7	1
Irene Complicated Stamped	—	—	—	—	—	—	—
Irene Burnished Plain	—	—	—	—	—	—	—
Irene Plain	—	—	—	1	—	—	—
Savannah Fine Cord Marked	—	3	—	1	2	1	1
Savannah Burnished Plain	—	—	—	—	—	—	—
Savannah Plain	—	—	—	—	—	—	—
Savannah Fine Cord Marked abrader	—	—	—	—	—	—	—
Savannah hone and abrader	—	—	—	—	—	—	—
Savannah node	—	—	—	—	—	—	—
St. Catherines Fine Cord Marked	3	2	1	5	—	5	—
St. Catherines Burnished Plain	—	—	—	1	3	3	—
St. Catherines Plain	—	1	—	—	2	2	—
St. Catherines Fabric Marked	—	—	—	—	—	—	—
St. Catherines Fabric Marked abrader	—	—	—	—	—	—	—
St. Catherines Cord Marked hone	—	—	—	—	—	—	—
St. Catherines Cord Marked abrader	—	—	—	1	—	—	—
St. Catherines Plain hone	—	—	—	—	—	—	—
Wilmington Heavy Cord Marked	—	—	—	—	—	—	—
Refuge Simple Stamped	—	—	—	—	—	—	—
Refuge Punctated	—	—	—	—	—	1	—
Refuge Plain abrader	—	—	—	—	—	—	—
Refuge Simple Stamped abrader	—	—	—	1	—	—	—
Refuge abrader	—	—	—	—	—	—	—
St. Simons Incised	—	—	—	—	—	—	—
St. Simons Punctated	—	—	—	—	—	—	—
St. Simons Plain	—	—	—	—	—	—	—
Spanish Olive jar	—	—	—	—	—	—	—
St. Johns Check Stamped	—	—	—	—	—	—	—
Irene or Altamaha Stamped	—	—	—	—	—	—	—
Irene or Altamaha Incised	—	—	—	—	—	—	—
Irene or Altamaha Punctated	—	—	—	—	—	—	—
Irene or Altamaha Plain	—	—	—	—	—	—	—
Sand and grit tempered plain	—	—	—	—	—	1	—
Sand and grit tempered cord marked	—	—	—	—	—	—	—
Grit tempered cord marked	—	—	—	—	—	—	—
Grit tempered simple stamped	—	—	—	—	—	—	—
Grit tempered burnished plain	—	—	—	—	—	—	—
Residual clay tempered cord marked	—	—	—	—	3	—	—
Grit tempered stamped	—	—	—	—	—	—	—
Sand and clay tempered plain	1	—	—	—	—	—	—
Clay tempered eroded	—	—	—	—	—	1	—
Coil fragments	—	—	—	2	—	—	—
Totals	4	6	1	12	11	27	2

TABLE 6—(Continued)

III				Shell Middens					General Mound Fill	Totals
Burial 4	Burial 5	Burial 6	Burial 8	Main Shell Midden	Square D Midden	Square E Midden	North Extension Midden	"Square F Vessels"		
—	—	—	—	—	—	—	—	—	9	11
—	—	—	—	—	—	—	—	—	2	2
—	—	—	—	—	—	—	—	—	1	2
—	—	—	1	—	—	—	—	—	1	3
—	—	—	—	—	—	—	—	—	—	1
—	—	—	—	1	—	—	—	—	—	2
—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	—	—	—	—	—	—	8
—	—	—	—	—	—	—	—	—	2	2
—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	—	—	—	—	—	—	1
1	—	—	—	4	1	9	25	—	21	69
—	—	—	—	—	—	6	—	—	5	11
—	—	—	—	—	1	2	—	—	2	5
—	—	—	—	—	—	6	—	2	—	8
—	—	—	—	—	—	—	—	—	3	3
—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	4	—	7	28	116	384	555
—	1	1	—	—	—	—	2	20	80	111
—	—	—	—	—	—	1	—	12	18	36
—	—	—	—	—	—	—	—	—	7	7
—	—	—	—	—	—	1	—	—	—	1
—	—	—	—	—	—	—	—	—	2	2
—	—	—	—	—	—	—	—	10	11	22
—	—	—	—	—	—	1	—	—	—	1
—	—	—	—	—	—	—	5	—	—	5
—	—	—	—	—	—	—	—	—	9	9
—	—	—	—	—	—	—	—	—	—	1
—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	—	—	—	—	—	—	1
—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	—	—	1	—	—	3	4
—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	1	—	2	—	2	27	32
—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	—	—	—	—	—	11	11
—	—	—	—	—	—	—	—	—	2	2
—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	—	—	—	—	—	4	4
—	—	—	—	—	—	—	—	—	2	3
—	—	—	—	—	—	—	—	2	3	5
—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	—	—	—	—	—	1	1
—	—	—	—	—	—	—	—	—	2	2
—	—	—	—	—	—	—	—	—	9	12
—	—	—	—	—	—	—	—	1	2	3
—	—	—	—	—	—	—	—	—	—	1
—	—	—	—	—	—	—	—	—	—	1
—	—	—	—	—	—	—	—	—	—	2
1	1	1	1	10	2	36	60	165	635	975



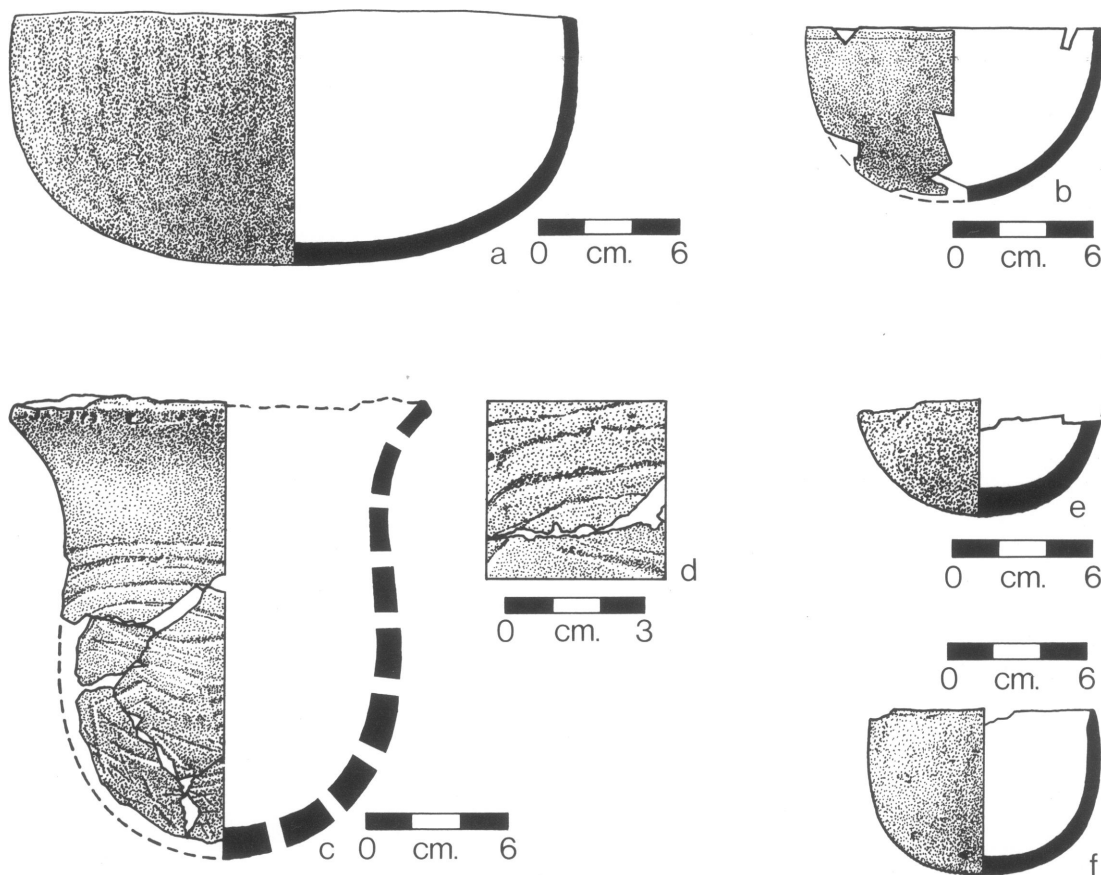


FIG. 27. Vessels from Johns Mound. a. Vessel 3 (AMNH 28.0/252), a St. Catherine's Burnished Plain bowl found in the Central Pit; b. Vessel 1 (AMNH 28.0/245), a St. Catherine's Burnished Plain bowl found associated with Burial 1; c. Vessel 4 (AMNH 28.0/253), an Altamaha Incised vessel found associated with intrusive Burial 8; d. detail of c, showing incising and hone marks; e. Vessel 8 (AMNH 28.0/246), a St. Catherine's Burnished Plain vessel; f. Vessel 7 (AMNH 28.0/247), a St. Catherine's Burnished Plain bowl. Provenience within Johns Mound uncertain for e and f.

**"KIM'S VESSEL" (AMNH 28.0/248):**  
**ST. CATHERINES FINE CORD MARKED**  
 Figure 29a

Provenience has been lost, but this vessel was associated with "Kim's burial." The large jar is approximately 38.5 cm. in diameter and 40.5 cm. high. Temper consists of medium to large fragments of clay; the interior is lumpy because of the coarse quality of the tempering materials. Decorations consist of cross-stamped cord impressions, ap-

plied over the entire surface (fig. 29b). The interior was shell scraped in horizontal bands.

**VESSEL 5 (AMNH 28.0/256):**  
**IRENE PLAIN**  
 Figure 29c

This jar (found in Square A covered with Vessel 6) is tempered with fine sand, including some grit particles. The entire rim of the vessel is missing, perhaps representing a

modification to allow use of Vessel 6 as a tight-fitting cover (fig. 30). The remaining portion of Vessel 5 is approximately 16 cm. in diameter at the shoulder and 16 cm. high. The neck was formerly burnished, but much of the surface has been worn away by abrasion. A single row of nodes is present along the vessel shoulder, but many of these nodes have been destroyed by abrasion. Staining by red ocher is evident on several of the nodes, and elsewhere on the body as well.

VESSEL 6 (AMNH 28.0/257):  
IRENE COMPLICATED STAMPED  
Figure 29d, e

This jar, found inverted over Vessel 5, had been broken, and only the lower half is present (16.5 cm. in diameter and 15.5 cm. high). Thick and crudely made, the exterior surface was originally Irene Complicated Stamped, but most of the decoration has been smoothed over (fig. 29e), and a narrow shell-scraped band appears near the base of the vessel. Below this band, the base is finished, but contains several unsmoothed areas and grass impressions. The interior walls are also roughly finished; finger grooves occur at the bottom of the jar. During firing, numerous spalls broke off and were lost from both interior and exterior surfaces; the upper part of the vessel may also have been lost during the firing process.

Vessel 5 was found sitting upright, with Vessel 6 inverted over it (fig. 30). Inside was a collection of three unmodified quartz cobbles, a sand dollar, an irregular pearl and a projectile point (fig. 31). The fact that the vessels were buried in an existing mound, not in association with a burial, suggests intentional disposal.

A concentration of ceramics was encountered in Square F (fig. 17). Field drawings indicate the presence of two vessels—one plain and one cord marked—in area “A” and two other small vessels at “B,” with a burial (number unknown) beneath them. None of these vessels can be identified in the collection with any confidence, although a series of sherds labeled only “Sq. F vessels” may represent some or all the vessels in question

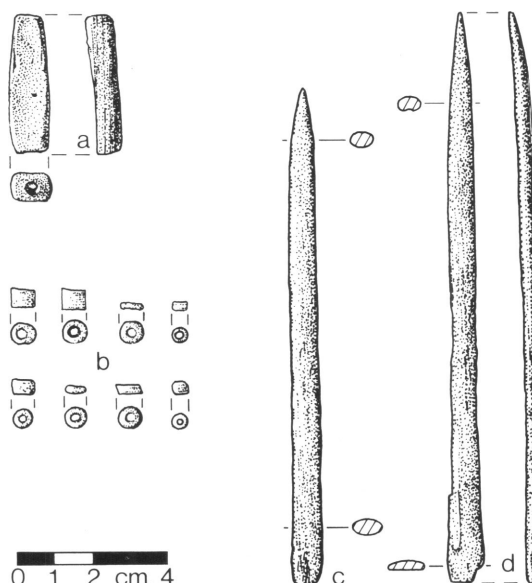


FIG. 28. Miscellaneous artifacts found in Johns Mound. a. whelk columella bead (AMNH 28.0/239) from Burial 11; b. selected shell disk beads from Burial 11 (AMNH 28.0/234, 28.0/238); c-d. bone pins from Central Pit (AMNH 28.0/5276).

(table 6). The 116 St. Catherines Fine Cord Marked sherds are large fragments of at least four jars; four to five other cord marked vessels are also represented by single rim sherds. The 20 St. Catherines Burnished Plain sherds are from at least five different vessels. Poor provenience information precludes further inference, except to note that presence of Savannah and Altamaha sherds suggests a mixed deposit.

A significant proportion of abraders was present in the Square F collection, among them a number of Savannah Fine Cord Marked and St. Catherines Cord Marked (table 6); abraders from both periods were also present in the Square E midden (figs. 38 and 39). Similar abraders have been described from the Refuge and Deptford periods on St. Catherines Island (Thomas and Larsen, 1979, p. 45), but the Johns Mound abraders seem to have served additional functions.

Thomas and Larsen recognized five types

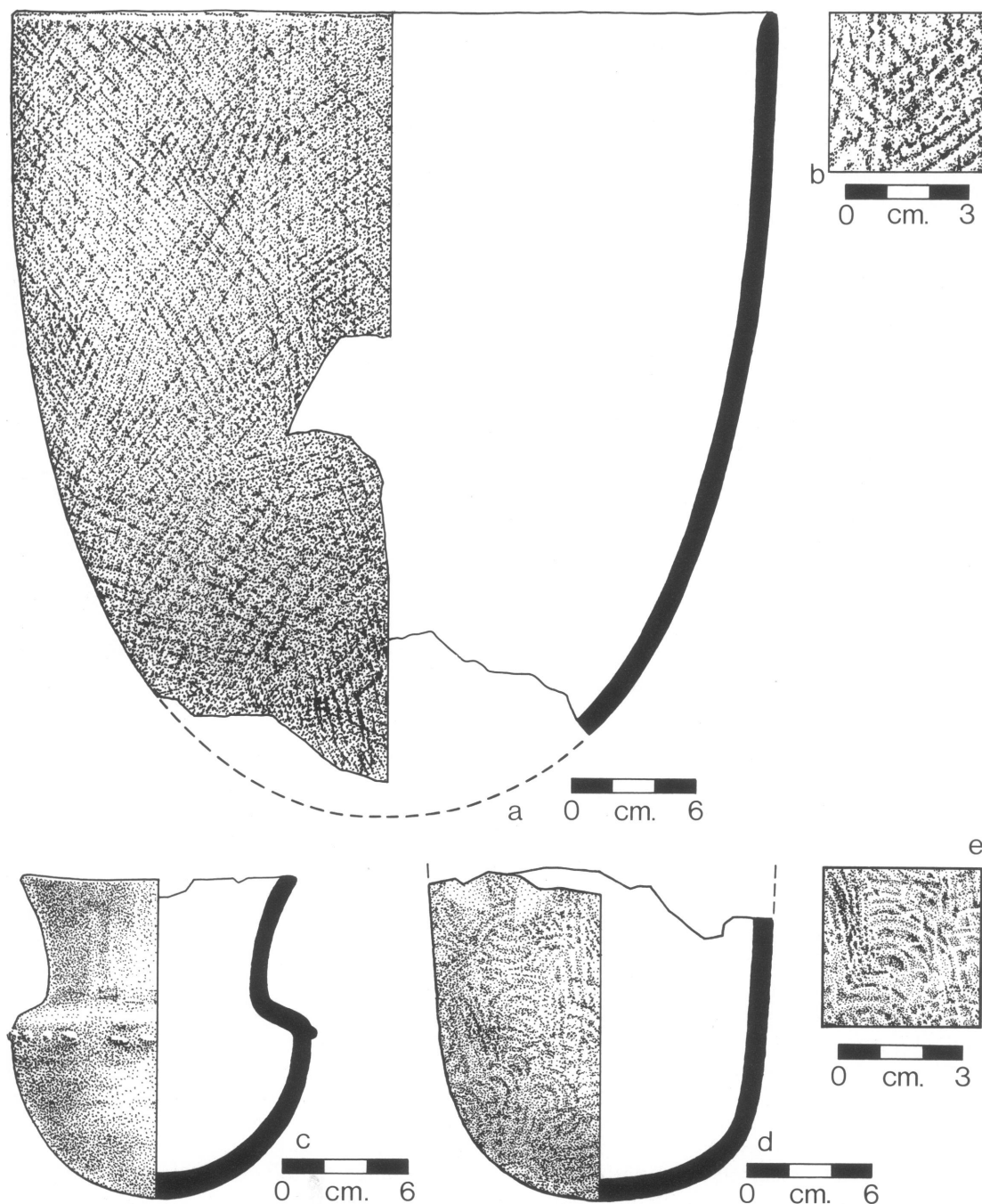


FIG. 29. Vessels from Johns Mound. a. Vessel 28.0/248, large St. Catherines Fine Cord Marked jar; b. detail of a, showing cross-stamped cord impressions; c. Vessel 5 (AMNH 28.0/256), an Irene Plain jar; d. Vessel 6 (AMNH 28.0/257), an Irene Complicated Stamped jar; e. detail of d, showing original Irene Complicated stamping, later smoothed over. Provenience within Johns Mound uncertain for all vessels.

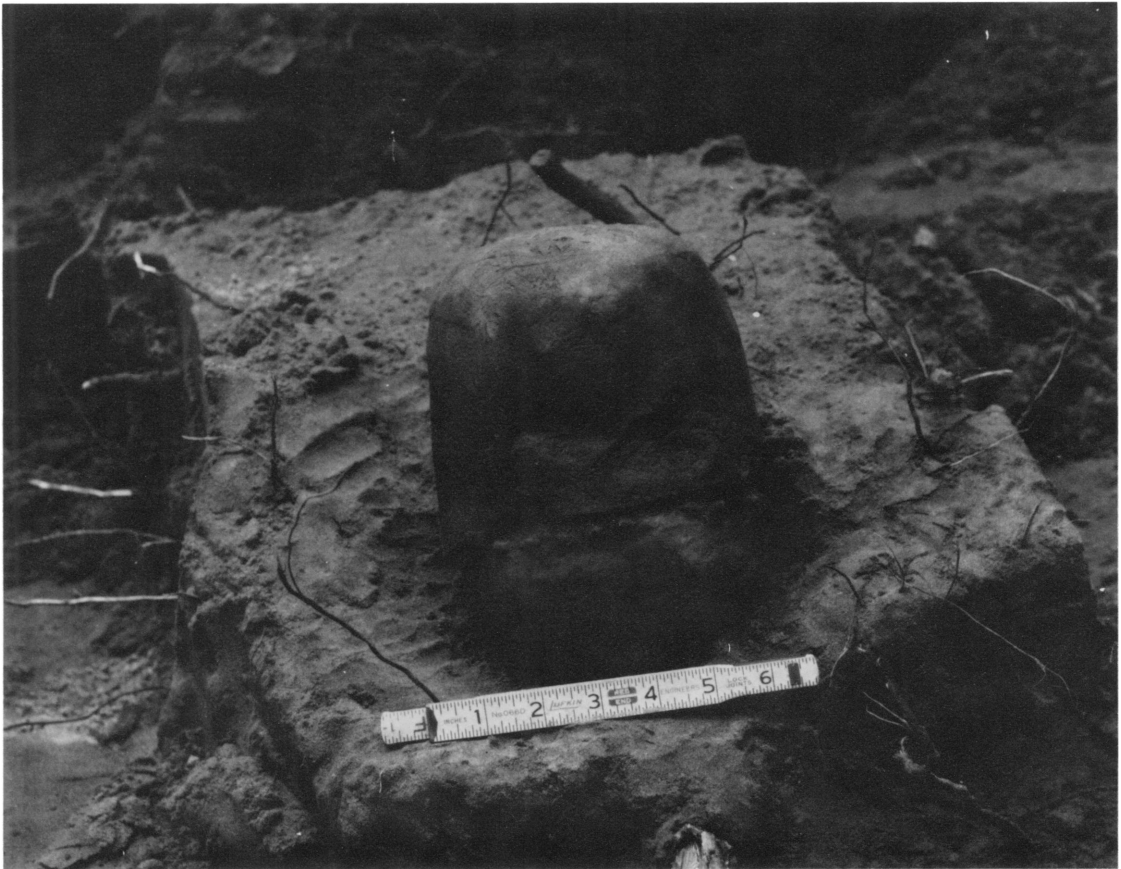


FIG. 30. Photograph showing Vessels 5 and 6 at the time they were found; Square A, orientation uncertain.

of Refuge-Deptford abraders (table 7): Type I (rounded edges with angles between  $45^\circ$  and  $60^\circ$ ); Type II (faceted edge damage); Type III (surface rather than edge abrasion); Type IV (shallow depressions); Type V (shallow pits resulting from drilling).

Type V abraders are absent in the Johns Mound collection, and Types I, II and IV are rare. Most of the Johns Mound abraders are either Type III, Type VI (new type) or a combination of the two. The Type VI abrader (absent in the Refuge-Deptford collections) has a long deep groove on the exterior surface; this groove is generally between 3.5 and 7 cm. across. In many cases, the use groove is so pronounced that it has broken through the interior sherd wall. General sur-

face abrasion (Type III) often occurs adjacent to these grooves.

Although replicative experiments would be necessary to establish the function of these abraders, it seems likely that the Type VI abraders were used for finishing shell disk beads (perhaps of the type found with Burial 11). Bead blanks may have been strung after rough shaping and drilling, and then final shaping could have been accomplished by abrading the beads against sherds. The first stages of such abrasion would produce Type III wear along the surface, and as the beads took final shape, a groove typical of that found in Type VI abraders would be produced. A single sandstone, found in Square E in the mound fill, has an abrading groove

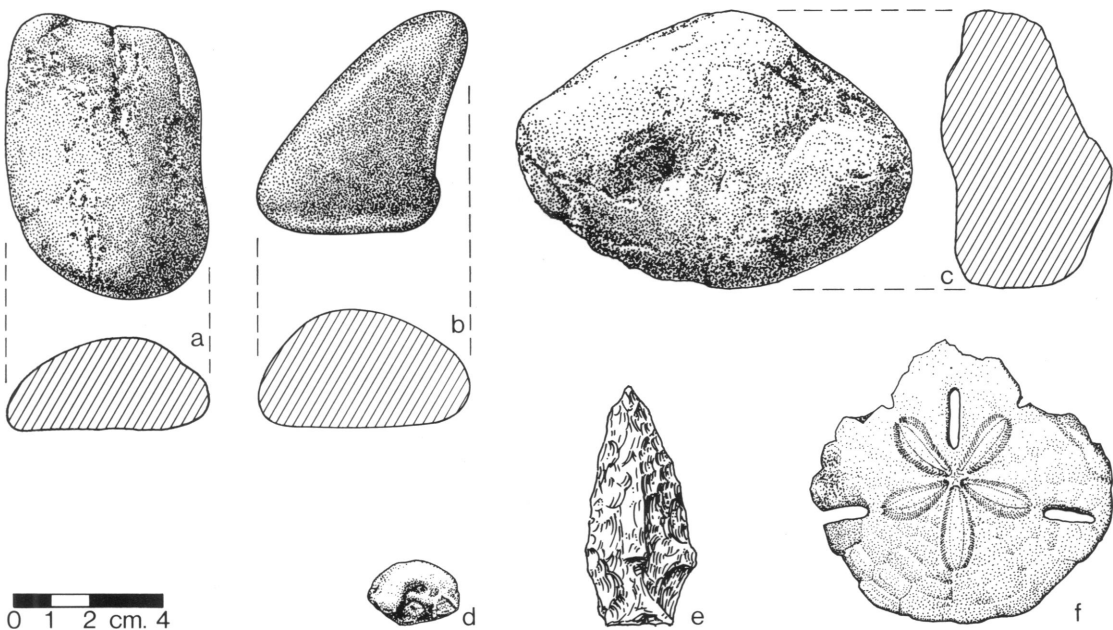


FIG. 31. Contents of Vessels 5 and 6: a–c. unmodified quartz cobbles; d. irregular pearl; e. projectile point; f. sand dollar.

TABLE 7  
Illustrated Abraded Sherds from Johns Mound

Specimen No.	Period	Wear Type						Figure No.
		I	II	III	IV	V	VI	
Square E Midden								
28.0/268a	Savannah	X	—	X	—	—	—	39a
28.0/268b	Savannah	X	—	X	—	—	—	39b
28.0/268d	Savannah	—	—	X	—	—	X	39c
28.0/268e	Savannah	—	X	X	—	—	X	39d
28.0/268f	Savannah	—	—	X	—	—	X	39e
28.0/268g	Savannah	—	—	X	—	—	X	39f
28.0/268c	St. Catherines	—	—	—	—	—	X	38a
Square F								
28.0/2573a	Savannah	—	—	X	—	—	X	39g
28.0/2573b	Savannah	—	—	X	—	—	—	39h
28.0/2573c	St. Catherines	—	—	X	—	—	X	38b
General Mound Fill								
28.0/172	Savannah	X	—	X	—	—	—	39i
28.0/215a	St. Catherines	—	—	—	—	—	X	38c
28.0/215b	Savannah	—	—	X	—	—	—	39j
28.0/215c	St. Catherines	—	—	X	—	—	—	38d
28.0/215d	St. Catherines	—	—	X	X	—	—	38e
28.0/233a	St. Catherines	—	—	—	X	—	—	38f
28.0/233b	St. Catherines	—	—	X	X	—	X	38g
28.0/307	St. Catherines	—	—	—	—	—	X	38h

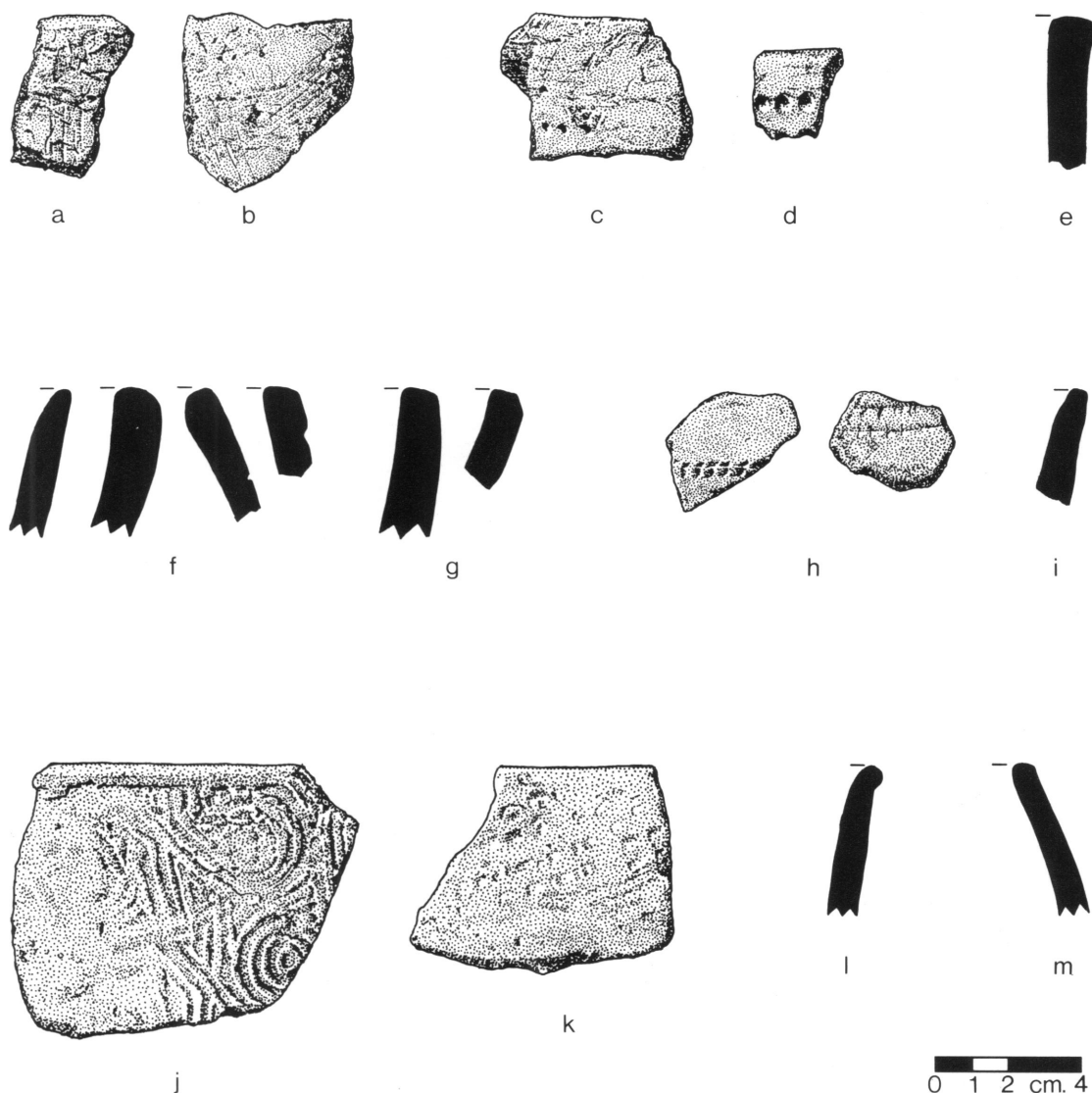


FIG. 32. Early sherds from Johns and Marys mounds. a, b. St. Simons Incised; c, d. St. Simons Punctated; e–g. St. Simons rim profiles. h. Refuge Dentate Stamped; i. Refuge rim profile; j. Deptford Complicated Stamped (Marys Mound); k. Deptford Complicated Stamped abrader (Marys Mound); l, m. Deptford rim profiles (Marys Mound).

along one edge, and may have served a similar purpose in bead manufacture.

A few nonceramic artifacts were present in the mound fill. Square A contained a small angular fragment of chert, 1.25 cm. across. Square E also produced a fist-sized quartz cobble that showed no evidence of use or

modification. Square G contained a worked human bone (fig. 40): an adult proximal hand phalanx that shows signs of polish over the entire dorsal surface; the palmar surface shows slight polish on the distal end. Function of this bone tool is unknown.

Two long bone pins (AMNH 28.0/5276)

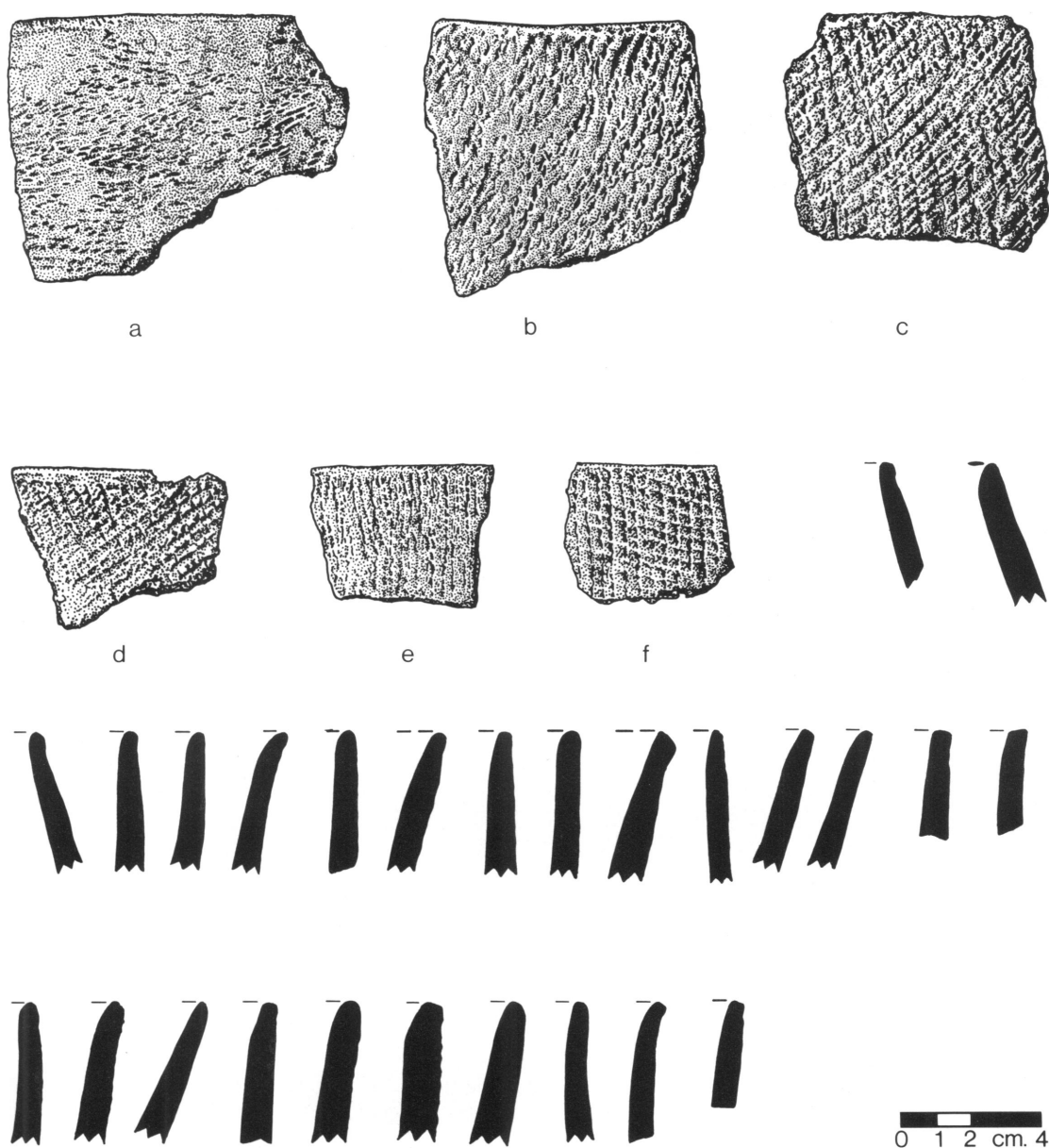


FIG. 33. St. Catherine's Cord Marked sherds and rim profiles; d. is from Marys Mound, and the rest of the sherds are from Johns Mound.

were found in the Central Pit, probably associated with the child's bones and whole vessels also found there. Both pins are complete (fig. 28c, d), measuring 15.4 cm. and

13.2 cm. in length, respectively. Although the surfaces are eroded, it is clear that the bones were once highly polished and finely finished, but apparently undecorated.

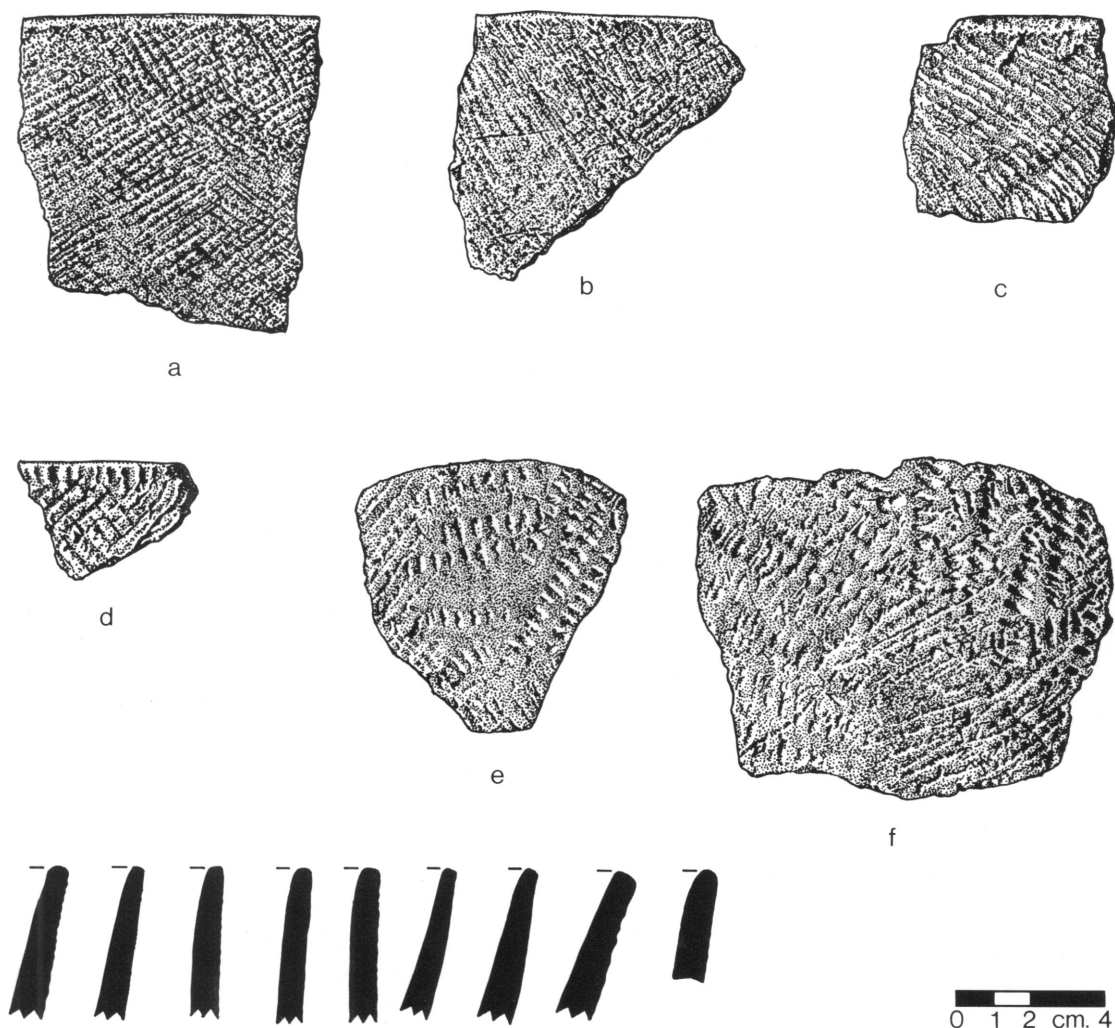


FIG. 34. St. Catherines Fine Cord Marked sherds and rim profiles from Johns Mound.

### SKELETAL REMAINS

A large series of human skeletal remains have been recovered from Johns Mound in nearly all strata (table 8). The following remains were found in Stage I contexts:

**BURIAL 9:** two individuals: A. fetus; left ilium, left tibia. B. adult; right patella, right third cuneiform, a metatarsal diaphysis.

**BURIAL 10:** two individuals, both adult, at least one is male. University of Georgia field notes indicate that the burial consisted of one adult;

this suggests that one of the individuals was originally from another burial that was comingled with the original individual following excavation and removal. The field notes also indicate that the original burial was extended and supine with head oriented north; cranial reconstruction (frontal, left and right parietals, temporals, occipital); left and right mandibular corpora, right zygoma; complete mandible and right half of maxilla, fragments of radius heads and diaphyses, ribs and two cervical vertebrae; remainder of burial unavailable for study.

**BURIAL 11:** multi-individual bundle burial con-



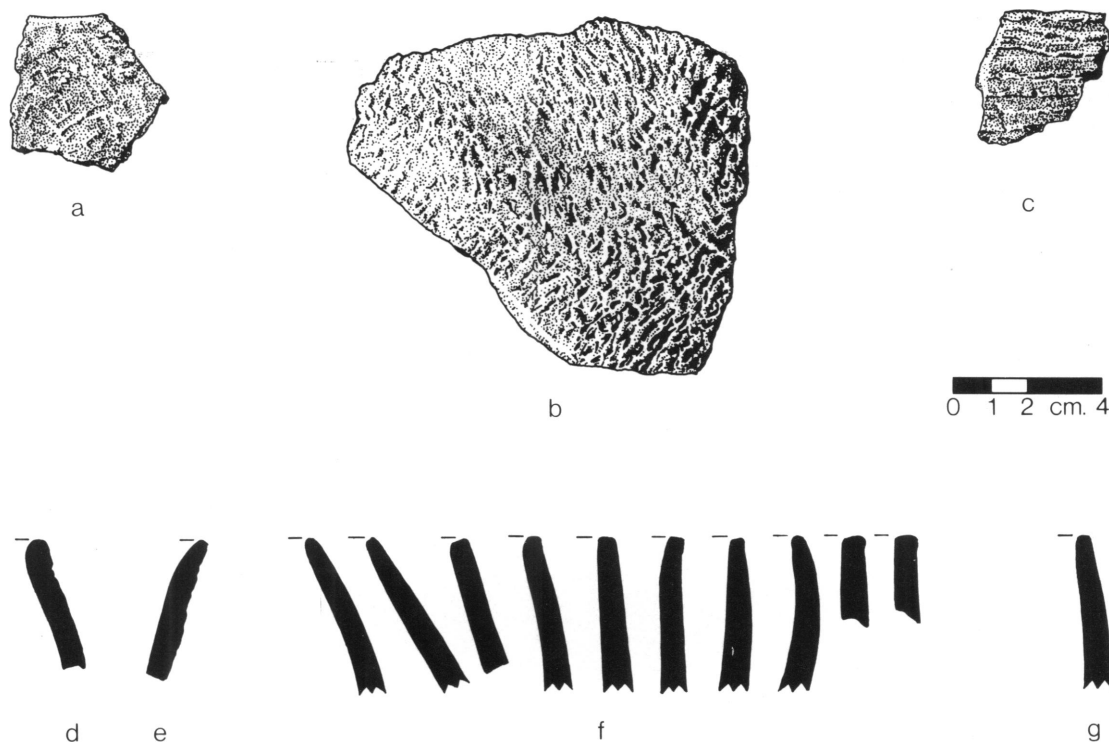


FIG. 35. St. Catherine's period sherds from Johns and Marys mounds. a, b. St. Catherine's Fabric Marked; c. clay tempered simple stamped (Marys Mound); d. St. Catherine's Fabric Marked rim profile; e. clay tempered simple stamped rim profile; f. St. Catherine's Burnished Plain rim profiles; g. St. Catherine's Plain rim profile.

sisting of at least seven individuals. Based on sex, age, robusticity, size and color differences of the skeletal elements, most of the skeletal materials could be separated by individual. This was not possible, however, for a number of cranial and postcranial fragments: mandibular and maxillary alveoli, three right zygomas, an occipital condyle and fragments of sphenoid, temporals, frontals, parietals, occipitals, left and right clavicles, scapulae, humeri, femora, patellae, tibiae, calcanea, left talus, right navicular, right cuboid, two first cuneiforms, metatarsals, proximal and middle foot phalanges, left lunate, right triquetral, lesser multangular, two capitates, metacarpals, proximal, middle and distal foot phalanges, rib fragments, fragments of all vertebrae. The separated individual remains included the following:

A. male, adult; maxilla, mandible, left and right ilia and ischia, right scapula, right humerus, left and right calcanea, left first metatarsal; man-

dibular left central incisor through third molar, right lateral incisor through third premolar, first and second molars, maxillary central incisor through canine, fourth premolar, right lateral incisor through third molar. Pathology: marginal lipping of lateral-inferior aspect of left first metatarsal.

B. child, 7-8; left and right humeri, right radius, right ulna, left and right femora, left and right tibiae, left and right fibulae. Pathology: plaque-like periostitis covering most of right ulnar diaphysis.

C. child, 6-7; left femur.

D. preadult, 13; mandible, right humerus, left and right radii, right ulna, left and right femora, right tibia; mandibular left central incisor, first and second molars, right lateral incisor, fourth premolar, second molar, maxillary first molar.

E. child, 8; mandible, left and right humeri, left and right femora, left and right tibiae; permanent dentition—mandibular left and right first

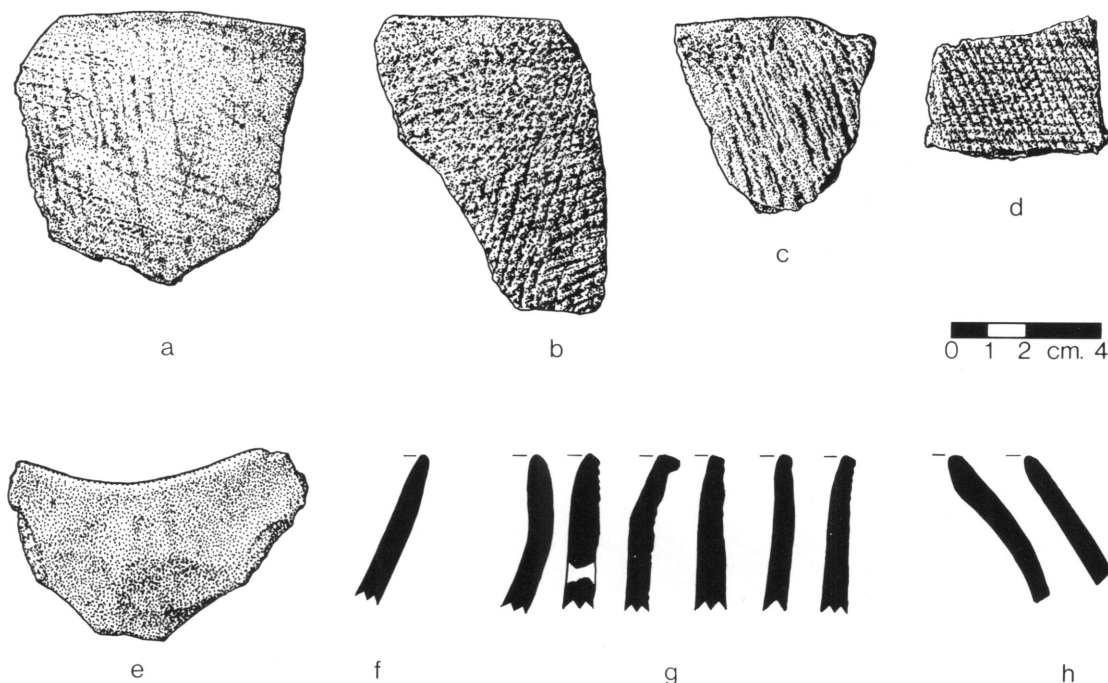


FIG. 36. Savannah period sherds from Johns and Marys mounds. a. Savannah Cord Marked; b–d. Savannah Fine Cord Marked; e. Savannah Burnished Plain (Marys Mound); f–h. Savannah period rim profiles.

molars; deciduous dentition—mandibular left and right canine through second molars.

F, G. two adult females of nearly identical size and morphology: fragments of left and right humeri, radii, ulnae, femora, tibiae, fibulae. Pathology: swollen periosteum of one tibia midshaft.

BURIAL 12: infant, 6 months–1; disarticulated bundle; fragments of most of cranium, left and right ischia, left ischium, left pubis, left and right scapulae, left humerus, radius diaphysis, left and right femora, right tibia, calcaneus, five metatarsal or metacarpal diaphyses, rib fragments, nine centra and 22 neural arch halves of cervical and thoracic vertebrae.

BURIAL 13: child, 7: individual completely disturbed by relic collectors; fragments of left and right femora, right tibia, right fibula.

BURIAL 14: male, adult; extended, prone, head to the east; fragments of left and right temporals, distal humerus, right ulna, right femur, right patella, left and right tibiae, left and right fibulae, left and right tali, left and right naviculars, left cuboid, left first, second, and third cunei-

forms, two metatarsal diaphyses, one metacarpal diaphysis, one middle hand phalanx. Pathology: degenerative pitting on articular surfaces of right patella and right femoral lateral condyle.

BURIAL 16: female, 50+; extended, prone, head to the southeast; fragments of left and right ilia,

TABLE 8  
Johns Mound Burial Types by Stratigraphic Unit<sup>a</sup>

	Extended (N)	Secondary or Flexed (N)	Total (N)
Stage			
I	36	12	48
II–III	1	7	8
	Total		56

<sup>a</sup> Does not include burials of unknown treatment.

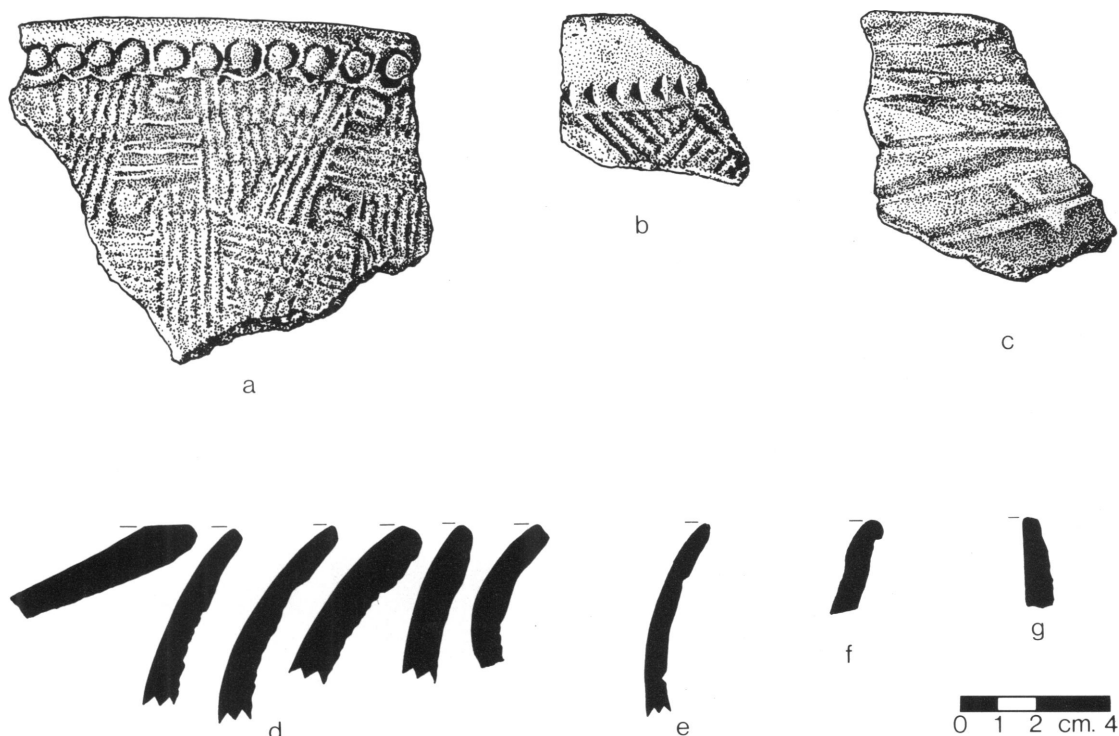


FIG. 37. Altamaha period sherds from Johns Mound. a, b. Altamaha Line Block Stamped; c. Altamaha sherd hone; d-g. Altamaha rim profiles.

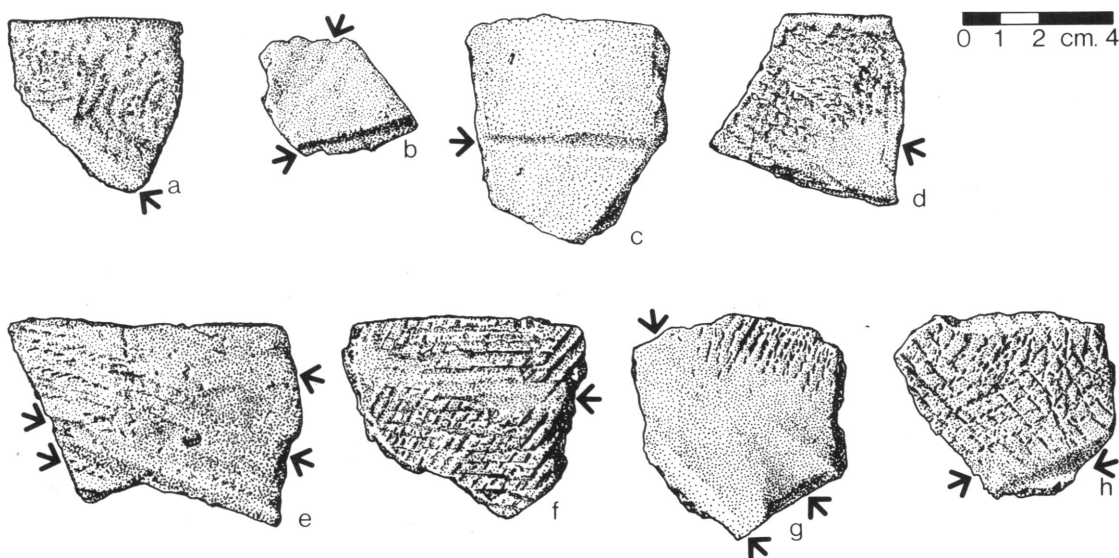


FIG. 38. Abraders made of St. Catherine's period sherds; for descriptions see table 7. a. 28.0/268c; b. 28.0/2573c; c. 28.0/215a; d. 28.0/215c; e. 28.0/215d; f. 28.0/233a; g. 28.0/233b; h. 28.0/307.

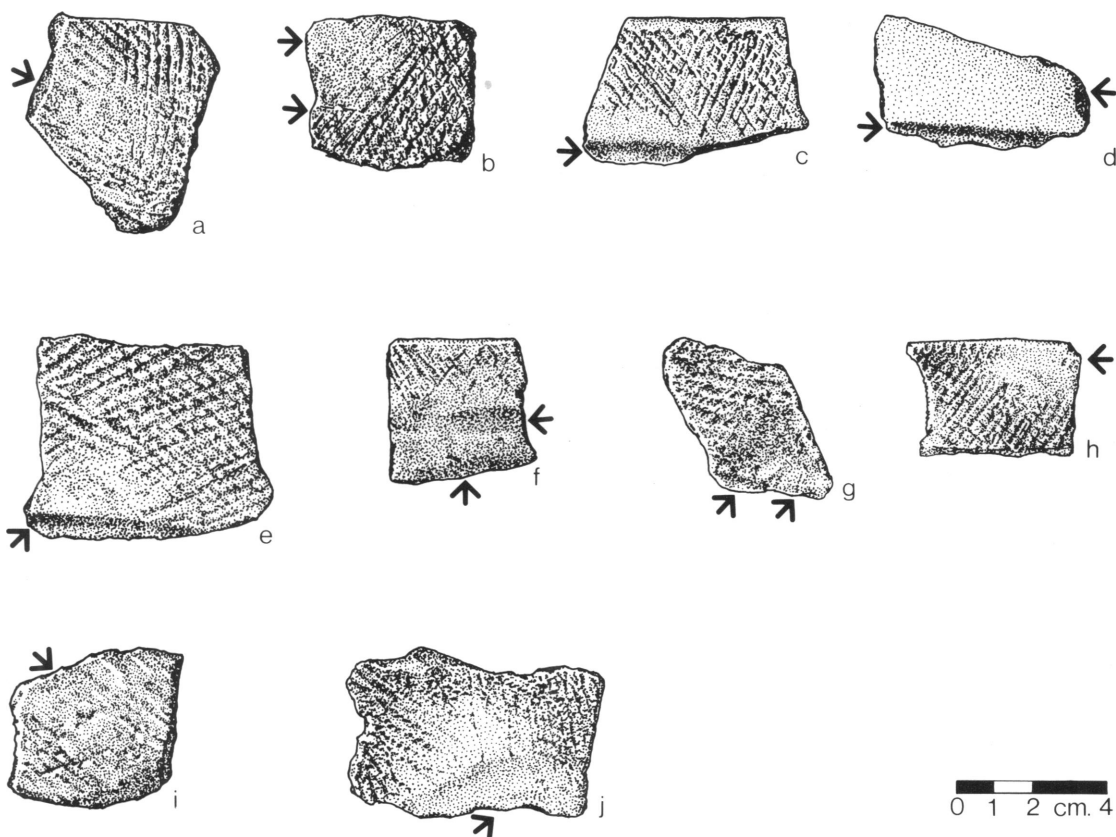


FIG. 39. Abraders made of Savannah period sherds; for descriptions see table 7. a. 28.0/268a; b. 28.0/268b; c. 28.0/268d; d. 28.0/268e; e. 28.0/268f; f. 28.0/268g; g. 28.0/2573a; h. 28.0/2573b; i. 28.0/172; j. 28.0/215b.

pubes, clavicles, scapulae, humeri, left radius, left and right ulnae, femora, patellae, tibiae, fibulae, calcanea, tali, left navicular, left and right cuboids, cuneiforms (1–3), all metatarsals, seven proximal, two middle, two distal foot phalanges, right scaphoid, right lunate, left triquetral, left lesser multangular, right capitate, right hamate, left metacarpal (5), right metacarpals (1, 2, 3, 5), five proximal, four middle, and one distal hand phalanges, rib fragments, all vertebrae; maxillary right central incisor. Pathology: extensive osteophytotic lipping on bodies and articular processes of cervical through second thoracic vertebrae; articular surfaces of left and right patella, and left and right femoral condyles and heads have degenerative joint surface pitting.

BURIAL 17: preadult, 15–16; extended, supine, head to the southeast; cranial reconstruction

(frontal, left and right parietals, left temporal, occipital), fragments of right zygoma, sphenoid, occipital, right temporal, ethmoid (crista galli), left maxilla, mandible, left and right ilia, clavicles, left scapula, left and right humeri, radii, left ulna, left femur, left patella, left tibia and fibula, right third metatarsal, two proximal foot phalanges, right capitate, left hamate, metatarsals (1, 5), rib fragments, four thoracic and four lumbar vertebrae, two sacral segments; complete maxillary dentition except for missing right central incisor. Nonmetric variants: septal perforation of left distal humerus; parietal notch bone (left); ossicle at lambda.

BURIAL 18: female, adult; prone, extended, head to the southeast, partially disturbed by local relic collectors; fragments of right temporal, left and right zygomas, occipital, mandible, maxilla; left and right ilia, ischia, pubes, clav-

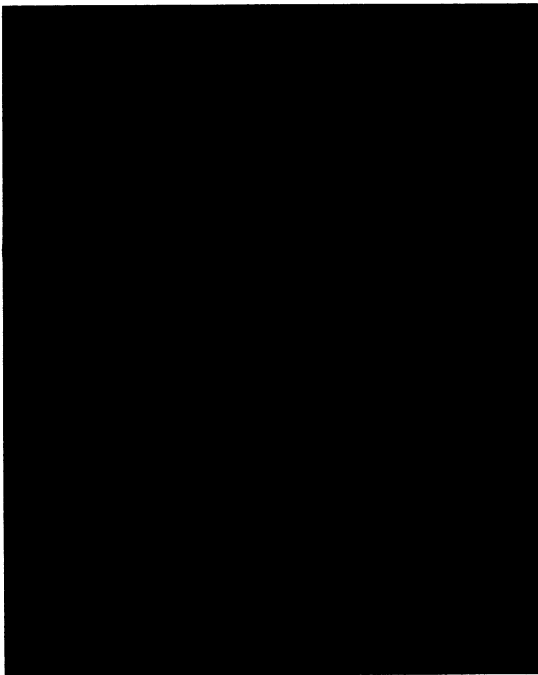


FIG. 40. Photograph of polished human hand phalanx (dorsal view).

icles, right scapula, left and right humeri, radii, ulnae, femora, patellae, tibiae, fibulae, all tarsals and metatarsals, three left and one right proximal foot phalanges, three left middle foot phalanges, three left distal foot phalanges, left scaphoid, left and right lunates, right triquetral, left greater multangular, left lesser multangular, left and right capitates, right hamate, left metacarpals (1-3, 5), right metacarpals (1-5), three left and three right proximal hand phalanges, middle hand phalanges (2-5), four left and three right distal hand phalanges, rib fragments, first and second cervical vertebrae, two thoracic and one lumbar vertebrae, sacrum; mandibular right third premolar through third molar, maxillary right central incisor, third premolar through third molar. Nonmetric variants: septal perforation of right distal humerus. Pathology: small degree of marginal osteophytotic lipping of cervical and thoracic vertebrae; extreme marginal osteophytotic lipping of lumbar vertebrae; expansion of nutrient foramina of carpals and proximal hand phalanges; degenerative pitting of femoral head.

BURIAL 19: female (?), adult; burial consisted of an isolated left humerus.

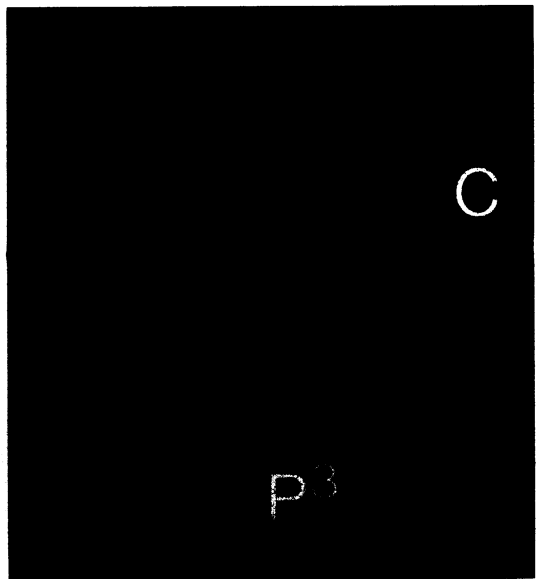


FIG. 41. Photograph of abnormally positioned maxillary left third premolar from Burial 21, Johns Mound.

BURIAL 20: isolated bone only; not available for study.

BURIAL 21: female, 18-25; extended, prone, head to the east; cranial reconstruction (left and right parietals, frontal, occipital), fragments of left and right temporals, ilia, ischia, clavicles, scapulae, humeri, left radius, left and right ulnae, femora, left patella, left and right tibiae, fibulae, calcanea, tali, naviculars, cuboids, first, second and third cuneiforms, metatarsals (all except left first), one proximal foot phalanx, left capitate, right hamate, five metacarpal diaphyses, five proximal and one distal hand phalanges, rib fragments, all cervical, thoracic, and lumbar vertebrae, first segment of sacrum; mandibular left and right lateral incisors through third molars; maxillary left central incisor through third premolar, second and third molars, right central incisor through canine, first through third molars. Pathology: maxillary left third premolar located lingual to the maxillary left canine and its buccal surface is rotated mesially (fig. 41); large groove on mesial occlusal surface of maxillary right central incisor (fig. 42).

BURIAL 22: female, 40-50; extended, prone, head to the east; cranial reconstruction (frontal, left and right sphenoids, parietals, temporals, occipital), maxilla, mandible, hyoid, right ilium,

right ischium, right pubis, left and right clavicles and scapulae, right humerus, right radius, right ulna, right femur, left and right patellae and tibiae, right fibula, right calcaneus, right talus, right metatarsals (1–5), left metatarsal (1), a metatarsal diaphysis, a proximal first foot phalanx, rib fragments, all cervical and thoracic vertebrae, two lumbar vertebrae, fragment of sacrum; complete dentition. Pathology: marked osteophytotic lipping of cervical and lumbar vertebral bodies and articular facets; osteoma on frontal; radius head shows extensive joint surface degenerative pitting.

**BURIAL 23:** adult (?); extended, prone, head to the northeast; skeletal remains unavailable for study.

**BURIAL 24:** child (Butler, n.d.); extended, supine, head to the southeast; skeletal remains unavailable for study.

**BURIAL 30:** adult; isolated left humerus and sacrum.

**BURIAL 31:** male, 20–25; flexed; cranial reconstruction (frontal, left and right parietals, left and right temporals, occipital), left and right maxillae, mandible, left and right ilia, ischia, clavicles, scapulae, humeri, radii, ulnae, femora, patellae, tibiae, fibulae, all tarsals and metatarsals, two proximal and two middle foot phalanges, one distal foot phalanx, left and right scaphoids, lunates, left triquetral, left and right greater multangulars, left lesser multangular, left and right capitates, left hamate, all metacarpals, seven proximal and six middle hand phalanges, one distal hand phalanx, sternum, fragments of all cervical, thoracic and lumbar vertebrae, sacrum; mandibular left canine through third molar, right first, second and third molars, maxillary left central incisor through second molar, right central incisor, third premolar through third molar. Pathology: osteophytotic lipping on lumbar vertebrae.

**BURIAL 32:** male, adult; extended, supine, head to the northeast; cranial reconstruction (right temporal, occipital, parietal, frontal, zygoma), maxilla, mandible, fragments of left and right clavicles, scapulae, humeri, left radius, left and right ulnae, fibulae, calcanea, tali, naviculars, cuboids, right first cuneiform, left and right second cuneiforms, left metatarsals (1–5), right metatarsals (1, 2 or 3, 4), two proximal foot phalanges, left and right scaphoids, left lunate, left and right triquetral, left greater multangular, right lesser multangular, left and right capitates, left hamate, left metacarpals (1–5), right metacarpals (1–4), five proximal, three middle, one distal hand phalanges, ribs, seven cervical

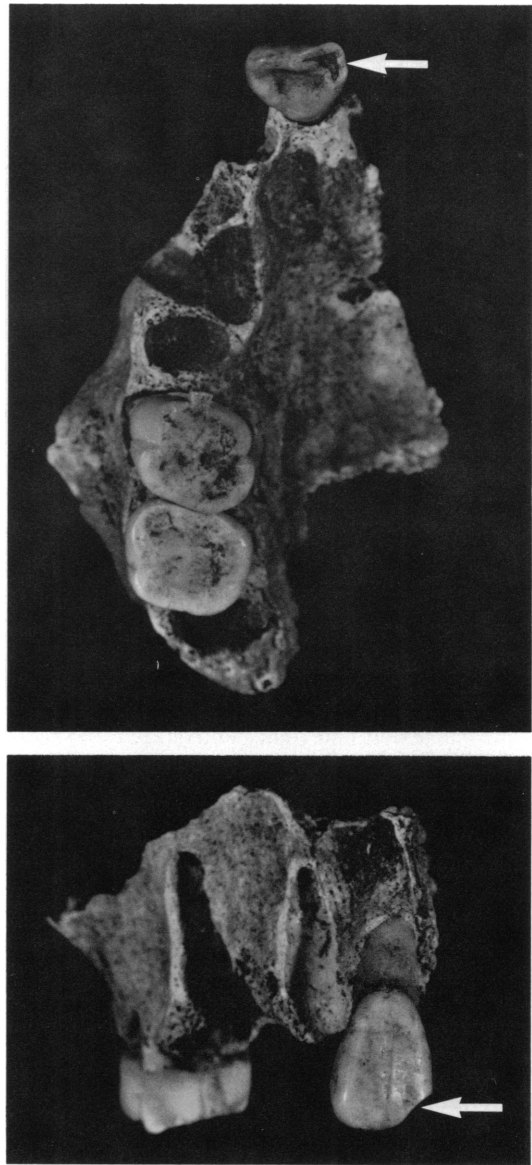


FIG. 42. Occlusal view (*Top*) and labial view (*Bottom*) of mesial groove on maxillary right central incisor from Burial 21, Johns Mound.

vertebrae, eight thoracic vertebrae, one lumbar vertebra; mandibular left central incisor through canine, fourth premolar through third molar, right central incisor, canine through second molar; maxillary dentition complete. Pathology: degenerative joint surface pitting and marginal lipping of the mandibular condyles.

- BURIAL 33:** male, adult; skull burial, head to the east; cranial reconstruction (frontal, left and right parietals, right temporal, occipital), fragments of left and right zygomas, left frontal, left temporal, maxilla; third or fourth left mandibular premolar. Nonmetric variants: left and right asterionic bones (single each side).
- BURIAL 34:** adult; extended, supine, head to the east; fragments of cranium, right ulna, metatarsal (1), proximal foot phalanx, sacrum; remainder of burial not available for study.
- BURIAL 36:** adult; extended, head to east; fragments of left ulna, right talus, left navicular, left third cuneiform, a middle foot phalanx, left greater multangular, right lesser multangular, one proximal hand phalanx and two middle hand phalanges, rib fragments, two thoracic vertebral neural arch fragments; maxillary left third molar, right central incisor through third molar; remainder of burial unavailable for study.
- BURIAL 37:** female, 40+; extended, supine, head to the south; fragments of left parietal, left temporal, occipital, mandible, left ilium; left ischium, left pubis, left and right clavicles, scapulae, humeri, radii, ulnae, femora, left patella, left and right tibiae, fibulae, calcanea, tali, right navicular, left and right cuboids, left and right first, second and third cuneiforms, left metatarsals (1-4), right metatarsals (1-4), eight proximal foot phalanges, left and right scaphoids, right lunate, left and right greater multangulars, left and right capitates, left hamate, left metacarpals (1-4), seven proximal, four middle and three distal hand phalanges, rib fragments, six cervical and four thoracic vertebrae, sacrum; complete mandibular dentition. Pathology: completely healed fracture of distal right fibula; osteophytotic lipping of lumbar vertebrae; remainder of burial not available for study.
- BURIAL 38** (fig. 22): male, adult; extended, supine, head to the northeast; cranial reconstruction (frontal, left and right parietals, right temporal, occipital), fragments of right zygoma, maxilla, left temporal, occipital; mandibular left and right central incisors through canines; maxillary dentition complete except for missing left and right lateral incisors; remainder of burial not available for study.
- BURIAL 39:** adult; extended, supine, head to the southwest; fragments of scapula, radius, patella, right calcaneus, fifth metatarsal, right scaphoid, a metacarpal, a proximal hand phalanx, fragments of one cervical, two thoracic, five lumbar vertebrae; remainder of burial not available for study.
- BURIAL 40:** male, adult; extended, supine, head to the east; cranial reconstruction (frontal, left and right parietals, occipital), fragments of maxilla, right zygoma; complete maxillary dentition except for missing right third molar. Nonmetric variants: multiple lambdoidal ossicles, right; remainder of burial unavailable for study.
- BURIAL 41** (fig. 22): female, adult; extended, supine, head to the northeast; fragments of most of the cranium; remainder of burial unavailable for study.
- BURIAL 42:** male, 30-40; extended, supine, head to the south; fragments of frontal, left and right parietals, occipital, mandible, right scaphoid, right lesser multangular, right metacarpals (1, 5), five proximal, four middle, two distal hand phalanges, rib fragments, mandibular left canine through third molar, right lateral incisor through third molar; maxillary right central incisor; remainder of burial unavailable for study.
- BURIAL 43:** adult; extended, head to the northwest; tibia fragment; remainder of the skeleton unavailable for study.
- BURIAL 44:** burial found in south wall of unit F; not excavated.
- BURIAL 45:** adult; extended, supine, head to the northeast; frontal fragment; maxillary left second molar; remainder of skeleton unavailable for study.
- BURIAL 46:** female, adult; extended, supine, head to the east; fragments of frontal, left and right temporals and parietals, occipital, mandible, maxilla, left and right ilia, ischia, clavicles, scapulae, humeri, radii, left ulna, all cervical, thoracic, lumbar and sacral vertebrae; mandibular left third premolar, right canine through fourth premolar; maxillary left canine through first molar, right central incisor, canine through first molar; remainder of burial unavailable for study.
- BURIAL 47:** two individuals, an adult male (A) and an adult female (B). University of Georgia field notes indicate that only one individual was originally represented in this burial, therefore one of the two individuals represents an extra skeleton of unknown provenience. Because the two individuals are of very similar proportions, it was impossible to separate the two comingled skeletons. The University of Georgia field notes indicate that the original skeleton was extended, supine, head to the east. The skeletal remains included the following: cranial reconstruction (frontal, left and right parietals and

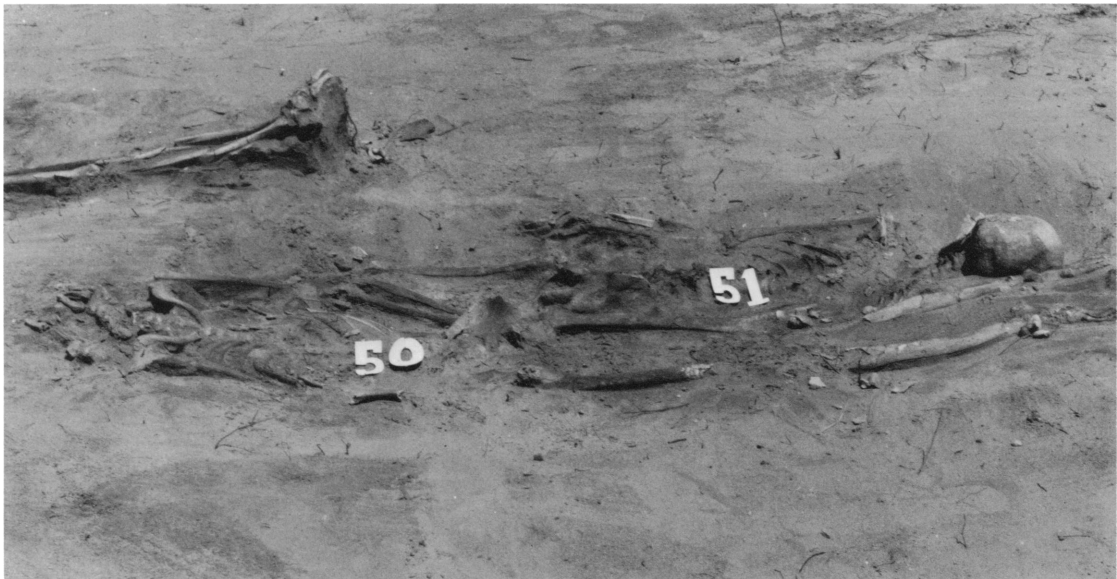


FIG. 43. Photograph of Burials 50 and 51 at Johns Mound, looking due east.

temporals, occipital), fragments of frontal, nasals, left and right parietals, right zygoma, left and right ilia, ischia, pubes, clavicles, scapulae, humeri, radii, ulnae, femora, patellae, tibiae, fibulae, calcanea, tali, naviculars, cuboids, first, second and third cuneiforms, metatarsals, three proximal foot phalanges, right lunate, left and right capitates, left metacarpals (1–5), right metacarpals (1–3), four metacarpal diaphyses, eight proximal, 10 middle, and three distal hand phalanges, rib fragments, 14 cervical, three thoracic, three lumbar vertebrae, one sacrum; two mandibular and two maxillary dentitions (A. mandibular left and right canines through third molars, maxillary left third premolar through third molar; B. mandibular left canine, fourth premolar through third molar, right canine through third molar, maxillary dentition complete except for missing right molar). Non-metric variants: right lambdoidal ossicle, asterionic bone, right. Pathology: midshaft of medial aspect of right femur—osteoma; infero-superior flattening and osteophytotic lipping of cervical and lumbar vertebrae.

**BURIAL 48:** female, 18–30 (Butler, n.d.): extended, head to the southeast; skeletal remains unavailable for study.

**BURIAL 49** (fig. 22): adolescent (Butler, n.d.); ex-

tended, supine, head to the southeast; skeletal remains unavailable for study.

**BURIAL 50** (fig. 43): female, adult (Butler, n.d.); extended, supine, head to the northeast; skeletal remains unavailable for study.

**BURIAL 51** (fig. 43): male, 25–35 years; extended, supine, head to the southwest; cranial reconstruction (frontal, left and right parietals, occipital), right pubis; remainder of skeletal remains unavailable for study.

**BURIAL 52** (fig. 23): adult; cremation; fragments of most of cranial and postcranial skeleton of one individual.

**BURIAL 53** (fig. 23): male, 25–30 (Butler, n.d.); extended, supine, head to the northeast; skeletal remains unavailable for study.

**BURIAL 54:** adult; extended, supine; head to the southeast; skeletal remains unavailable for study.

**BURIAL 55:** 16–19; left humerus; remainder of skeleton unavailable for study.

**BURIAL 56** (fig. 23): female, 16–17 (Butler, n.d.); extended, supine, head to the northeast; fragments of scapula, humerus, calcaneus, talus, a cervical vertebra (second), neural arch fragments; remainder of skeleton unavailable for study.

**BURIAL 57** (fig. 23): child (Butler, n.d.); extended,





FIG. 44. Photograph of Burial 58, looking southeast.

supine, head to the northeast; skeletal remains unavailable for study.

BURIAL 58 (fig. 44): adult (Butler, n.d.); extended, supine, head to the northeast; skeletal remains unavailable for study.

BURIAL 59: male, adult (Butler, n.d.); extended, supine, head to the southeast; skeletal remains unavailable for study.

BURIAL 60: female, adult (Butler, n.d.); extended, supine, head to the southeast; skeletal remains unavailable for study.

BURIAL 61: male, 18–30 (Butler, n.d.); extended, supine, head to the southeast; skeletal remains unavailable for study.

BURIAL 62: adult; skull burial; fragments of temporal and unidentifiable cranial.

BURIAL 63: adult; extended, supine, head to the northwest; skeletal remains unavailable for study.

BURIAL 64: adult; skeletal remains unavailable for study.

BURIAL 65: child, 1; fragments of frontal, left and right temporals, occipital, maxilla, mandible,

unidentifiable cranial; left and right ilia, right ischium, left and right pubes, left clavicle, left and right humeri, right ulna, a femur, a tibia, left and right fibulae, ribs, cervical and thoracic vertebrae; deciduous dentition represented by a mandibular left lateral incisor, first and second molars, right central and lateral incisors, maxillary left canine and first molar, right central incisor through second molar.

The following burials may represent later interments intrusive into Stage I. However, since in the excavation of these individuals no intrusive pits related to burial were observed, these interments probably represent burial prior to the placement of the shell core:

BURIAL 25: The University of Georgia field notes indicate that this burial consisted of one adult skeleton which was found extended, prone with the head oriented to the northeast. Following excavation, the partial skeletal remains from

another individual were mixed with the remains from the original interment. The skeletal remains from both individuals include the following:

A. adult; fragments of occipital, clavicle, radius, fibula, proximal foot phalanx, left metacarpals (1, 3), two cervical vertebral fragments; mandibular right canine;

B. child, 2; fragments of frontal, left and right parietals, left and right sphenoids, left and right temporals, occipital; deciduous dentition consists of mandibular left second molar, right canine and second molar, maxillary left lateral incisor, canine and second molar, right canine; permanent dentition consists of mandibular left canine (crown only), left and right first molars (crowns only); remainder of burial unavailable for study.

**BURIAL 26:** bundle burial consisting of two individuals—an adult of indeterminate sex (A), and a female (?) adult (B).

A. represented by an incomplete dentition—mandibular right third premolar through third molar.

B. fragments of frontal, occipital, left and right temporals, maxillae, zygomas, ilia, right scapula, left and right humeri, right radius, left ulna, left and right femora, left patella, left and right tibiae, fibulae, all tarsals and metatarsals, six proximal, two middle and three distal foot phalanges, right scaphoid, right lesser multangular, left metacarpal (5) and right metacarpal (3), two metacarpal diaphyses, nine proximal, six middle and three distal hand phalanges, rib fragments, four cervical, four thoracic and five lumbar vertebrae, sacrum; maxillary left, central, and lateral incisors, third premolar through third molar, right lateral incisor through third molar.

**BURIAL 27:** male, adult; bundle; cranial reconstruction (frontal, left and right parietals, left and right temporals, occipital); mandibular left canine and third premolar, right third premolar through first molar, maxillary left central incisor, third premolar, first and second molars, right central incisor, third premolar through second molar. Nonmetric variants: multiple lambdoidal ossicles, left and right; asterionic bone, left; remainder of burial unavailable for study.

**BURIAL 28:** male (?), adult; burial type and orientation not documented in the University of Georgia field notes; fragments of maxilla and miscellaneous unidentifiable cranial, right scapula, left and right humeri, right radius, left and right femora, left and right tibiae, left fibula, all

tarsals, left metatarsals (1, 4, 5), right metatarsals (1, 4, 5), four proximal foot phalanges, one distal foot phalanx, left scaphoid, left and right lunates, a pisiform, left greater multangular, left lesser multangular, left capitate, left and right hamates, all metacarpals, nine proximal hand phalanges, one middle hand phalanx, rib fragments, sacrum; maxillary left canine, fourth premolar, first molar.

**BURIAL 35:** male, adult, 35–45; bundle; cranial reconstruction (left and right parietals, frontal), mandible, left pubis, right scapula, right humerus, right radius, right ulna, femur, left and right tali, right navicular, right cuboid, right third cuneiform, right metatarsals (1, 3–5), one proximal foot phalanx, one middle foot phalanx, rib fragments, sternum, one cervical, seven thoracic and five lumbar vertebrae; mandibular dentition complete, maxillary left and right central incisors, right lateral incisor. Pathology: osteophytotic lipping on scapular glenoid fossa and radial tuberosity; marked lipping on all vertebral bodies, particularly the lumbar and cervical bodies; large groove on the superior central discal surface of one thoracic vertebra—result of herniated intervertebral disk.

In addition to the above human skeletal remains, one dog burial was located (table 17, fig. 20). No cultural or human skeletal materials were found in association with this interment.

Only one human burial is associated with the shell core (Stage II):

**BURIAL 1:** male, adult, 20–25; prone, extended (?), head to the east; disturbed by relic collectors; fragments of frontal and miscellaneous unidentifiable cranial, left and right ilia, left ischium, left scapula, left and right humeri, right radius, right ulna, right femur, patella, left and right tibiae, a fibula diaphysis, left third cuneiform, left capitate, left hamate, left metacarpals (2, 3), four proximal and two middle hand phalanges, nine rib fragments, two cervical vertebral bodies, three thoracic vertebral arch fragments; maxillary left central and lateral incisors.

Stage III construction contained the following burials:

**BURIAL 2:** female, adult, 40+; bundle, head to the east; fragments of left and right maxillae, mandible, clavicle diaphysis, left and right humeri, right radius, left and right ulnae, femora, tibiae,

fibulae, calcanea, tali, naviculars, right cuboid, right first cuneiform, left second cuneiform, left third cuneiform, right metatarsals (1-5), five proximal foot phalanges, one middle foot phalanx, left and right scaphoids, right greater multangular, right lesser multangular, right capitate, right hamate, left metacarpals (1-3), right metacarpals (2-5), four proximal hand phalanges, one middle hand phalanx, rib fragments, first and second cervical vertebrae, five thoracic vertebrae, sacrum; maxillary left and right fourth premolars through third molars.

**BURIAL 3:** female (?), adult; partially articulated, flexed, head to the southwest; cranial reconstruction (left and right parietals, frontal, occipital), fragments of right temporal, left maxilla, left zygoma, right clavicle, right scapula, left humerus, left radius, left and right tibiae, fibula diaphysis, left radius, left and right tibiae, fibula diaphysis, right scaphoid, left lunate, left lesser multangular, left metacarpals (1, 2), rib fragments; maxillary left third premolar through third molar.

**BURIAL 4:** male (?), adult; bundle; cranial reconstruction (left temporal, left and right parietals, occipital), right ilium, femoral diaphysis fragment, left first metatarsal, left hamate, one proximal hand phalanx, four rib fragments, one thoracic vertebral neural arch fragment; mandibular left canine, left and right third premolars, fourth premolars, and second molars, maxillary left and right third premolars and first molars, left third molar. Nonmetric variants: lambdoidal ossicle, left.

**BURIAL 5:** preadult, 8; bundle; fragments of frontal, left temporal, left parietal, ischium, right clavicle, right scapula, left and right humeri, tibiae, fibula diaphysis, left calcaneus, cuboid, right third cuneiform, left and right first cuneiforms, three metatarsal diaphyses, one proximal and one distal hand phalanges, two metacarpal diaphyses, rib fragments, four vertebral neural arch fragments; mandibular left lateral incisor, maxillary left central incisor, third premolar, first and second molars, right central and lateral incisors, canine.

**BURIAL 6:** adult; bundle; fragments of ilium, left humerus, radius diaphysis segment, left femur.

**BURIAL 7:** child; bundle; fragments of parietal, occipital, sphenoid, miscellaneous unidentified cranial, calcaneus, second cervical vertebra, one thoracic vertebra.

**BURIAL 8:** adult; bundle; diaphysis fragments of femur and tibia; remainder of individual unavailable for study.

**BURIAL 15:** no documentation as to burial treatment; skeletal remains unavailable for study.

Because only the unit location is known (see fig. 24), one burial can be ascribed to the general fill of Johns Mound:

**BURIAL 29:** adult; no documentation of burial type or orientation in the University of Georgia field notes; skeletal remains unavailable for study.

Finally, there are several skeletons from Johns Mound that lack documentation in the University of Georgia field notes:

**BURIAL A:** child, 3; fragments of most of the cranium with the maxilla and mandible; fragments of left and right ilia, ischia, clavicles, scapulae, humeri, radii, ulnae, femora, tibiae, fibulae, two metacarpal or metatarsal diaphyses, two proximal hand phalanges, rib fragments, 24 centra and 64 neural arch halves of cervical, thoracic and lumbar vertebrae combined; deciduous dentition complete; permanent dentition consists of mandibular left and right first molars (crowns only), maxillary left first molar (crown only), and half-developed crowns of right central incisor, lateral incisor and canine.

**BURIAL B:** male, 30-35; fragments of left and right ilia, pubis, clavicles, scapulae, humeri, radii, ulna diaphysis, right femur, right patella, left and right tibiae, fibulae, all tarsals, left metatarsals (1, 2, 4), right metatarsals (1-5), 10 proximal foot phalanges, one distal foot phalanx, left scaphoid, left lunate, left triquetral, left greater multangular, left lesser multangular, left capitate, left hamate, right metacarpal (5), three proximal, five middle and two distal hand phalanges, rib fragments, all cervical, thoracic and lumbar vertebrae.

**BURIAL C:** male, adult; right ischium, left and right clavicles, humeri, radii, left ulna, left femur, left and right tibiae, left and right fibulae, right calcaneus, right first and second cuneiforms, right metatarsal (3), thoracic vertebral neural arch, sacrum.

**BURIAL D:** adult; cranial reconstruction (frontal, left and right parietals, occipital).

### CHAPTER 3. BIOCULTURAL IMPLICATIONS

The general data for the Johns and Marys mounds burials are summarized on table 9, and specific sex and age estimates are provided on table 10. The skeletal remains from these two sites are generally well-preserved when compared with the earlier skeletal series from the Refuge-Deptford sites from St. Catherines Island (Thomas and Larsen, 1979). Unfortunately, a significant proportion of bones from several individual burials disappeared following the 1969–1970 excavations at Johns and Marys mounds, preventing sex and age estimation in many cases. The general incompleteness of the sample also allows only general estimates of age (mostly adult or preadult) for many individuals. It is clear, therefore, from table 9 that we cannot provide a detailed demographic synthesis for this period on St. Catherines Island. For the available sample from Johns and Marys mounds, 23.3 percent of the individuals are female, 24.4 percent are male, and 52.3 percent are of indeterminate sex; 73.3 percent of these are adult, 22.1 percent are preadult, and 4.7 percent are of indeterminate age.

Most of the human burials (90.6%) appear to be primary interments (i.e., individuals placed in mound or premound areas before completion of mortuary construction). Only Burial 2 and Burial 8 from Johns Mound are considered to be intrusive, being associated with historic period materials (discussed in Chap. 2). The conditions of interment are unknown for 6.7 percent (5 of 75) of the human burials from Johns and Marys mounds; these individuals unfortunately were not documented in sufficient detail in the University of Georgia burial records.

Analysis of burial type reveals that nearly half (49%) of these burials were extended (prone or supine). Other types were as follows: bundle (17%), single isolated postcranial elements (5%), skull only (3%), cremation (1%), and flexed (5%). Eighteen percent of the Johns and Marys mounds human burials are of indeterminate burial type due either to postburial disturbance (e.g., Burial

4, Marys Mound) or incomplete burial records (e.g., Burial 15, Johns Mound).

It is significant that the burial type pattern at Johns and Marys mounds is quite similar to that observed in the Refuge-Deptford burial series from St. Catherines Island (Thomas and Larsen, 1979). Extended burials are most common in both series, with bundles and cremations relatively rare. This conclusion must be considered preliminary, however, because of the large proportion of indeterminate burials in both cases.

If correct, these data suggest a certain conservatism with regard to burial mode on St.

TABLE 9  
Burial Summary

	Marys Mound (N)	Johns Mound (N)	Total (N)
Number of Burials <sup>a</sup>	6	70	76
Burial Type			
Cremation	0	1	1
Bundle	2	11	13
Flexed	2	2	4
Extended	0	37	37
Skull only	0	2	2
Isolated postcranial elements	0	4	4
Indeterminate	2	12	14
Inclusion			
Primary	6	62	68
Intrusion	0	2	2
Indeterminate	0	5	5
Nonhuman (dog)	0	1	1
Sex <sup>b</sup>			
Female	2	18	20
Male	0	21	21
Indeterminate	4	41	45
Age <sup>b</sup>			
Adult <sup>c</sup>	2	61	63
Preadult	3	16	19
Indeterminate	1	3	4

<sup>a</sup> A number of burials contained the remains of more than one individual.

<sup>b</sup> Sex and age refer to individuals.

<sup>c</sup> Includes individuals 16 and older.

TABLE 10  
Individual Age and Sex Data from Johns and  
Marys Mounds

Site	Burial	Age	Sex
Johns Mound	1	20-25	male
	2	40+	female
	3	adult	female (?)
	4	adult	male
	5	8	indeterminate
	6	adult	indeterminate
	7	child	indeterminate
	8	adult	indeterminate
	9A	fetus	indeterminate
	9B	adult	indeterminate
	10A	adult	male
	10B	adult	indeterminate
	11A	adult	male
	11B	7-8	indeterminate
	11C	6-7	indeterminate
	11D	13	indeterminate
	11E	8	indeterminate
	11F	adult	female
	11G	adult	female
	12	6 mo.-1	indeterminate
	13	7	indeterminate
	14	adult	male
	15	indeterminate	indeterminate
	16	50+	female
	17	15-16	indeterminate
	18	adult	female
	19	adult	female (?)
	20	indeterminate	indeterminate
	21	18-25	female
	22	40-50	female
	23	adult (?)	indeterminate
	24	child	indeterminate
	25A	adult	indeterminate
	25B	2	indeterminate
	26A	adult	indeterminate
	26B	adult	female (?)
	27	adult	male
	28	adult	male (?)
	29	adult	indeterminate
	30	adult	indeterminate
	31	20-25	male
	32	adult	male
	33	adult	male
	34	adult	indeterminate
	35	35-45	male
	36	adult	indeterminate
	37	40+	female
	38	adult	male
	39	adult	indeterminate
	40	adult	male

TABLE 10—(Continued)

Site	Burial	Age	Sex
	41	adult	female
	42	30-40	male
	43	adult	indeterminate
	44	indeterminate	indeterminate
	45	adult	indeterminate
	46	adult	female
	47A	adult	male
	47B	adult	female
	48	18-30	female
	49	adolescent	indeterminate
	50	adult	female
	51	25-35	male
	52	adult	indeterminate
	53	25-30	male
	54	adult	indeterminate
	55	16-19	indeterminate
	56	16-17	female
	57	child	indeterminate
	58	adult	indeterminate
	59	adult	male
	60	adult	female
	61	18-30	male
	62	adult	indeterminate
	63	adult	indeterminate
	64	adult	indeterminate
	65	1	indeterminate
	A	3	indeterminate
	B	30-35	male
	C	adult	male
	D	adult	indeterminate
Marys Mound	1	35-39	female
	2	13	indeterminate
	3	4	indeterminate
	4	indeterminate	indeterminate
	5	adult	female (?)
	6	2	indeterminate

Catherines Island for the time period between about 1500 B.C. and A.D. 1300.

It is possible, however, to detect stratigraphic differences in burial type at Johns Mound. Nearly 75 percent of the burials in Stage I contexts are extended, whereas 88 percent of the Stage II-III burials are either secondary or flexed. Statistical treatment (chi-square) of the data on table 8 shows that this distinction in burial type is significant at the 0.01 level.

The incomplete nature of the Johns and

TABLE 11  
Summary Statistics of Postcranial Indices for Johns and Marys Mounds

Index	Side	N	Mean	Range	Standard Deviation
<b>Femur</b>					
Midshaft	l	11	91.5	83.9–100.4	2.54
	r	18	90.6	79.7–102.7	3.21
Platymetric	l	13	75.2	64.5–82.1	4.13
	r	18	74.8	65.1–84.5	5.31
Robusticity	l	9	19.1	17.2–20.7	1.15
	r	10	19.1	17.7–21.6	1.18
<b>Tibia</b>					
Midshaft	l	14	70.9	63.4–76.4	4.51
	r	13	68.7	58.1–78.8	5.69
Robusticity	l	12	21.5	19.3–22.8	1.31
	r	6	21.6	19.4–24.0	1.51
<b>Humerus</b>					
Midshaft	l	15	70.1	60.3–82.2	6.63
	r	16	70.3	63.8–81.1	5.32
Robusticity	l	14	19.5	16.8–24.5	2.01
	r	12	19.2	18.0–20.9	0.93

Marys mounds skeletal series also hampers analysis of morphometric characteristics. The platymetric index, as well as the midshaft and robusticity indices of the femur, tibia, and humerus, indicates that this series represents a physically active and relatively robust population (table 11). In addition, the areas for cranial and postcranial muscle attachment are noticeably marked. This is particularly apparent with respect to the attachment localities for the muscles of mastication (such as the temporalis and masseter) and those associated with the nuchal region of the inferoposterior cranium.

Pathologies are noticeably rare in the Johns and Marys mounds skeletal series: specifically, pathologies resulting from skeletal or dental infections are apparently absent. Larsen (1980a, 1980b) has previously noted that infectious conditions related to the human skeleton (generally known as periosteal reactions) are infrequent in hunting and gathering populations. Populations relying heavily on agricultural foodstuffs tend to exhibit relatively greater frequencies of

bone inflammations. These higher frequencies among agriculturalists probably result from greater population density and decrease in mobility (see also Armelagos, 1969; Robbins, 1971; Cassidy, 1972; Cook, 1972; Nickens, 1976; Lallo, Armelagos and Mensforth, 1977; Lallo and Rose, 1979; Armelagos, Goodman and Bickerton, 1980).

Dental infectious pathologies are also minimal in the Johns and Marys mounds skeletal

TABLE 12  
Dental Caries, Johns Mound

Burial	Tooth	Location	Size
11D	<sub>2</sub> M	occlusal	gross
11D	<sub>2</sub> M	cervical	medium
11D	M <sub>2</sub>	occlusal	incipient
11D	M <sub>2</sub>	cervical	medium
42	I <sup>1</sup>	occlusal	gross
45	<sup>2</sup> M	cervical	gross
47	<sub>1</sub> M	occlusal	medium
47	<sub>2</sub> M	occlusal	gross

series. Of 453 teeth observed in this dental series, only six (1.3%) showed any form of dental caries (table 12); only 9.5 percent (4 of 42) of the dentitions observed were affected by this disease. Once again, frequency of dental caries appears to be lower among hunter-gatherers than among agriculturalists. In one study of populations with known economies, Turner (1979) found carious lesions in only 1.7 percent of the teeth of hunter-gatherers, 4.4 percent in the teeth of populations with mixed economies, and 8.6 percent in the teeth of agricultural populations. Similarly, in a study of prehistoric dental samples from the Georgia coast, Larsen (1980a) reported a mere 0.9 percent frequency of dental caries among adult hunter-gatherers, whereas among populations utilizing corn agriculture, 13.7 percent of teeth were affected by dental caries. It seems clear, then, that these skeletal and dental remains from Johns and Marys mounds are representative of human populations dependent upon a diet based on a hunting and gathering subsistence economy (see also discussion by Larsen, 1982).

Butler (1972) has previously made a detailed study of patterns of dental occlusal wear plane change and degree of wear, based on 36 dentitions from Johns Mound. Because his study is controlled for age, an undoubtedly important consideration in understanding dental wear (Molnar, 1971), Butler's study is an important contribution to our understanding of tooth wear variability. Specifically, Butler found that by the age of 40, most of the occlusal surfaces of the mandibular and maxillary premolars are worn to the dentin. Exposure of secondary dentin, as well as of the pulp cavity, was also frequently seen. The attrition on mandibular and maxillary first molars was described as severe, especially on mesial and lingual aspects. In some individuals older than 40, the lingual border of the maxillary first molars is only slightly extended above the gingival margin.

Moreover, Butler (1972) concluded that:

Through the age of 17, the occlusal surface of the mandibular dentition is lingually oriented.

The occlusal surfaces of the maxillary premolars are sloped lingually, while those of the first two molars are inclined buccally. From the age of 18 to 30, the mandibular first molar becomes buccally sloped on the occlusal surface while the other mandibular molars and premolars retain their lingual occlusal surface orientation. The maxillary first molar undergoes an occlusal wear plane change from buccal to lingual, while the occlusal surfaces of the other maxillary dentition remain unchanged. From 31 to 40, the major change in the mandibular teeth is an apparent trend for the premolars to become buccally rather than lingually sloped on the occlusal surfaces, and no major changes are seen in the wear planes of the maxillary teeth. In the 40-plus age range, on the basis of scanty data, there is an apparent trend for the occlusal wear plane of the second mandibular molar to change from lingual to buccal. Likewise, the maxillary second molar appears to be changing from buccal to lingual on its occlusal wear plane. There is some basis for the expectation that continued wear would result in mandibular teeth with an entirely buccal slope of the occlusal surfaces and maxillary teeth with an entirely lingual occlusal surface orientation.

No sexually-dimorphic changes were detected for the general pattern involving occlusal wear plane changes, but this does not preclude the possibility that refinement of the technique may indicate some differences in the degrees of wear for males and females of the same age. As expected, statistical significance for degrees of wear increases as the distance between the age categories increases.

In terms of degrees of wear, there is wide variability not only between individuals in the same age groupings, but between the mandibular and maxillary teeth and even between different sides of a jaw.

This study supports statements to the effect that the maxillary teeth are characterized by a buccal inclination along their long axes, and that those of the mandible are oriented lingually. However, there is a significant difference between the occlusal surface slope of the maxillary and mandibular teeth. The inclination of the occlusal surface of the mandibular teeth is entirely lingual in their unworn state. In the maxilla, only the premolars initially have lingually-slanted occlusal surfaces. Those of the molars are inclined buccally. In part, this ex-

plains why, as attrition advances, lateral excursions of the mandible result in heavier wear of the lingual cusps of the maxillary molars and greater wear of the buccal cusps of the mandibular molars. If cusp height measurements are made relative to the alveolus, and not only to the apices, it can be seen that the buccal cusps of the mandibular premolars and molars ordinarily are higher than the lingual cusps on unworn teeth. In the maxillary teeth, however, it is the lingual cusps of the molars and the buccal cusps of the premolars which are the highest in the unworn state. All of these considerations of basic dental anatomy, and also perhaps such factors as arch width differences at each tooth position, obviously play a role in the dynamic process of attrition which results in age-related variations of occlusal wear planes, but it must be repeatedly stressed that the unknown cultural variables, such as how

the teeth are used as tools and how food is prepared, may also turn out to be of equal significance in influencing or modifying overall patterns of wear.

In sum, the skeletal and dental data suggest that the economic regime associated with the human populations represented by skeletal remains from Johns and Marys mounds on St. Catherines Island is one based primarily on nondomesticated dietary sources. Furthermore, this population probably enjoyed relatively good skeletal and dental health in association with a physically active lifeway. For a detailed discussion of skeletal adaptation for populations of the prehistoric Georgia coast in general, the reader is referred to Larsen (1982).



# APPENDIX I. HUMAN SKELETAL AND DENTAL SUMMARY STATISTICS

TABLE 13  
Summary Statistics of Cranial Measurements (in Millimeters) for Johns and Marys Mounds

Measurement	N	Mean	Range	Standard Deviation
Masseter origin length	3	36.1	32.4–39.0	3.38
Zygomatic arch thickness	8	30.3	26.4–36.2	3.81
Cheek height	8	28.5	25.5–32.2	2.25
Upper facial height	1	65.8	—	—
Biorbital breadth	5	95.2	87.4–103.8	6.72
Orbital breadth	1	38.1	—	—
Orbital height	1	34.6	—	—
Infratemporal fossa depth	1	21.3	—	—
Infratemporal fossa length	1	38.4	—	—
Temporalis length	10	132.9	114.2–143.0	9.95
Temporalis height	9	89.1	73.0–99.9	8.33
Palate length	1	41.1	—	—
Palate breadth	4	39.2	35.0–41.5	2.87
Minimum frontal breadth	6	91.0	86.3–97.1	4.65
Frontal chord	11	106.0	92.5–120.2	8.73
Frontal arc	12	123	112–136	7.62
Bicondylar breadth	5	122.3	116.5–125.4	3.57
Condylar breadth	9	19.7	17.0–22.9	1.93
Bigonial breadth	6	99.8	92.1–109.0	6.33
Asc. ramus height, coronoid	10	67.7	57.4–77.7	6.37
Asc. ramus height, condyle	7	56.5	46.7–66.4	7.16
Asc. ramus, minimum breadth	15	35.3	29.7–40.2	2.96
Symphysis height	11	35.1	31.0–39.4	2.48
Symphysis thickness	15	14.7	12.6–17.8	1.33
Mandibular length	7	109	100–118	7.78
Prosthion-opisthion	3	122.5	118.7–129.7	6.27
Prosthion-basion	1	88.2	—	—
Opisthion-nasospinale	1	121	—	—
Parietal chord	11	106.0	92.5–120.2	7.89
Occipital chord	6	91.8	74.0–98.8	9.22
Lambda-inion chord	14	71.4	56.8–85.0	8.29
Inion-opisthion chord	6	42.0	27.6–66.4	13.42
Biasterionic chord	8	104.4	96.8–108.2	3.76
Parietal arc	9	119	107–132	8.04
Occipital arc	6	112	106–126	7.09
Lambda-inion arc	13	72	61–90	8.17
Inion-opisthion arc	6	39	32–44	4.22
Biasterionic arc	8	124	116–136	5.78
Bregma-inion	10	152	143–173	8.90
Bregma-opisthion	4	150	141–162	8.73
Lambda-basion	2	116	112–120	5.66
Nasion-lambda	10	170	160–184	7.91
Basion-nasospinale	1	90	—	—
Nasion-opisthion	2	147	127–166	27.58
Cranial height	2	136	134–138	2.83
Auricular height	4	113	108–115	3.37
Maximum cranial length	9	175	160–188	9.31
Maximum cranial breadth	8	139	130–145	4.74
Biauricular breadth	5	126	120–131	5.10

TABLE 14  
Summary of Statistics of Dental Measurements (in Millimeters) for Johns and Marys Mounds

Tooth	Dimension	Side	N	Mean	Range	Standard Deviation
Maxilla						
I1	breadth	l	13	7.3	6.5–8.5	0.48
		r	15	7.3	6.2–8.5	0.59
I2	breadth	l	11	6.3	5.5–7.6	0.69
		r	11	6.3	5.4–6.9	0.48
C	length	l	11	8.1	6.8–8.7	0.54
		r	13	8.2	7.7–8.6	0.30
	breadth	l	11	8.2	7.6–8.8	0.40
		r	12	8.4	8.0–8.9	0.34
P3	length	l	14	7.3	6.3–8.0	0.54
		r	13	7.3	6.7–7.9	0.40
	breadth	l	14	9.4	8.0–10.3	0.70
		r	12	8.7	7.7–9.3	0.24
P4	length	l	11	6.7	4.6–7.7	0.87
		r	13	6.7	4.5–7.7	0.83
	breadth	l	10	9.2	8.4–9.9	0.48
		r	11	9.2	7.6–9.9	0.69
M1	length	l	15	10.8	9.8–11.4	0.49
		r	16	10.6	9.6–11.8	0.64
	breadth	l	14	12.1	10.7–13.0	0.57
		r	16	12.2	11.0–13.3	0.59
M2	length	l	12	10.2	9.1–11.3	0.54
		r	13	10.3	8.6–11.2	0.76
	breadth	l	13	11.8	9.8–13.0	0.75
		r	12	11.8	10.4–12.6	0.69
M3	length	l	12	9.5	8.0–11.2	0.87
		r	12	9.0	5.2–12.4	1.71
	breadth	l	11	11.4	10.0–12.6	0.76
		r	12	10.4	6.5–12.3	1.52
dI1	breadth	l	1	4.8	—	—
		r	2	5.1	4.7–5.4	0.50
dI2	breadth	l	2	4.9	4.6–5.2	0.42
		r	2	5.1	5.0–5.1	0.07
dC	length	l	4	6.8	6.3–7.8	0.67
		r	3	7.1	6.7–7.8	0.61
	breadth	l	4	5.9	5.2–6.3	0.51
		r	3	6.2	6.0–6.4	0.21
dM1	length	l	3	7.9	7.5–8.4	0.46
		r	5	7.8	7.5–8.3	0.36
	breadth	l	3	9.1	8.8–9.5	0.36
		r	5	9.2	8.5–9.9	0.58
dM2	length	l	2	9.7	9.6–9.7	0.07
		r	4	10.4	9.9–11.0	0.54
	breadth	l	2	10.5	10.0–11.0	0.71
		r	4	10.7	10.4–11.0	0.27

TABLE 14—(Continued)

Tooth	Dimension	Side	N	Mean	Range	Standard Deviation
<b>Mandible</b>						
I1	breadth	l	6	5.7	5.1–6.1	0.36
		r	6	5.7	5.3–6.0	0.26
I2	breadth	l	10	6.2	5.5–7.0	0.43
		r	7	6.0	5.5–6.3	0.26
C	length	l	12	7.0	6.2–7.7	0.46
		r	13	6.9	6.2–7.8	0.46
	breadth	l	11	7.3	5.5–7.9	0.69
		r	13	7.2	5.3–8.4	0.82
P3	length	l	13	7.1	6.2–8.1	0.50
		r	15	6.9	5.3–8.0	0.67
	breadth	l	12	8.0	6.9–9.3	0.65
		r	15	8.0	6.3–8.7	0.63
P4	length	l	12	6.8	6.0–7.6	0.45
		r	16	6.8	5.8–7.7	0.55
	breadth	l	11	8.1	7.3–8.9	0.54
		r	15	8.1	6.7–9.8	0.76
M1	length	l	17	11.7	10.9–12.7	0.48
		r	17	11.5	9.6–12.7	0.78
	breadth	l	16	11.0	10.3–11.9	0.42
		r	17	11.0	9.1–12.2	0.74
M2	length	l	14	11.4	10.3–12.7	0.73
		r	14	11.4	10.5–12.2	0.65
	breadth	l	13	10.7	10.0–11.3	0.47
		r	15	10.8	10.2–11.6	0.42
M3	length	l	11	10.9	8.6–12.9	1.08
		r	13	10.6	8.1–11.9	1.02
	breadth	l	11	10.4	8.7–12.1	0.90
		r	14	10.4	8.5–11.7	0.82
dI1	breadth	l	1	3.9	—	—
		r	2	3.9	3.8–4.0	0.14
dI2	breadth	l	3	4.0	3.3–4.4	0.59
		r	2	4.6	4.6–4.6	0.00
dC	length	l	4	6.1	5.4–6.8	0.61
		r	4	5.7	4.9–6.8	0.84
	breadth	l	4	5.6	5.0–6.1	0.47
		r	4	5.3	4.6–6.1	0.70
dM1	length	l	5	8.4	7.4–9.4	0.75
		r	3	8.4	8.1–8.7	0.30
	breadth	l	5	7.3	7.0–7.7	0.27
		r	3	7.1	6.5–7.9	0.72
dM2	length	l	6	10.9	10.1–11.3	0.46
		r	5	10.9	9.9–11.5	0.59
	breadth	l	6	9.2	8.7–9.5	0.28
		r	5	9.3	8.9–10.0	0.46

TABLE 15  
Summary of Statistics of Postcranial Measurements (in Millimeters) for Johns and Marys Mounds

Measurement	Side	N	Mean	Range	Standard Deviation
<b>Femur</b>					
Head diameter	l	9	43.1	40.6–47.0	2.29
	r	12	44.5	41.5–47.7	2.48
Neck vertical diameter	l	7	29.6	27.9–32.0	1.57
	r	14	29.4	26.6–32.0	1.76
Neck horizontal diameter	l	11	23.7	21.4–27.2	1.64
	r	13	24.9	21.6–27.3	1.87
Maximum length	l	9	445	410–496	27.77
	r	10	462	410–497	26.43
Midshaft ant.-post.	l	12	27.8	22.2–31.6	2.54
	r	19	28.8	25.4–31.9	1.97
Midshaft transverse	l	12	26.6	22.7–33.5	2.62
	r	19	26.5	23.3–32.9	2.14
Midshaft circumference	l	11	85	75–91	5.41
	r	18	87	78–97	4.59
Subtroch. ant.-post.	l	13	25.2	22.2–30.6	2.34
	r	18	25.2	22.8–27.5	1.36
Subtroch. transverse	l	13	32.1	22.6–35.5	3.27
	r	18	33.8	29.9–38.6	2.47
Bicondylar breadth	l	1	81.0	—	—
	r	1	80.0	—	—
<b>Tibia</b>					
Maximum length	l	12	397	334–470	33.74
	r	6	399	350–470	43.42
Midshaft ant.-post.	l	14	30.7	27.3–33.9	2.16
	r	13	31.7	27.4–34.9	2.23
Midshaft transverse	l	14	21.7	19.3–24.7	1.64
	r	13	21.7	19.7–23.9	1.39
Midshaft circumference	l	14	85	76–92	5.07
	r	13	85	80–91	3.64
<b>Fibula</b>					
Maximum length	l	5	392	369–430	24.03
	r	4	387	358–433	32.34
<b>Clavicle</b>					
Maximum length	l	8	143	135–157	7.65
	r	8	141	134–152	6.16
<b>Ulna</b>					
Maximum length	l	7	275	250–294	14.97
	r	7	274	250–295	18.67
<b>Radius</b>					
Maximum length	l	10	254	230–272	14.80
	r	6	252	233–270	15.18
Head diameter	l	7	21.5	19.7–23.6	1.40
	r	5	21.5	19.0–23.4	1.67
Interosseous cr., max.	l	12	15.6	14.2–17.2	0.94
	r	11	15.2	13.4–17.4	1.18
Interosseous cr., min.	l	12	10.3	9.5–11.7	0.70
	r	11	10.1	8.8–12.0	0.80

TABLE 15—(Continued)

Measurement	Side	N	Mean	Range	Standard Deviation
<b>Humerus</b>					
Maximum length	l	14	321	285–357	20.05
	r	12	323	277–367	24.05
Midshaft maximum	l	15	21.6	19.4–24.3	1.44
	r	16	22.2	18.5–25.6	2.00
Midshaft minimum	l	15	15.2	13.1–19.4	1.73
	r	16	15.6	13.8–18.5	1.56
Midshaft circumference	l	15	63	56–76	5.00
	r	16	64	55–74	5.60
Head diameter	l	6	41.6	39.0–45.7	2.61
	r	6	42.1	38.3–47.4	4.11
Biepicondylar breadth	l	7	58.1	55.7–62.4	2.36
	r	9	58.3	50.8–63.7	3.96

TABLE 16  
Summary of Statistics of Stature (in Centimeters) from Johns and Marys Mounds<sup>a</sup>

Sex	Bone	N	Mean	Range	Standard Deviation
Female	l. femur	1	172.8	—	—
	r. femur	1	172.8	—	—
	l. tibia	1	174.8	—	—
	r. tibia	0	—	—	—
Male	l. femur	1	170.3	—	—
	r. femur	3	171.7	169.7–172.8	1.77
	l. tibia	5	174.0	168.4–185.9	7.21
	r. tibia	4	176.4	171.2–185.9	6.63

<sup>a</sup> After Genovés, 1967.

## APPENDIX II. NONHUMAN SKELETAL REMAINS FROM JOHNS AND MARYS MOUNDS

DONALD K. GRAYSON

All nonhuman faunal remains encountered in the excavation of Johns and Marys mounds were sent for analysis to the Laboratory of Archaeology, University of Washington. The number of identified mammalian elements per taxon by stratigraphic unit are presented in tables 17 and 18. With a single exception, all identified taxa are present on St. Catherines Island today. This exception is the gray fox, *Urocyon cinereoargenteus*, identified from a first lower molar and corresponding mandibular fragment. The gray fox is a common member of the modern mainland fauna. The Johns Mound specimen may represent a single colonizer, or a now

extinct population of these animals on the island. It is also possible, though perhaps unlikely, that the specimen was transported by prehistoric people from the mainland. The presence of the pig, *Sus scrofa*, in Burial 2 (Johns Mound), is in accord with the historic age of this burial; the presence of this animal in premound deposits, however, suggests disturbance that was undetected during the University of Georgia excavations, or perhaps improper curation of the materials after excavation.

Tables 19 and 20 list the provenience of unidentified nonmammal bones recovered from Johns and Marys mounds.

TABLE 17  
Number of Identified Mammal Specimens per Taxon from Johns Mound

Provenience	Taxon						Totals
	<i>Sylvilagus</i> sp.	<i>Canis</i> <i>familiaris</i>	<i>Urocyon</i> <i>cinereo-</i> <i>argenteus</i>	<i>Procyon</i> <i>lotor</i>	<i>Sus</i> <i>scrofa</i>	<i>Odocoileus</i> <i>virginianus</i>	
Burial 1	—	—	—	4	—	—	4
Burial 1, shell layer above legs	—	—	—	2	—	3	5
Burial 2	—	2	—	—	4	6	12
Burial 3	—	—	—	—	—	1	1
Burial 4	—	—	—	—	—	1	1
Burial 8	—	—	—	—	—	3	3
Burial 9	—	—	—	2	—	3	5
Burials 10 and 11	—	—	—	—	—	3	3
Burial 11	—	—	—	—	—	1	1
Burial 14	—	—	—	4	—	—	4
Burial 26	—	3	—	—	—	1	4
Burial 34	—	1	—	1	—	1	3
Burial 39	—	5	—	—	—	—	5
Southwest Quad	—	23 <sup>b</sup>	2	—	—	1	26
Southwest Quad, 0–2½ ft.	—	—	—	2	—	—	2
Southwest Quad, 2½ ft.	—	—	—	2	—	—	2
Southwest Quad, 3 ft.	—	6	—	5	—	1	12
Square A, Surface–3 ft.	—	—	—	—	—	2	2
Square B, 2½ ft.	—	—	—	—	—	2	2
Square C, 24–30 in.	—	—	—	4	—	5	9
Square F, 12 in.	—	—	—	—	—	5	5
Square E, 14 in.	—	—	—	5	—	4	9
Square F, 24 in.	—	—	—	—	—	2	2
12–18 in.	—	—	—	—	—	7	7
Top of shell, interior chamber, disturbed	—	—	—	3	—	1	4
Shell ring or later	—	—	—	1	—	—	1
Outside interior shell chamber	—	—	—	1	—	—	1
North Extension, main midden	1	—	—	5	—	12	18
Northwest corner, shell chamber	—	—	—	—	—	1	1
Profile collapse, above Central Pit	—	—	—	1	—	—	1
South Extension, sand above shell	—	—	—	—	—	2	2
North Extension, 1–2 ft.	—	—	—	—	—	3	3
Main midden, 14 in.	—	—	—	—	—	7	7
Premound fiber tempered pit <sup>a</sup>	6	—	—	11	1	80	98
No data	—	—	—	1	—	1	2
Totals	7	40	2	54	5	159	267

<sup>a</sup> “Provenience unclear, boxed w/bag labeled J12.”

<sup>b</sup> Dog burial (see fig. 20).

TABLE 18  
Number of Identified Mammal Specimens per  
Taxon from Marys Mound

Provenience	Taxon	
	<i>Sciurus</i> sp.	<i>Odocoileus virginianus</i>
C 9 #1	—	1
D 8 #1	1	—
D 8 #4	1	—
E 8	—	2

TABLE 19  
Number of Unidentified Nonmammal Specimens  
per Taxon from Johns Mound

Provenience	Amphibians and Reptiles		Birds
Burial 1	1		—
Burial 2	1		—
Burial 5	1		—
Burial 14	1		—
Burial 42	3		—
Burial 45	1		—
Burial 50	1		—
Square E, 12 in.	1		—
Square E, 14 in.	8		—
12–18 in., pothunter disturbed	1		—
North Extension, #2-surface	1		—
North Extension, main midden	3		—
North Extension, 1–2 ft.	16		—
Southwest Quad, backfill	2		—
Square F, 24 in.	—		1
Southwest Quad	—		1

TABLE 20  
Number of Unidentified Nonmammal Specimens  
per Taxon from Marys Mound

Provenience	Amphibians and Reptiles
D 8 #4	1
D 8 #5	1



### APPENDIX III. SEASONAL GROWTH VARIATIONS IN PREHISTORIC *MERCENARIA MERCENARIA* FROM MARYS AND JOHNS MOUNDS

Dozens of whole clams (*Mercenaria mercenaria*) were recovered in the excavation of both Johns and Marys mounds. The clams from Marys Mound were recovered from the Stage II shell feature, excavated by the American Museum of Natural History. This feature appears to have been composed of dark midden, taken from a habitation site nearby; although a few Refuge and Deptford sherds occur in the midden, most of the inclusive ceramics are transitional St. Catherines-Savannah, and it seems likely that the midden itself was deposited during the same period as Marys Mound. Of course any seasonal estimates relate to the deposition of the midden, not necessarily the Stage II mound feature.

A shell sample was also saved from the University of Georgia excavations at Johns Mound. Although the provenience data are somewhat unclear, we think the sample came from the Stage II shell core at Johns Mound. The lack of inclusive ceramics and food bones suggests that the Johns Mound shell core was collected specifically for mortuary purposes.

A sample of 41 *Mercenaria* from both sites was submitted to George R. Clark II (Kansas State University) for thin-section analysis.

The assumptions, procedures, and definitions for this seasonal growth study on St. Catherines Island have been discussed previously by Clark (1979).

The results of the thin-section analysis are presented on tables 21 and 22. Only two of the clams submitted failed to provide conclusive results. The rest of the *Mercenaria* can be used to estimate seasonality for the shell accumulations. In this case, the seasonality estimates are expressed by season, rather than by month. The term "winter," for instance, refers to mid-December to mid-March death, "early winter" means December-January, etc. The level of confidence for each estimate is also expressed.

All the specimens seem to fall within the period "late fall" to "late spring," that is, from November to May. These results suggest that the St. Catherines-Savannah midden used to construct Stage II at Marys Mound probably accumulated during this interval (shell from this feature was radiocarbon dated at A.D. 1255  $\pm$  55). Because the Johns Mound shell core appears to have been freshly collected for construction purposes, it is possible to suggest tentatively that this Stage II construction occurred sometime between November and May.

TABLE 21  
Results of *Mercenaria mercenaria* Sections from Marys Mound<sup>a</sup>

Specimen No.	Growth Stage at Margin	No. of Annual Increments	Proposed Season of Death	Confidence
SC1038a	mature	3+	late winter	high
SC1038b	mature	2+	late fall	moderate
SC1038c	mature/senile	4+	early winter	moderate
SC1038d	juvenile/mature	1-2	early winter	low
SC1038e	mature	1-2	early winter	low
SC1038f	mature/senile	6+	mid-late spring	moderate
SC1038g	mature	4+	early spring	moderate
SC1038h	senile	5	winter	moderate
SC1039a	senile	7+	late fall	moderate
SC1039b	mature	2	late fall-early winter	moderate
SC1039c	mature	3+	late fall-early winter	high
SC1039d	mature	2+	early winter	moderate
SC1039e	mature	2+	mid-winter	moderate
SC1039f	mature	2	early winter	moderate
SC1039g	mature	1-2	early winter	high
SC1039h	mature/senile	3+	late winter	moderate
SC1039i	mature/senile	3	no conclusions	—
SC1039j	mature	2+	winter	low
SC1039k	mature	2	mid-winter	moderate
SC1039l	senile	6+	winter	low
SC1040a	senile	6+	winter	low
SC1040c	senile	4	winter (probably late winter)	moderate
SC1040d(I)	senile	3+	late fall-early winter	low
SC1040d(II)	senile	4+	late fall-early winter	low
SC1041a	mature/senile	4+	late fall	low
SC1041b	mature/senile	3+	early winter	moderate
SC1041c(I)	senile	5+	early winter	low
SC1041c(II)	mature	3+	early winter	moderate
SC1041d	mature/senile	2+	early winter	moderate

<sup>a</sup> Data from George R. Clark II.

TABLE 22  
Results of *Mercenaria mercenaria* Sections from Johns Mound<sup>a</sup>

Specimen No.	Growth Stage at Margin	No. of Annual Increments	Proposed Season of Death	Confidence
A1011a	juvenile	1?	early winter	moderate
A1011b	juvenile	<1	early winter	low
A1013a	juvenile	<1	no conclusion	—
A1013b	senile	5	winter (possible early spring)	moderate
A1013d	mature/senile	4+	early winter	low
A1014a	juvenile/mature	1	early winter	moderate
A1015b	juvenile/mature?	2+	early winter	low
A1015c	juvenile	<1	early winter	moderate
A1016a	juvenile	1-2	early winter	moderate
A1017b	mature	2+	late winter	moderate
A1017d	mature	1+	winter-spring	low

<sup>a</sup> Data from George R. Clark II.

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