THE FLORIDA STATE UNIVERSITY
COLLEGE OF ARTS AND SCIENCES

THE KENT MOUND: A STUDY OF THE IRENE
PHASE ON THE LOWER GEORGIA COAST

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[Signatures]

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PREFACE

This thesis represents a culmination of two seasons of excavation at the Kent Mound site on St. Simons Island, Georgia. It would never have reached this stage of completion without the courteous assistance, criticisms, and suggestions of many individuals.

I am indebted to Dr. Kathleen Deagan, who served as chairman of my thesis committee, and to Dr. Bruce Grindal and Dr. Robert Dailey, who assisted her in a most tedious reading of the manuscript.

I would also like to express my appreciation to members of the Coastal Georgia Archaeological Society, who spent countless hours in the field and laboratory with only a feeling of accomplishment for a reward. Gratitude is also extended to a number of my Glynn County Public School students for the hours that they devoted to sorting floral and faunal samples. Last, but not least, I would like to formally thank my wife Mary Ann for tolerating a work-by-day-write-by-night husband, and for typing the final manuscript.
CHAPTER I
INTRODUCTION

This study is intended to resolve certain historical problems concerning a late Mississippian archaeological culture called Irene on the Georgia Coast. These problems are derived from the work of previous researchers in the area, notably Larson 1958, Caldwell 1971, Martinez 1975, and Milanich 1977. The main source of data will be a burial mound-village site on the southern tip of St. Simons Island named the Kent Mound (University of Georgia site number 9Gn51). Data from other Irene phase sites will be used when possible. The scope of this study will be confined to the problems defined in the last section of this chapter, but excavation data will be presented in a complete form so that future researchers may have access to it.

The major objective of this study is the delineation of Irene phase culture history on the lower Georgia Coast. Although a descriptive concept of culture is not generally regarded as a final goal of modern archaeological research, the objectives stated are necessary steps to a sound explanatory approach. For the purpose of this study, following the suggested procedures of Taylor (1948), Willey and Phillips (1958), it is assumed that culture history should proceed the
search for culture process. Obviously, a sound chronology is a basic and necessary step to thorough culture history integration in any archaeological area.

Walter Taylor feels that many archaeologists explanatory models lack a basic step.

"...the ethnographer can observe culture in action in the form of cultural behavior and in its adaptive relation with the environment. Therefore, he can use a dynamic, explanatory model from the inception of his studies. This is not possible for the archaeologist. His empirical data are static and, in order to accomplish his first task which is to delimit his empirical data, he must use a static model, i.e., a descriptive concept of culture, not a dynamic one. Only after he has identified his data and then only by use of inference from that data, can he apply a dynamic, explanatory model that is by using it first, the "new archaeologists are once again skipping a necessary procedural step and weakening their results (Taylor 1972: 32-33)."

According to Taylor many current archaeological studies attempt to solve problems of processual magnitude with data that has an insecure descriptive basis.

Gordon Willey andJersey Sabloff, reviewing the theory of Willey and Phillips (1958) emphasize a similar procedure:

"The authors conceive of archaeological research on three operational levels (1) observation (fieldwork); (2) description (culture history integration); and (3) explanation (processual interpretation) (Willey and Sabloff 1974:145)."

This study assumes that a thorough knowledge of subsistence adaptation is also important to a thorough culture history integration, as indicated by several theoretical writers.
According to Watson, LeBlanc and Redman the ecological view of culture has already achieved widespread acceptance among archaeologists. The ecological approach emphasizes the importance of elements of the biophysical environment, plants, animals, climate, and topography, and man's interdependence with them. This concept of culture and environment leads to the production of testable processual models (Watson, et.al.1971:107).

Graham Clark emphasizes the importance of social choice and technological advance in understanding man's adaptation to natural resources.

"The thesis I have sought to sustain is first that even at this basal level, at which economy so to speak interlocks with ecology, the decisive factor has been social choice, and second that every advance in the control of the natural environment has enlarged the scope within which this choice could operate. In other words, economic progress in the sense of a growing capacity to utilize natural resources. . .(Clark 1972: 76)."

In reference to these two viewpoints, this thesis assumes that the environment and man's adaptation to it are critical factors in culture history integration and subsequent processual interpretation. A more detailed description of Irene subsistence may provide a better foundation for future processual studies.

Several problems have been derived from the two major goals discussed above. These problems will be examined by means of hypothetical statements logically
derived from the results of previous research. The hypotheses will be tested with archaeological data from the Kent Mound and elsewhere. It is expected that those hypotheses that are not rejected will be submitted to further testing in the future, theoretically speaking, until they are rejected or adequately confirmed. The research problems and hypotheses will be presented in the last section of this chapter.

For those readers who are not familiar with the culture history of the Georgia Coast, the first section is intended to acquaint them with the Irene phase in historical and ecological perspective. This will be followed with a history of the Kent Mound, and the problems to be examined.

**The Irene Phase: A Definition**

The Irene phase was recognized as an archaeological entity almost a century ago. While excavating a number of low sand and shell burial mounds along the Georgia Coast in 1897, C.B. Moore noted the decorative consistency of the major Irene ware, and referred to it as the "ordinary type" (Moore 1897:9). Although Moore was not aware of the cultural implications of his finds he did provide a description and illustrations of the pottery type now known as Irene Filfot Stamped.

WPA excavations in the 1930's led Joseph Caldwell and A.J. Waring (1939:6) to the description and naming of
several sequential ceramic complexes at the Irene site in Chatham County, Georgia, of which the Irene types formed the latest set. Caldwell and McCann (1941:42) later considered each of the ceramic complexes as an archaeological period. By 1943, Caldwell was referring to the Irene sites in Chatham County collectively as the Irene focus (Caldwell 1943:7).

Charles Pearson (1977) has recently reevaluated Irene sites on the Georgia Coast and considers them representative of the archaeological unit termed "phase" by Willey and Phillips (1958:22). Pearson is in agreement with other writers' viewpoint that the Irene phase is the coastal manifestation of late Mississippian known in Central and North Georgia as Lamar (Caldwell 1952:319, Fairbanks 1952:295, Kelly 1938:40). Coastal Irene sites, however, differ from the Irene site itself and other Mississippian sites in the absence of rectangular mounds with summit wall trench structures. The currently accepted Irene phase date range is 1350–1550 A.D. (Pearson 1977:47). Pearson (1977:50) suggests that an absence of these structures and a rarity of related Southern Cult items may reflect emphasis of intensive agriculture and a stronger dependence on natural coastal resources. The location of Irene sites near salt marsh or river estuary and the subsistence data from those sites seems to support his contention.
Since excavations have been directed almost entirely toward burial mounds, little is known about Irene village pattern. Some data concerning Irene house pattern has been derived from limited village excavations by Cook (1977) and Pearson (n.d.a.) in Bryan County. Structural remains excavated at these two sites exemplify the basic rectangular wattle and daub Mississippian house design.

Burial mound data indicates that there was differential placement of artifacts with burials. The accompanyments include pottery, shell beads, tobacco pipes, stone celts and discoidal stones. These artifacts tend to be profuse with a few burials but totally absent with the majority. The selective distribution of grave goods implies that some individuals had greater access to material goods than others, however, this hypothesis has not been tested.

The Irene ceramic complex as defined by Caldwell and Waring (1939b:6) is composed of the three ceramic types, Irene Fillet Stamped, Irene Incised, and Irene Plain. These three types have close counterparts in the Lamar ceramic complex of Central and North Georgia (Caldwell 1943:52).

In summary the Irene phase is defined as:
"A late prehistoric coastal Mississippian archaeological culture, that is characterized by exploitation of marine resources, as well as agriculture, square wattle and daub houses, complicated stamped and incised ceramics, and low sand and shell mounds containing burials that suggest some degree of social stratification."
Environmental Setting

The purpose of this section is to provide a general description of the environmental setting of Irene phase sites. A number of other writers, notably Pearson 1977, Larson 1969, and Martinez 1974, have devoted much attention to detailed descriptions of the coastal environment in archaeological perspective. For this reason, only a simplified description will be presented here. Those readers requiring more detailed ecological information are referred to Hillestad for as it relates to the Irene phase, Pearson (1977:9–45).

The lower Atlantic Coast is characterized by a chain of barrier islands that stretch from South Carolina to Northeast Florida. These islands, commonly referred to as sea islands, are composed largely of Pleistocene dune deposits that have been somewhat leveled by wind and water erosion. The eastern or seaward sides of these islands are geologically active and characterized by Holocene deposits, a great part of them consisting of undulating dunes. The plant communities existing on the coastal islands are distributed according to several factors. Among these, soil type, ground moisture, and salinity, both air and water born, are most important. High areas of the islands are dominated by the maritime live oak forest, while swampy areas are characterized by cypress and other lowland species.
An area of extensive salt marsh five or more kilometers across lies between each barrier island and the mainland. These marshes are cut by a series of dendritic creeks that conjoin flowing to and from the sea between each barrier island. Sea water driven by two to three meter tides mixes with fresh water runoff from the mainland in these tidal creeks. The marsh itself is composed of clay sediment containing a large quantity of organic matter.

The mainland is similar to the pleistocene portion of the barrier islands, being fairly level with a relief that ranges from sea level to only several meters above sea level. The whole coastal region is bordered on the west by a moderately low area of extensive pine forest, commonly called the pine barrens.

A number of fresh water rivers empty into the ocean along the Georgia Coast (Fig.1). Four of these have rather extensive estuarine systems that are dotted by sand islands, many of which show prehistoric occupancy. The extensive fresh water swamps on either side of these rivers present an ecological situation that differs considerably from the coastal salt marshes. It seems that these alluvial areas would have been most attractive to late prehistoric groups engaged in horticulture since the island and mainland environments are rather poor agricultural lands.
Irene Phase Settlement Pattern

Although two recent studies have attempted to create models for barrier island settlement pattern, in relationship to the environment, both have neglected to consider the mainland and river swamps as important aspects of aboriginal settlement (Pearson 1977, McMichael 1977). This section is intended to present information about the distribution of known Irene sites on the Georgia Coast, not just those confined to one type of geographic feature. While the Indians may have viewed each island as a distinct habitational or political unit, research indicates the mainland and fresh water estuaries were heavily occupied also.

A careful review of the literature indicates several inductive generalizations can be made concerning the relationship of Irene phase sites to the environment:

1) Irene phase sites are located on relatively high ground composed of a well drained soil type, such as Lakeland Sand (LE) or chipley fine sand (Ca). Pearson (1977) has presented a good case for this association on Ossabaw Island.

2) Irene phase sites tend to be located where salt marsh or fresh water creeks or rivers make their closest approach to the type of land mentioned above. (See also Pearson 1977).
3) With respect to one and two above, Irene phase sites are located on barrier islands, along the mainland rim adjacent to the salt marshes, or within the river swamps on the sand islands described above. In some cases where sand islands are absent or distant from the river, clay based erosion remnants served as habitation or even ceremonial sites.

4) Large Irene sites do not occur in the pine barren area nor do they occur on the mainland at a distance greater than 2 kilometers from the salt marsh.

From the above generalizations it seems likely that the locations of coastal Irene sites are related to maritime resources. The larger number of late prehistoric sites in the estuarine areas, their intensity, and soil fertility may indicate that their presence is related to horticulture rather than natural resource exploitation.

Recent History of the Kent Mound

The county owned area between Poplar and Park Avenues on St. Simons Island served as a trailer park during the post World War II years, and it seems likely that modern refuse was discarded on the Kent Mound during this period of time (Fig.1). Several coins, glass fragments, nails, bricks and bottle caps found in the upper few inches of the mound fill, indicate a considerable amount of modern
Figure 1. Georgia coastal area showing important locations referred to in text.
activity had occurred on and around the mound prior to 1955.

In the late 1950's the first severe damage to the mound resulted from a deep storm sewer excavation that extended across the southern edge of the mound. During construction activities workmen removed a human skull from the mound that eventually came to rest on a shelf in the corner drug store.

Several years later, as the growing number of residence in the area produced heavier traffic on Poplar Avenue, road grading increased the damage done earlier to the southern half of the mound.

By the early 1960's local residents were familiar with the mound's function and many were concerned about its future. In July of 1965 growing local interest in the site prompted a group of amateur archaeologists, of which this author was coparticipant, to perform test excavations. When the mound's importance as a late prehistoric burial site with premound village was realized, excavations were extended to incorporate most of its northern half. This project was conducted under the auspices of the St. Simons Chamber of Commerce, their interest being related to historical preservation and tourism. County Commissioner Howard Sears assisted the project by directing county carpenters to construct a large open structure over the site.
When excavations were completed in September, Mr. Sears, upon the request of the St. Simons Chamber of Commerce, provided wooden boxes that were lined with polyethylene plastic to protect the burials that were left in situ. After placement of the boxes county workers refilled the excavation.

Further attrition of the site by the continued grading of Poplar Avenue created a new concern in late 1974, at which time another excavation was planned and conducted by the Coastal Georgia Archaeological Society. The author was placed in charge of the field work and subsequent analysis of the material recovered. Although salvage of the endangered area was a principal concern of the 1975 project, additional work was conducted around the mound periphery to delineate its constructional sequence.

Research Problems

As previously noted, Caldwell and Waring defined the distribution of the Irene ceramic complex as extending from St. Simons Island into South Carolina (Caldwell and Waring 1939a).

In the 1950’s Lewis Larson proposed a new ceramic complex for the middle Georgia Coast. This complex was based on the presence of an additional type of incised ware at the Pine Harbor site.

"The ceramic complex at the site is homogeneous,
and all the evidence points to a single occupation. The ceramic types from the site include Irene Filigot Stamped, Irene Incised, Irene Plain (Caldwell and McCann, 1941, pp. 46-49), and McIntosh Incised (Larson, n.d.). With the exception of the last named type, the others are diagnostic of the Irene ceramic period as defined by Caldwell and McCann at the Irene site, near Savannah, Georgia. The presence of the McIntosh Incised type in unquestioned association with Irene types distinguishes the ceramic complex at the Pine Harbor site from that at Irene (Larson 1955:75).

In a later publication, Larson extends the range of the Pine Harbor complex to the Southern tip of St. Simons Island (Larson 1958:16). It should be noted, however, that this extension was not accompanied by excavational data.

Research conducted by the University of Florida from 1973 to 1975 on the north end of St. Simons Island apparently hinged on the assumption that Larson's extension of the Pine Harbor ceramic complex to St. Simons Island was correct. The ceramic type names, Pine Harbor Complicated Stamped, Irene Filigot Stamped and Irene Incised appear in a dissertation that resulted from this research, but the type McIntosh Incised is not mentioned (Wallace 1975).
Another publication stemming from the University of Florida research states "the Irene Ceramic Complex found on the Northern Georgia Coast is not present on St. Simons (Milanich 1977:137)." Not only is there a great deal of ambiguity concerning the two ceramic types Irene Fillet Stamped and Pine Harbor Complicated Stamped, but the data is not directed toward resolving the question as to whether or not the Pine Harbor Ceramic Complex is a viable model for the St. Simons area. This confusing issue will be discussed at greater length in chapter two.

Conversely, another researcher questions the tenability of the Pine Harbor idea altogether.

"Considering the rareness of McIntosh Incised (only a few dozen sherds are known) Larson's establishment of a "Pine Harbor Period" seems premature (Pearson 1977:51)."

If Larson's Pine Harbor complex is a viable concept, then according to his definition, the ceramic type McIntosh Incised should occur in Irene phase sites from St. Catherines Island to St. Simons Island (Larson 1958:12).

Milanich's contention that the Pine Harbor Ceramic Complex is present on St. Simons Island, and that the Irene Ceramic Complex is non-existent, conflicts with Pearson's intimation that Pine Harbor itself is non-existent. This descriptive problem is restated as a hypothesis:
"The type McIntosh Incised is a ceramic component of the Late Prehistoric phase that includes the ceramic types Irene Filfot Stamped, Irene Incised and Irene Plain, on St. Simons Island, Georgia."

For the purpose of this study it is assumed that the absence of McIntosh Incised in a large Irene Phase ceramic sample from St. Simons Island suggests disconfirmation of the hypothesis stated above.

The second problem to be dealt with in this study is the relationship between Irene phase ceramics and the early historic ware in the St. Simons Island area.

This problem is not a new one. In the 1940's and early 1950's a wide variety of names were applied to the early historic ceramics found near the Altamaha River Estuary. A full historic complex was described and named King George after the Fort King George site by Joseph Caldwell in 1943. Caldwell felt that this complex had a number of general similarities with coastal Irene pottery, which itself had been found with Spanish sherds at other sites (Caldwell 1952:321).

Lewis Larson later defined the Fort King George ceramic complex as the Altamaha series, a product of the Altamaha Period. Larson thought that the type Altamaha Complicated Stamped was a development out of the type Irene Filfot Stamped found at the Fine Harbor site, Creighton Island, another site surveyed by Larson, produced an unnamed type that seemed transitional between the two types in terms of physical attributes (Larson N.D.).
In 1967, William Kelso noted the ceramic types from the Fort King George site as being "the same type both in decoration and paste, as those found in a post-1586 context at the Castillo de San Marcos in St. Augustine, Florida (Kelso 1967:14)."

Recently, Otto and Lewis, following an original suggestion by Hale Smith (1948:315) state that "the San Marcos pottery from the Castillo most and other St. Augustine sites does not seem to fit into the pottery tradition of Northeastern Florida (Otto and Lewis 1974:97)." They do note the similarity of the San Marcos types to the Fort King George and late Lamar ceramics of the Georgia Coast. They suggest that the occupation of Georgia Coastal sites by Guale Indians, "indicates that the San Marcos type was introduced into the St. Augustine area by the Guale or a related group, the Yamasee (Otto and Lewis 1974:97)."

The question that arises from the literature is, "Do historic Altamaha-San Marcos pottery types originate from the late prehistoric Irene types?". The only solution to this problem would lie in ceramic data that demonstrated a transition from Irene to Altamaha-San Marcos. This solution would rely on the generally accepted theory that ceramic types change gradually through time and that this constitutes archaeologically recoverable data (Watson, LeBlanc, and Redman 1971:55). The second problem is stated as a hypothesis:
"The San Marcos–Altamaha ceramic types developed from the Irene Ceramic Complex, and this transition is demonstrable with ceramic data from late Irene–Early Historic sites."

Evidence for the existence of two culture areas on the Georgia Coast has come from archaeological and ethnohistorical data. A distinction has been made between the Guale (Pine Harbor or Irene archaeological culture) of the Central Georgia Coast and Timucuan (St. Johns IIC archaeological culture) of the lower Georgia Coast by several writers (Lanning 1935, Goggin 1952, Larson 1958).

St. Andrews Sound between Jekyll and Cumberland Island has been generally accepted as the actual geographical boundary recognized by the historic Timucuan and Guale groups. The distinctiveness of the boundary is indicated by the fact that when Florida Governor Pedro Ibarra left Cumberland Island to visit Guale in 1604, he needed another interpreter to communicate with the Indians who resided there (Lanning 1935:10-11).

Lewis Larson has suggested that Cumberland Island and the Camden County area represented a northward extension of the St. Johns culture area from the St. Johns II period (circa 850 A.D.) until the St. Augustine period (circa 1620 A.D.). His St. Johns extension was based on the apparent absence of the Pine Harbor–Irene ceramic types from Camden County and the presence of copper plaques in burial mounds that were similar to those found along
the St. Johns River in Northeast Florida. Basing his conclusions on these observations Larson assumed that "little or no cultural contact between the Guale Indians and the Eastern Timucuan of the Northern St. Johns area took place during the late prehistoric period in Camden County (Larson 1958:19)."

Larson's source of data, however, indicates that the ceramics from one of the Camden County sites cited was "the complicated stamp, so well known in Georgia (Moore 1897:11)." If Moore is referring to his "ordinary type" then we must accept the ceramic affiliation of this site as Irene.

In summary, certain ethnohistorical and archaeological data imply that a connection existed between the Northern St. Johns region and Camden County below the Satilla River and St. Andrews Sound during the late prehistoric and early historic times. On the other hand the little ceramic data available indicates the presence of Irene Filpot Stamped from at least two sites in Camden County. The question that arises from the literature is, "Did a distinct boundary, characterized by "little or no contact" as proposed by Larson exist between the late prehistoric Pine Harbor-Irene and St. Johns IIIEC archaeological cultures?"

If one assumes that cultural contact results in the exchange of material culture, then this question is
one that can be attacked through archaeological research. Furthermore, archaeological data from an Irene site near the proposed cultural boundary should show the greatest degree of St. Johns contact or interaction if any existed.

According to Larson's proposed range for the Guale Pine Harbor territory, the Kent Mound site would be situated within and at its extreme southern limit (Larson 1958:15). As such the Kent Mound should provide the greatest evidence for St. Johns contact or interaction if any existed.

Larson's contention that little or no contact existed between the Pine Harbor and St. Johns culture areas is a hypothesis that can be tested with archaeological data:

"As a component of the Irene archaeological culture (prehistoric Guale), the Kent Mound site had an archaeologically recoverable culture (material artifacts, mortuary, practices, and subsistence pattern) that shows little or no influence from the St. Johns archaeological culture."

The final problem concerns Irene phase subsistence. If, as indicated by the literature, Irene phase subsistence adaptation was primarily to natural resources as opposed to the general Mississippian pattern of agriculture, archaeological evidence should indicate the same.

This problem is stated as a hypothesis:

"Irene phase subsistence relied heavily on marine resources, and identification and quantification of subsistence remains should reflect this orientation."
CHAPTER II

PREVIOUS IRENE PHASE RESEARCH

The first known archaeological investigations of the cultural entity known as Irene were published by Colonel C.C. Jones in 1873. Jones seemed particularly attracted to Irene Phase sites along the coast in Bryan and Liberty County. His excavations of sand mounds yielded Irene Filpot Stamped jars, several of which he describes and illustrates (Jones 1873:455-56). Although he was not aware of the cultural or chronological implications of his finds, Jones was quite adept at describing the stamping techniques used in the manufacture of these vessels.

Two decades later, while conducting extensive excavations of burial mounds on the Georgia Coast, Clarence Moore recognized the prevalence of one combination of decorative modes. Moore referred to this commonly occurring vessel form as the "ordinary type" (Moore 1897:8-9). From Moore's description of temper material, rim decoration and vessel shape, and from his well executed illustrations, it is evident that his "ordinary type" is now recognized as the type Irene Filpot Stamped. Moore's work on the lower Atlantic Coast indicates that the distribution of this ceramic type was from near Beaufort South Carolina to the north side of the Altamaha.
estuary, with the possible inclusion of a mound near Woodbine (Moore 1897:12, 22; 1898:166).

No additional archaeological work was conducted on the Georgia Coast until the late 1930's. At that time, Federal Government funding for archaeology through the Works Progress Administration led to rather extensive excavations in Glynn and Chatham Counties. As a result of these projects Caldwell and Waring were able to seriate the typologically distinct pottery complexes of the area into arbitrary chronological intervals (Caldwell and Waring 1939b:6). The Irene complex was chronologically last in their sequence.

The Irene Site itself, located in the tidal estuary of the Savannah River, served as the source of most of the excavated data and the type name. This site was a platform mound - burial mound complex with an abundance of pottery and village debris in the fill. The rather unusual lack of typical Mississippian dwelling remains may be due to the severe erosion of the eastern portion of the site by the Savannah River (Caldwell and McGann 1941).

Caldwell and Waring provided areal distributions of their various ceramic types including the Irene wares. Their distribution for Irene Fillet Stamped ranged from St. Simons Island on the Georgia Coast northward into South Carolina, up the Savannah River at least as far as Augusta. Irene Plain had a similar distribution, while Irene Incised was noted as extending to the mouth of the Altamaha River (Caldwell and Waring 1939a).
Caldwell's 1943 M.S. thesis included additional data on the Irene ceramics in Chatham County. The Budreau village site on Whitemarsh Island near the mouth of the Savannah River was reported as part of this work, which included three other sites that were not Irene. Caldwell suggests that the Budreau Irene ceramics were different enough from the Irene site ceramics to consider them as the "Budreau variant of the Irene Complex" but includes both in what he terms the "Irene focus" (Caldwell 1943:22-23).

The next archaeological excavation in an Irene Phase site was conducted by Lewis Larson at Fine Harbor in McIntosh County on the Central Georgia Coast. The site was composed of extensive oyster midden piles distributed along the mainland rim west of Sapelo Sound.

As mentioned earlier, Larson recognized a new type of incised ware at this site and named it McIntosh Incised. Narrowly incised lines depicting the wings and claws of birds, sets McIntosh Incised apart from the simple broad shallow scrolls of Irene Incised. Larson recognized the presence of this additional ceramic type as having cultural significance and included the Irene ceramic types found near Fine Harbor into the Fine Harbor Complex (Larson n.d.4:1955).

Larson continued research along the middle and lower Georgia Coast in the early 1950's in an attempt to locate archaeological sites that would show contact between
aboriginal and Spanish cultures.

Larson's work included surface collections from two early historic sites that produced the Altamaha series ceramics. This ceramic complex was described as, Altamaha Complicated Stamped, Altamaha Incised, Sutherland Incised (similar to McIntosh Incised) and Altamaha Red Filmed. Larson reasoned that similarities in vessel shape, stamping technique, and rim treatment indicated that the Altamaha ceramics were a development out of the Pine Harbor Ceramic Complex. Similarities between the Altamaha series and the San Marcos wares found in St. Augustine, Florida by Hale Smith (1948) were also noted by Larson. Creighton Island, another site reported by Larson, produced an unnamed type that seemed to be transitional between the stamped Pine Harbor ware and the Altamaha Complicated Stamped of Sutherland's Bluff (Larson n.d.).

In 1953 a burial mound at Belleville Point, McIntosh County was excavated in the hope that "further data concerning the mortuary practices and religious complex of the Guale" might be obtained (Larson 1957:37). Although this site did not show Spanish contact, it did support Larson's proposed Pine Harbor ceramic complex with a low percentage of the ceramic type McIntosh Incised. The burials at this site were secrational in sand fill around a shell midden core. Primary bundle, cremation in place, cremation in pottery vessel, primary urn, and primary flexed were the characteristic burial
types encountered (Larson 1957).
As a result of his work at Pine Harbor and elsewhere on the Georgia Coast Larson determined the areal range of the Pine Harbor Ceramic Complex and equated it with the Pre-Spanish Guale. Larson viewed the coastal area south of St. Andrew Sound to be occupied by Timucuan speaking people represented archaeologically by St. Johns pottery. The Guale preoccupation with the anthropomorphized eagle depicted on pottery vessels, clay pipes, and clay figurines, contrasting with the Timucuan popularity of copper plaques, led Larson to believe that each area participated in the widespread Southern Cult differentially. An absence of cultural exchange in these items also led to the assumption that "little or no cultural contact existed between these two areas" during the late prehistoric period (Larson 1958).
In 1967 William Kelso conducted survey excavations at the Fort King George site (Kelso 1967). Although this work did not produce Irene ceramics, it did yield Altamaha ceramics (previously called Ft. King George) that bear close resemblance to the former type. Kelso's interpretation of the relationship between the two types has already been presented.
In 1970 Caldwell returned to the Georgia Coast, this time focusing graduate students and research interest on a large scale survey of St. Catherines Island. Although Irene
contexts were not disclosed, early mission period Spanish majorica and olive jar sherds were found associated with Al-
tamaha Line Block Stamped sherds that were characterized
by the basic Irene jar form. A radio carbon determination
accompanying this context was 1680 ± 55 years A.D. (Caldwell
1971:91).

At the same time Caldwell was excavating on St.
Catherine's Island, survey excavations were being conducted
by the author at Seven Mile Bend on the Ogeechee River in
Bryan County. Much of the Seven Mile Bend Site had been
eroded by tidal effects and floods, but a large portion of
the village remained. Virtually every occupational component
known to have existed on the Georgia Coast was encountered
at Seven Mile Bend with the major occupational component being
Irene. Structural remains of square houses plastered with
decoratively incised daub and palisade walls were the most
outstanding structural features found. A wide variety of
undescribed ceramic types were recovered from Irene contexts.
Red painted buff ware, plain ware with vegetable effigy
handle, zoomorphic rim appliques were found associated Irene
Filpot stamped and Irene Incised. Tobacco pipes were common
and consisted of elaborately incised and modeled effigys of
hafted celts, vessels, animal limbs, and humans. In the
site report particular attention was given to detailed des-
cription of the artifactual material. From the thousands
of sherds recovered, ten Irene rim stylcs were described
and named according to their constructional attributes. The Seven Mile Bend Site contrasted sharply to the Irene Site in the quantity and variability of virtually all classes of artifacts found (Cook 1971).

In 1973 Pearson and DePratter conducted excavations in an Irene Phase village site on the mainland near Redbird Creek in Bryan County. One house structure was excavated that had a square clay plastered wall plan. Inside the structure was a well formed clay fire basin (Pearson n.d.a). A general survey of eastern Bryan County accompanying the Redbird Creek project revealed a predominance of Irene Phase sites (Pearson and DePratter n.d.).

For a period of several years beginning in the spring of 1973 the University of Florida carried out rather extensive survey excavations on the northeastern peninsular tip of St. Simons Island.

An early goal of the St. Simons project was to update the chronology of the area with stratigraphic excavations in village midden (Martinez 1975). Unfortunately confusion between several diachronic complicated stamped wares (Swift Creek Complicated Stamped, Kelvin Complicated Stamped, Savannah Complicated Stamped, and Irene Filfot Stamped) induced Martinez to lump all complicated stamped wares into only two descriptive categories. The frequency seriation of complicated stamped ware presented by Martinez obviously represents a number of culturally significant types recovered from mixed zones in multicomponent sites (Martinez 1975:74). Since
Martinez was not able to segregate the Irene wares from the other complicated stamped ceramics present, his data cannot be used here.

The second St. Simons report was a detailed synthesis of the three early historic sites excavated (Wallace 1975). As before multicomponent contexts existed at all three sites. Two of the three sites were villages with burials in pits, while the third site was a burial mound.

An earlier excavation of a portion of the burial mound had yielded Savannah II Period ceramics and burials in and around a shell core covered with sand. Three intrusive early historic burials were found that included burial associations consisting of Nueva Cadiz Plain beads and reworked Spanish Coin Ornaments (Cook and Pearson 1973).

Wallace's excavation located a number of additional historic burials in the mound's eastern periphery. A cache of broken vessels were found that Wallace identified as "San Marcos (rectilinear complicated stamped), Irene Incised, Irene Pilfot, Irene Plain (Wallace 1975:58)."

Wallace indicates that the pottery cache was probably placed at the time of the mounds completion.

Earlier evidence from the mound itself points to a Savannah II completion date. The ceramic complex excavated by Cook and Pearson from the mounds shell core, sand fill and burial pits is exclusively Savannah II (Savannah Check Stamped and Savannah Plain). The percentages of each type present are extremely similar to two other Savannah II burial
mounds, one on the mainland over eight miles distant (Cook and Pearson 1973:32). Furthermore since cremation represents 22% of the Savannah II burial modes at the site, and no cremated historic burial has ever been recorded for the Georgia Coast, burial data also indicates a Savannah II origin for the mound. Other burial data points to a considerable time gap between the Savannah period of use and the placement of historic burials. One Savannah II Period burial had been intruded during the interment of a historic burial. The fragmentary and friable nature of the Savannah burial's left femur and humerus indicate that a considerable amount of time separate the placement of it and the historic burial (Cook and Pearson 1973). From the data presented it seems reasonable to hypothesize that historic Guale Indians, in attempting to use an old structure as a focal point for their mortuary activities, dug into Savannah II burials. In order to avoid these burials they shifted their activities to the periphery.

Wallace reports a general ceramic complex of rectilinear complicated stamped, curvilinear complicated stamped and plain for the Taylor Mound. The value for check stamped in his ceramic percentage table is zero (Wallace 1975:254).

Obviously, there is a high degree of incompatibility between Wallace's ceramic data and that of Cook and Pearson. Every attempt to resolve this problem has been ineffectual since Wallace's data is presented by site rather than by
provenience within site. Logically speaking, the best explanation for the difference noted is that Wallace's data was derived from the Guale burial area near the mounds east of Iroquois, while Cook and Pearson's data was from Savannah II context within the mound. Wallace's classification of complicated stamped ceramics into rectilinear or curvilinear categories is of little value in assigning them to culture period since the Savannah, Irene and San Marcos periods include both stamped elements in their assortment of motifs.

An additional problem with Wallace's ceramic data is the reference to Irene Filfot Stamping on vessels from the Taylor Mound pottery cache, and another reference to Pine Harbor Complicated Stamped from Indian Field (Wallace 1975: 58, 263). Larson's description of the Pine Harbor Ceramic Complex has already been presented. In it Larson clearly states that the stamped ceramics from the Pine Harbor site should be considered as Irene Filfot Stamped as defined by Caldwell and McCann (Larson 1955:75). The omission of the type McIntosh Incised from Wallace's (1955) and Milanich's (1977) publications indicate that the Pine Harbor Complex may not extend to the north end of St. Simon's Island.

A future analysis of the ceramics excavated by Wallace, utilizing constructional attributes of rim sherds, might help resolve the problem of classification that Wallace encountered, especially since San Marcos and Savannah lack the decorative rim strip of the Irene phase.
The most recent Irene Phase study and undoubtedly the most objective and thorough, was intended to develop a late prehistoric settlement model for Ossabaw Island, based on environmental and sociocultural factors (Pearson 1977). The model, consisting of sets of hypotheses, was based on assumptions, data and analyses. Although the complex structure of the Irene Phase settlement system was somewhat simplified, the basis for the model lay in only those factors that were considered the most essential to settlement (Pearson 1977:120). These environmental factors considered essential to settlement pattern were carefully delineated and correlated with several site size classes. In general the indication was that variability exists between sites of different size classes in regard to their relationship to certain environmental variables. The larger sites are associated with more valued environmental variables (linear proximity to marsh or creek, soil permeability, and type of forest community). Pearson suggests that the larger sites are centers of economic, social and religious importance while the smaller sites were utilized seasonally to exploit specific resources (Pearson 1977:90-96).

In analyzing the ceramic data, Pearson assumed that each site size class differed in the type of cultural activities that it sustained and that this functional difference should be further expressed by a corresponding difference
in their pottery type composition.

An analysis of the ceramic variability between sites was performed using the procedure of Siegel applied to the null hypothesis stated; "The ceramic composition of site classes are not significantly different from one another and can be considered to have come from the same population (Pearson 1977:107)". According to Pearson the results of the chi-square tests indicated that there was a significant statistical difference in the ceramic composition of the four site size classes (Pearson 1977:108). Although Pearson was unable to determine the cultural significance of the difference, he indicates that the results of the analysis do seem to support his first contention that the differences in site size represent functions of unsuggested sociocultural factors.

An additional attempt was made to examine variability between site size classes by an analysis of rim sherd distribution. In order to perform this analysis Pearson first defined a series of statistically significant types derived from an association analysis of 26 objective rim attributes. The analysis yielded five rim types that were statistically significant. The final step in the analysis was a tabulation of rim type counts from each site size class. Unfortunately this ceramic data was not as useful an indicator of site size variability as the environmental variability surrounding site locations (Pearson 1977:108-119). Pearson's five ceramic types may, however, be useful tools in future Irene Phase research.
Additional research on the Irene Phase includes several works that incorporate Irene Phase data into a broad summary.

Lewis Larson's dissertation is a synthesis of subsistence technology data derived from his coastal excavations previously cited (Larson 1970).

A revision of Martinez's chronology for northern St. Simons Island has been recently published by Jerald Milanich. In this paper excavational data is presented as percentage of decorative type per radiocarbon year at various calendrical intervals. The Irene Phase is not included in the sequence, but is chronologically replaced with the Savannah II and Pine Harbor periods. Milanich's interpretation of the data includes plain, cord-marked and San Marcos stamped in the Pine Harbor period from A.D. 1540 to A.D. 1625. Cord-marking comprises the predominant decorative technique in this period (Milanich 1977:135).

Following the pattern of the previous St. Simons researchers, Milanich reports a wide variety of ceramic types as occurring within a narrow time range. Milanich's synchronic view of ceramic types that were previously considered diachronic creates a severe interpretational obstacle that will be dealt with elsewhere in this thesis.

From the foregoing discussion, it is evident that there is some question about the composition of the Irene ceramic complex on the lower Georgia Coast. Furthermore there have been suggestions that the Irene-Pine Harbor ceramics
seem to be linked with the Historic Altamaha-San Marcos wares, especially in terms of vessel form. These suggestions have not been demonstrated with archaeological data. Another question that arises from previous research is Larson's suggestion that two late prehistoric culture areas existed on the Georgia Coast that were culturally distinct and lacked interregional interaction. The final question of historical importance is the suggested maritime adaptation for the Irene phase, that has not been objectively demonstrated with archaeological data. The previous research cited above has served as a source of these problems.
CHAPTER III

METHODS OF EXCAVATION AND ANALYSIS

In 1965 the damage done to the Kent Mound by pipeline and grading was visible as a sloping cut that extended from beyond the former margin to near the center.

Upon viewing the mound, it was decided that preparation of a contour map would assist in determining the extent of damage and the position of any test excavations in relationship to the mound's original shape. Datum was established as the mound's maximum elevation, a point near the base of one of the three live oak trees growing on it (Fig. 2). Contour mapping was accomplished by the radial transit method, with distances below and from datum point being recorded in 6 inch units and from zero to 360 degrees at 45 degree intervals. A military lensatic compass and a Taylor pocket compass were used to determine magnetic North and lay the mapping angles. One five foot square unit was laid out near datum point and excavated in arbitrary six inch levels. When an undisturbed burial was found in this unit, the project sponsor was notified. A joint decision was made by the St. Simons Island Chamber of Commerce, and several amateur archaeologists including the author, to excavate a large portion of the mounds north half.
A grid, designated as area A, was laid out progressively
with each unit being numbered and excavated in the same order.
A point at the base of one of the three live oak trees was
used as the principal datum point, and marked with an iron
nail. Excavation units were usually five feet square, but
a number of smaller units were utilized where field conditions
made excavation of a larger unit impractical. The three live
oaks growing on the mound presented a number of problems to
excavating, profiling and recording.

Excavation was accomplished mainly by troweling in
six inch levels. Artifacts and ecofacts were recovered by
careful hand sorting of the midden. In relation to the recovery
of ecofacts, this method is probably superior to screening
since the vast majority of shell midden is retained on a
1/4" or 1/2" screen. Many of the ecofacts, such as small
animal bones, seeds, fish otoliths etc. are destroyed by
abrasion or lost by passing a conventional screen. Although
screens were used in the 1975 excavation, this author is con-
vinced that a combination of both methods, in addition to
the recovery of large intact midden samples for laboratory
analysis, is probably superior to any one single approach.
Artifacts found during sorting were enclosed in vials, and
placed in heavy paper bags labeled with site name, date, unit
number, feature number, level and any other provenience
data required. Units and features were numbered consecutively
in chronological order of excavation. Vertical control of
excavation was maintained with a line level mounted on a tightly drawn nylon cord that extended from datum point. All pit type features encountered were mapped and excavated in one level. Burials were exhumed carefully, photographed, mapped and treated with celluloid glue in situ. A few fragmentary burials were removed but the majority were left in situ to be covered with the protective boxes mentioned in Chapter I. A considerable number of photographs were taken throughout the excavation, primarily to record features, profiles, burials and general views of the project.

1975 Excavations Methods

One of the research objectives in 1975 was to determine the sequence of physical structures at the Kent Mound and any related ceramic changes. Borrow pit filling was considered as potentially the last activity at the site. Since there were no externally visible borrow pits, excavation of test units in the north, northeast and west margins was planned. Another research objective was removed and analysis of the skeletal material that was reinterred in 1965 and excavation of any additional burials that might lie in the south and southeast margins, since that portion of the mound was being slowly graded and eroded away. The last major research objective was to obtain more data on Irene phase subsistence adaptation, especially in terms of small fish and plant remains (Fig. 3).
A new grid was established over the site by transit survey, utilizing the "Chicago" method. The units to be excavated were peripheral to the 1965 area A excavation and aligned to magnetic north. The southwest corner of the grid was designated N100E100, and each unit was identified by the stake in the southwest corner. The stake numbered N15E45 was used as the principal transit station since visibility was best from that point. The elevation at the base of each stake was recorded as distance below datum, using the same datum plane as in 1965. A large nail was driven into the base of the central oak tree at this elevation. Stake elevations conformed to the 1965 contour map, and it was decided that no additional contour mapping would be required. When borrow pits were found that extended beyond the surveyed portion of the grid, a three foot wide trench was laid out and staked in eight five foot sections with each section being excavated as a unit. Part of this trench lay intentionally in an area that had been excavated in 1965. The purpose of this placement was to locate any features that might lie below the rather shallow 1965 excavation.

Excavation of each unit was accomplished by shoveling or troweling in arbitrary four inch levels. Pit like features were excavated in four inch levels also. Soil and shell debris was screened on a 1/4 inch or window screen, depending on the physical matrix. All cultural, floral and faunal material that could be recognized was saved.
Vials, foil or other suitable enclosures were used for delicate substances. Bags were labeled with unit number, level and other significant provenience data.

Burials were exhumed with the aid of a 1/4" vacuum hose and pick. This procedure allowed the most fragile bone to be cleaned without any physical abrasion such as that resulting from brushing. Burials were mapped in situ and photographed with 35mm black and white, 35mm color slide, color polaroid, and super eight motion picture film. After photographing, the burials in each unit were carefully removed, wrapped in newspaper and packed in heavy wax boxes. This procedure followed the principle that the value of an areal photograph was not equivalent to the physical anthropological data that would be lost by leaving burials in situ, probably drying out and crumbling.

Vertical control was maintained by transit shot from N15E45 or by line level from the known elevation at the base of each stake. Numerous transit determinations showed these elevations to be extremely stable, probably as a result of the tight layer of St. Augustine grass that grew over the mound.

Special field methods included the use of a Munsell Color Chart for an objective determination of soil sample colors. Another special technique was the in toto removal of large midden or soil samples. These samples were fine screened and floated in the laboratory utilizing the Alkyl halide flotation method.
This flotation technique allows an almost total separation of carbon and bone in sequential fraction by adjustment of the flotation medium density to that of the component to be removed (Cook n.d.).

**Laboratory Analysis of Floral and Faunal Remains**

Flotation removed virtually all carbonized plant remains from sandy soil samples or shell midden material. Once recovered and dried the carbonized material was hand sorted for identifiable plant remains. Most of the seeds recovered could be identified by use of seed identification books, but an expert opinion was required on certain material.

Fish remains were identified by use of local modern comparative collections made by the author and now curated in the zooarchaeology laboratory at the University of Georgia. Identification of larger animal remains was accomplished by use of local modern comparative collections or the zooarchaeology laboratory modern collections. Mollusk remains were classified with a number of modern shell identification books.

**Skeletal Analysis**

The main purpose of the skeletal analysis was to determine with the highest possible degree of accuracy the sex and age at death of each burial. Although they are not specific problems to be dealt with here, the
relationships of artifacts, anatomical position, areal position and trauma, to sex and age at death were considered to be sources of information about certain social aspects of Irene Culture. Many archaeological studies lack sufficient skeletal data for accurate sexing and aging, or too few of the available attributes are utilized. It should be mentioned here that sex and age determination are like any other scientific analysis in that they have a range of precision that varies according to the available or utilized data. This author chose to use as much standard skeletal data as was available during his determination of sex and age in the Kent Mound burials. Reanalysis of the 1965 burials that were sexed in the field was in reasonable agreement with the earlier determinations with the exception of burial 1965-6 that was found to be a female adult instead of an adolescent. This error was understandable since the burial was in a partially inaccessible position below burial 1965-7.

The age analysis was based on the assumption that the coastal Indians skeletal development would, if anything, more closely follow modern criteria used by most physical anthropologists (Brothwell 1972:24; Blakely 1975:171; Bass 1971:13, Bullen 1973:72, Hatch et. al 1974:110). The reasoning behind this assumption is that the large quantities of fish and mollusks consumed by coastal Indians supplied sufficient iodine, calcium, phosphorous and protein for normal bone growth.
For age analysis the population was divided into 3 categories: child 0-12, adolescent 12-20 and adult 20+ years.

The first category was aged using dental development as suggested by Blakely (1975:171), Brothwell (1972:59), and Hulse (1941:1154). Long bones were too fragmentary to provide accurate data.

The second category was aged by dental development, tooth attrition, and epiphyseal union, principally in the long bones of the legs, taking into consideration developmental differences by sex (Blakely 1975:171, Flecker 1954:97-160).

The adult group was aged by dental attrition as before, cranial suture closure (Krogman 1962:75-91), and pubic symphysial face metamorphosis (Brothwell 1972:63-65, Bass 1971:156, Todd 1920:204-218). Cranial suture closure was used as a general indication of age within the limits that Krogman suggests (1962:86). Pubic symphysial faces were categorized into one of Todd's ten age class developmental phases by comparison to the given traits.

Since Southeastern Indian populations have exhibited a reasonable degree of sexual dimorphism in certain areas (Blakely 1975:17, Bullen 1973:73), the second and third categories were sexed by measurements and comparisons in those areas, notably, the skull, and pelvis.
The skull provided means of comparison in the orbit margin, supraorbital ridges, mastoid process width, forehead slope, frontal sinus cavity size, and infantile appearance (Brothwell 1971:51, Krogman 62:115). The maximum diameter of the femoral head provided data for sex estimation (Krogman 1962:144-145). The innominate bone was sexed using the following regions: sciatic notch angle (shadow tracing), ventral arc, and the preauricular sulcus (Basa 1971:156-162, Phenice 1969:273, Brothwell 1972:54-57, Krogman 1962:122-142). The Kent Mound pelvic bones were generally too robust for the medial aspect breadth to be a reliable sex criteria.

Ceramic Analysis

Ceramics were washed or brushed free of sand and/or carbon and examined for a number of constructional and decorative attributes that were considered important to assigning each sherd to a categorical type established by previous researchers. The attributes that were considered significant at the Kent Mound are listed below:

Temper Type
1) grit
2) sherd (bits of clay or pulverized sherds)
3) grit and sherd (a combination of attributes one and two).
Rim Type

4) plain (no decorative treatment)
5) hollow punched rim without rim strip (a row of circular impressions made with a round hollow instrument).
6) hollow punched rim strip (a strip of clay applied below the rim and decorated as in number five).
7) segmented rim strip (a strip of clay applied below the rim that has been sectioned by a series of vertical cuts made with a knife-like instrument.

Surface Treatment

8) plain (smoothed)
9) fillet stamped
10) cord-marked
11) check stamped
12) incised

Each major sequential constructional feature at the Kent Mound was used as a basis for ceramic seriation. Excavation units from the features that showed archaeological distinctiveness and reasonable lack of intrusion were selected for ceramic analysis.

In addition to a complete floral and faunal analysis, midden samples were segregated into various components for physical analysis. This separation was accomplished by alkyl halide flotation, each component being recorded by weight and/or volume.
The next chapter will present a detailed description of each feature and burial. A review of the stratigraphy is provided here in order to clarify the relationship of the specific features and burials.

The Kent Mound began as a primary deposit of village refuse composed of shell, pottery, soil, animal remains, and charred plant matter. This deposit was larger than any of the other existing mounds at the site, as was the case with the three earlier Savannah II burial mounds mentioned in chapter two. These mounds may have been constructed with the intention of later use as mortuary structures or they may have simply been focal points for refuse disposal. At any rate they were all later converted to burial mounds by being covered with sand.

At the Kent Mound the shell core received two burials directly into its summit. One burial was identified as early Irene by one large sherd of Irene Pilfot Stamped pottery found near the burial (burial 1965-9), while the other burial contained European artifacts (1965-11). Both burial pits were intrusive from the surface and lay west of the large overlapping deposit of sand termed feature 11 (Fig. 3, 4). Unfortunately neither of these burials can be correlated with the other burials at the site on the basis of stratigraphy.

The next activity at the site after construction of
the midden was the placement of a seated burial on its eastern edge (1965-1). This activity was followed by at least one burial in a pit (1975-18) and possibly another that was in a pit that could not be archaeologically defined (1975-16).

A number of burials were then placed on a level surface devoid of topsoil that had an elevation approximately the same as the base of the refuse midden (1965-2,3,4,5,6, 12, 1975-15). These burials were covered with sand re- moved from one or more borrow pits located east of the shell midden (feature 8). These borrow pits accumulated refuse and dark organic soil on their base a foot or more in thickness before they were refilled by slope wash or other agencies.

Several other burials (1975-1,6,8,13,14) southeast of the shell midden were at an approximate depth of eight inches below the pre-midden surface. These were not in distinguishable pits. The pre-midden surface in this area may have been dug away before their placement, resulting in a somewhat greater burial depth.

After the construction of feature eight burial 1975-7 was placed on its base and covered with a mound of sand several inches thick. This burial was partially disarticulated and bones of the arms and legs were found several feet west of it. Animals probably scavenged this burial since it was not well protected.
As more sand was required for mound construction, the initial borrow pit (feature 8) was filled with debris and sand probably removed from a new borrow pit (feature 9) several feet further east. Burial 1975-7 was placed after the filling of the borrow pit since it partially overlay the feature.

Another borrow pit (feature 10) was constructed at a time somewhat contemporary with feature nine, since sherds from the refuse in feature nine were from a restorable vessel found in feature ten.

The next activity at the site was the placement of several burials in deep intrusions made into the southeastern slope. Soil conditions did not allow for the extent of the pits to be accurately defined, but several earlier burials suffered damage from the construction of one, thus giving an indication as to its size. The skull of burial 1975-10 was found in small pieces in the fill of the pit. Burial 1975-1 had lost its skull to this intrusion also but the mandible was found in a sloping position that probably conformed to the pits western wall. Burials 1975-2, 3, 4, 5, 10, 11, 12 are probably associated with this feature. An iron knife found with burial 1975-2 indicates a post-contact date.

A separate intrusion received burial 1975-9 which was probably the last interment at the site. One of the
pottery vessels found with this burial can be assigned to
the St. Augustine period on the basis of its "bell" shape
(Fig. 6 H). An almost exact counterpart of the incised de-
sign occurring on two of these vessels has been recently noted
on sherds from the fill of a late 16th century well in St.
Augustine (Fig. 6 G, H). A large sherd from one of the vessels
was found in the upper fill of feature ten. This indicates
that the burial was slightly later than the deposition of
refuse in feature 10.

Another burial that was probably historic was burial
1965-13. It was found in a shallow intrusion that extended
from the surface of the sand fill east of the shell midden.
This intrusion was visible in verticle profile but could
not be distinguished horizontally.
CHAPTER IV

EXCAVATION DATA

This chapter will present the architectural, burial, and artifactual evidence that will form part of the basis for testing the hypotheses stated in chapter one. Construction and use of the Kent Mound was complex. For this reason a complete presentation of excavational data is considered vital to the reader's understanding of the authors' interpretations. The specific ceramic data upon which hypotheses number one and two are to be tested will be presented in chapter five.

Archaeological Features

A number of distinct features were found during the excavation of the Kent Mound. Ten of these features were related to village activity prior to mound use or mound construction and three were burial pits. Another feature was not archaeologically distinct, but its contents indicated a pit-like feature associated with subsistence activity. A description of each feature follows (Fig. 2).

Feature One (Shell Core). This feature formed the first construction stage of the Kent Mound. It was a rectangular structure composed of shell midden measuring approximately thirty feet along its east side and at least twenty
five feet across its north side. An undetermined portion of the western extremity of this feature was not excavated, but elevation measurements and the thinness or absence of sand fill on the west side indicates a square configuration for the structure. The alignment of the east and north base was remarkably close to magnetic north and east respectively. The structure was rather steep on the east and south side, but sloped gradually to the north and west. Excavation and analysis of feature one showed its composition to be an oyster shell midden that contained large quantities of broken pottery, animal and fish bones, carbon and other mollusk shells mixed with 43% sand (Table 1). A humus zone (termed premound topsoil) occurred at the base of feature one, but did not extend beyond it to the east or south (Fig.2,4).

Feature Two. Feature two was a small pit that contained calcoined oyster shells. It was contiguous to burial pit 1965-9, but was apparently associated with the earlier subsistence activities of feature one rather than the burial (Fig.3).

Feature Three. A small oval pit that extended from the shell midden base into the premound topsoil was recorded as feature three. The fill of the pit was no different from the oyster midden above, indicating that the midden had slumped into what was an empty pit or one filled with perishable material. (Fig. 3).
Table 1. Physical analysis of oyster midden sample from feature one.

<table>
<thead>
<tr>
<th>Sample Number and description</th>
<th>Sample size</th>
<th>Shell Retained on 8 mm screen</th>
<th>Hand Sort</th>
<th>Heavy Organic Float (animal bone)</th>
<th>Light Organic Float (carbon)</th>
<th>Shell Fragment Residue</th>
<th>Sand Residue</th>
</tr>
</thead>
<tbody>
<tr>
<td>N15E11-1 Oyster midden containing charcoal, soil, sherds, animal bones, and other mollusk remains</td>
<td>1 liter, 1725.5g</td>
<td>728.9g (43.3)</td>
<td>23.9g</td>
<td>27.6g</td>
<td>15.4g</td>
<td>117.5g</td>
<td>782.5g</td>
</tr>
</tbody>
</table>

* Weight percentage of each component shown in parentheses

Table 2. Physical analysis of soil sample from feature nine.

<table>
<thead>
<tr>
<th>Sample Number and Description</th>
<th>Munsell Color</th>
<th>Sample Size</th>
<th>ASTM Screen Analysis of Sand</th>
<th>Charred Plant Remains Retained on ASTM #20</th>
<th>Charred Plant Remains Floated</th>
</tr>
</thead>
<tbody>
<tr>
<td>N15E55-1, Dark brown sand from lower borrow pit fill</td>
<td>10YR3/4</td>
<td>50g</td>
<td>#20, 1.1</td>
<td>1h0mg (1.18)</td>
<td>1/70mg (0.94)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>#10, 1.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>#60, 8.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>#200, 80.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pan, 1.8</td>
<td>Total 910mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>510mg (1.22)</td>
<td></td>
</tr>
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<td></td>
</tr>
</tbody>
</table>
**Feature Four.** A group of seven stake molds was found several feet northeast and southeast of feature two. The molds were from one to two inches in diameter and extended into the premound topsoil. These were not noted in the midden above but the physical nature and settling of the oyster midden would not have allowed preservation of such small stains.

**Feature Five.** Feature five was a cluster of eight post molds that ranged in size from three to six inches in diameter. Burial 1965-4 overlay one of the molds but was not disturbed by its placement. Since they were not detected in the sandy mound fill, but appeared at seven inches below the approximate level of the original premound surface, it seems probable that the post molds were associated with premound or early mound construction activity (i.e. before mound expansion over their location). The size of the molds indicate that the individual posts were large enough to be associated with a substantial structure, but the group of molds is far too small to represent a complete house (Fig. 3).

**Feature Six.** A large pit found north of feature one was archaeologically indistinct but its contents were obviously related to village activity. A number of articulated deer vertebrae as well as other subsistence remains, sherds, and darkened soil were concentrated in the southeast corner of the excavation unit (Fig. 3).
Feature Seven. Feature seven was similar in size to feature six but its border was more definable. The contents of this pit were darkened soil, subsistence remains and sherds. This feature was located below the level surface east of the mound (Fig. 3).

Feature Eight. Feature eight was a large oblong depression that lay parallel to and about ten feet east of feature one. The function of this pit was apparently to obtain sand fill to cover burials that were placed near or in feature one. A partially disarticulated skeleton of an adolescent (1975-7) was found on the base of this feature covered with sand. Pit fill above the burial and sand cover was a mixture of dark organic stained soil containing single oyster shells, animal bones, sherds and local deposits of oyster shells that probably represents refuse deposition. Over the midden fill were two strata recognized as slope wash from the mound (medium brown sand in Fig. 4) and modern topsoil respectively. Since burial 1965-7 partially overlay feature eight, filling apparently occurred over a short period of time (Fig. 3, 4, 5 C, D).

Feature Nine. Feature nine was similar in construction to feature eight, although there was less faunal material present and it was somewhat shallower (Fig. 3, 4, 5 C, D). The function of feature nine was obviously the same feature eight, but being constructed later and more eastward, replacing the later as it filled from mound expansion. Fragments of
Figure 5. A. Burial # 1976-3. B. South profile of the southeast borrow pit (feature # 10). C. West view of N16 trench showing the upper fill of the east borrow pits (features # 8 & 9). D. South profile of the east borrow pits. E. Burials 1965-6 and 1965-7.
a small restorable Irene Incised vessel (vessel #13) were found scattered through the dark sand near the base of this feature. A soil sample was removed from the darkened soil of this feature for Alkyl Halide Flotation and laboratory analysis. The results given in Table 2 show that the dark color was due primarily to fine particles of carbon in the soil. A large number of seeds of the common bedstraw plant (Galium spp.) were present in the carbonized material.

**Feature Ten.** This feature was of the same type, but somewhat smaller, than the previous two. The lower portion was filled with a compact mass of oyster shell refuse mixed with organically stained sand containing sherds, animal bones and scattered oyster shells. The North-South profile of this feature indicates that it was dug outside of the original mound periphery as were features eight and nine, and later covered by slope wash. Sherds from a small broken Irene Incised vessel (vessel #12) were found scattered through the dark stained soil (Fig. 3, 5B, 6I).

**Feature Eleven.** Village midden and sand removed from the borrow pits were used to cover burials placed in pits dug into feature one or near it, as well as burials placed at an elevation equivalent to the premound surface beneath feature one. Sand formed the majority of this deposit, termed feature eleven, but mollusk shells, pottery and animal bones were sparsely scattered throughout the fill.
Figure 6. A-H. pottery vessels from burial 1975-9. I. pottery vessel from feature 10.
Erosion and modern disturbance redeposited much of feature eleven into the borrow pits.

The outer border of feature 11 was not archaeologically visible nor was the old pre-mound topsoil zone evident below it. Feature 11 was, however, distinct in that it overlay a portion of feature one. The modern topsoil above feature one was indistinguishable from the topsoil over feature 11 (grey topsoil, Fig. 4). Since this topsoil zone was sandy it may constitute an overlapping extension of feature 11. A rather high percentage of sand (43%) was present in the matrix of feature one (Table 1). This sand may have originated above feature one and shifted by percolation into spaces within its shelly matrix. The physical analysis indicates that the quantity of sand present in feature one could have constituted a stratum approximately five inches in thickness. With the four inches of present topsoil, the sand from feature one could have constituted an original stratum nine inches in thickness overlying feature one. Regardless of whether or not the topsoil zone is an original overlapping part of feature eleven, two explicit statements can be made concerning it.

1) Feature 11 overlay the entire eastern slope of feature one, and is therefore later than feature one.
2) All burials east and south of feature one were within the topographical areal limits of feature eleven.
Burial Pits

The three burial pits that were distinct features will be discussed in the following section.

Burial Data

A description of each burial found in 1965 and in 1975 is presented here.

Burial 1965-1. Burial 1965-1 was found in a sitting position adjacent to the base of feature one and covered with the sand fill that formed feature 11. Sex and age for this burial were not determined in 1965 and the skeletal material was not available for reexamination in 1975. A small engraved bone disk and two large columella beads were found by the right foot and right femur respectively (Fig.3, Fig.78).

Burial 1965-2. This burial occurred at a level equivalent to the base of feature one, and lay flexed on the right side facing east. Field analysis in 1965 indicated the sex as male and the age as 25. Re-analysis in 1975 indicated the age was actually 30. No artifacts were found in association (Fig.3).

Burial 1965-3. Located several inches north of burial 1965-2, this interment consisted of a pair of fore arms. The hands were articulated and extended south (Fig.3). LeMoyne's 16th century account of the Northeast Florida Timucuan Indians vividly describes and portrays the severing of human limbs from battlefield corpses. These in addition to the traditional
scalps were preserved by smoking and taken home as war trophies (Bennett 1968:32). The Kent Mound occurrence of a single articulated limb may represent placement of a war trophy in a burial mound, possible as an offering for burial 1965-2.

**Burial 1965-4.** This burial was in extremely poor condition, and identification of sex and age was not possible. It was in a tightly flexed position on its right side facing east at approximately the same level as burial 1965-2. Several medium sized (5-10mm diameter) discoidal shell beads were found in the cervical region (Fig.3).

**Burial 1965-5.** Facing east and lying on its right side, this burial was in the last stage of decay. The lower portion from the pelvic region down was absent, probably as a result of decomposition. Burial depth corresponded to the previous burials. Due to poor bone condition, sex and age determination was not possible (Fig.3).

**Burial 1965-6.** Burial 1965-6 was an adult female in a flexed position on its right side facing east at approximately the same depth as burial 1965-5. As mentioned in chapter three the 1965 age determination on this burial was not accurate due to its inaccessible position below burial 1965-7. No artifacts were found with this burial (Fig.3, 53).
Burial 1965-7. The 1965 field analysis showed burial 1965-7 to be a male age 25. Reanalysis in 1975 indicated that it was male age 30. This burial was in the same position, directly above and in contact with burial 1965-6 (Fig. 3, 53).

Burial 1965-8. Consisting of a mass of broken and scattered bones, this burial was in the sand fill of burial pit 1965-3, being above and slightly west of the latter.

Burial 1965-9. Burial nine was an adult male, about 25 years of age, in a semiflexed position on its right side facing east. The burial pit was a sand filled intrusion cut into feature one. Its top was initially observed at the base of the modern topsoil. The skeleton lay on the base of the intrusion several inches below the surrounding premound topsoil. The west profile of unit A12 showed clearly that the premound topsoil had been cut through during the construction of this pit.

Although their matrix was solid, very few bones were recovered in good condition. The skull and pelvis were crushed to fragments. No reanalysis was performed in 1975 (Fig. 3).

Several inches south of the skull lay a white chert projectile point or knife (Fig. 76). Seven hundred and fifty seven small discoidal beads (2-3 mm diameter) were found scattered over the burial with the greater concentration being at the elbows and knees. One hundred and thirty-six
similar beads and one large perforated pearl (11 mm) were found around the distal ends of the radius and ulna. Twenty-eight perforated pearls that ranged in size from three to nine millimeters were found in the cervical region.

Burial 1965-10. Ten inches above and in anatomical alignment with burial 1975-10 was the skeleton of a child about seven years of age at time of death. The skeleton was in a flexed position on its right side facing east. No grave goods were present.

Burial 1965-11. Burial 1965-11 consisted of the skeleton of a flexed adult male, about fifty years old at the time of death (11-A) and a secondary bundle burial (11-B). Both burials were located in a sand and shell filled pit that was intrusive into feature one in the same manner as burial 1965-9. The pit itself was oblong at the top and roughly rectangular at the bottom with the long axis being oriented north. Lining the lower pit walls at right angles to each other were three badly decayed logs. In the cervical and thoracic region of the articulated burial were found a number of artifacts. These are listed as follows:

1) Micaceous flakes about the size of a postage stamp.
2) One lump of galena.
3) 1259 discoidal and cylindrical shell beads (1-3 mm).
4) One football shaped colurella bead (7x11 mm).
5) 207 navy blue, clear, light green, dark olive, (black)
and light blue tumbled cane seed beads (1-3mm).
6) One dark olive spiral shaped wire wound bead.
7) About 5 ml of crushed medium green glass.
8) One blue glass chevron bead.
9) A small shell dipper made from the conch
    *Busycon contrarium* was found in the pit fill.

The chevron bead found with this burial has a diagnostic construction (a layering pattern of blue exterior, white, red white, transparent, green, white, transparent green core) that Marvin Smith has dated to the middle part of the sixteenth century. Only four of these beads have been reported from North America. Smith has assigned this bead type to the time period 1540–1600 in North America, and indicates that it disappears from the trade ca. 1580 (Smith 1977:15). According to Smith the seed and spiral beads cannot be assigned to a specific time period (personal communication).

At the north end of the burial pit was a mass of disarticulated bones termed burial 1965-11B. The condition of this burial was rather poor. Analysis in 1965 indicated that the bones were those of an adult. No reanalysis was performed in 1975.

Burial 1965-12 was located about five feet east and at the same depth as burial 1965-2. It was in a flexed position on its right side facing east. Sex and age determination were not made in 1965 or 1975 because of poor bone preservation. Two large discoidal beads and several flakes of mica were found near the skull (Fig.3).
Burial 1965-13. A shallow intrusion that extended from the base of the modern topsoil to 21 inches below the surface of feature 11 contained burial 1965-13. The intrusion was visible in the north profile of unit A-7 but was not detectable by horizontal scraping. The skeletal condition was superior to any other burial in feature 11. Field analysis in age as approximately 25 years. Reanalysis in 1975 conformed to the earlier sex analysis but the age was found to be about 30 years.

Burial 1975-1. The skeleton of a five year old child was found east of feature one approximately 14 inches below the elevation of the base of feature one (38" below datum). The skull of this burial was absent but the mandible was present, somewhat sloped down toward the base of burial 1975-2. The position of the burial was flexed on the right side with the cervical vertebrae south. About two hundred small (1-3mm) discoidal shell beads were found in the sand around this burial. The depth of the burial indicates that it was in a pit, but no pit outline could be distinguished (Fig. 3).

Burial 1975-2. This burial was just east of burial 1975-1 and 11" lower (49"B.D.). It was the skeleton of one
adult male 24 years old at time of death. The skeleton was flexed on the right side facing east. Although no burial pit was visible, certain indirect observations indicate one was present, and the approximate shape of its western half. As mentioned above, the skull of burial 1975-1 was absent, and the mandible lay sloping toward burial 1975-2. It seems likely that the digging of burial pit 1975-2 disturbed the former removing the skull and leaving the mandible on the west sloping wall. Burial 1975-6 was disturbed in a similar manner. This burial was in alignment with burial 1975-2 and about two feet north. The entire skull was missing from burial 1975-6. Small fragments of human skull were found in the fill above burial 1975-2. Although the pit for burial 1975-2 was not visible it is concluded that a pit did exist and that it was intrusive into two earlier burials that were in a friable condition at the time of intrusion (Fig. 3).

A number of artifacts accompanied burial 1975-2. These are listed below:

1) Four hundred thirty five discoidal shell beads (3-9mm), thirty eight elongated columella beads (8X9mm-12X22mm), and four imperforate pearls were located close to the cervical vertebrae as though they had formed a choker-like necklace.

2) A large shell dipper made from a Clenche’s Helmet conch (Cassis spinella) was found between the left forearm and right knee.
3) An iron knife was found in the fill at a 45° angle six inches above the last lumbar vertebrae of the skeleton. The measurements given below are approximate due to the extremely corroded condition of this artifact.

\begin{itemize}
  \item blade - 25 X 45 mm
  \item shank - 16 X 46 mm
\end{itemize}

The shank had two perforations and a portion of a third, presumably for attachment of a wooden handle.

**Burial 1975-3.** In a tightly flexed position several feet south east and three inches shallower than burial 1975-2 was found the skeleton of a male approximately 29 years of age. The alignment of this burial was almost identical to that of burial 1975-2. Several small shell beads and flakes of mica were found near the distal end of the right radius and ulna (Fig. 3).

**Burial 1975-4.** This burial consisted of the skull cap of a child approximately six years of age, about a foot north of burial 1975-3, and at the same depth. It could not be determined if the absence of the rest of the skeleton was due to decay or burial elsewhere (Fig. 3).

**Burial 1975-5.** A mass of disarticulated bones located a few inches due east of burial 1975-2 contained the remains of three individuals. The burial base was 47" below datum or two inches shallower than burial 1975-2. Included within this deposit were the following:
1) A female—age approximately 25 years (1975-5A)
2) A male—age approximately 39 years (1975-5B)
3) A child—age approximately 5 years (1975-50)
4) A shell dipper made from the conch *Busycon contrarium*.

Burial 1975-6. This burial was an adult in alignment with burial 1975-2 but 10" shallower (39'B.D.). Since the skull was absent and the pubic symphysis was crushed, the age could not be determined. The sex was, however, accurately assessed as male. As mentioned before the placement of burial 1975-2 apparently destroyed the skull of this burial. No artifacts were present (Fig.3).

Burial 1975-7. As noted in the discussion of feature eight, this burial was found on its base (55'B.D.) in the northeast corner covered with a low mound of clean sand. Shell refuse and dark soil containing sherds and animal bones lay above the sand covering this burial. The skeleton was assessed as an adolescent approximately 12 years of age. The legs and foot bones and the left arm were absent from this burial. A left humerus from a child age approximately 12 years, possibly burial 1975-7, was found on the base of feature eight several feet west of burial 1975-7. The skeleton was positioned on its back with the head south and the face turned slightly east. No artifacts were present(Fig.3).

Burial 1975-8. This burial was an adolescent approximately 15 years old at time of death. It was in a flexed position on its right side facing east, 37 inches below datum and a few feet west of burial 1975-2. In the sand around this burial were found 164 discoidal (2-3mm) shell beads (Fig.3).
Burial 1975-9. Burial 1975-9 was the skeleton of a male approximately 35 years old at time of death. It was in a flexed position on the right side with the head south. Although a burial pit was not visible other evidence indicates the presence of one. First the base of the skeleton was 64 inches below datum (46" below the surface of the mound), a depth below which all indications of human activity ceased to exist in the adjacent area. Second; a number of sherds, fragments of bone and shell occurred in an oval area that extended only a few inches out from the skeleton in all directions (Fig.3). The skull of the burial bore a dumbbell shaped aperture in the left parietal bone. Careful screening (#20 ASTM) of the sand from around and within the skull failed to reveal any fragments that may have broken from this area.

Dr. Dan Morse of Florida State University examined this skull carefully and classified its condition as the result of trauma. A considerable degree of bone resorption and a total lack of regeneration indicated that the injury was definitely antemortem and that the individual had survived the initial injury for a period of at least one week but probably not more than four or five weeks (Dan Morse personal communication and Morse 1969:1-2).

Eleven pottery vessels were found in the grave fill around and above this burial. Some of these vessels were whole while others were broken and scattered over the burial.
Eight of these vessels had the bottom intentionally perforated by knocking or punching out the basal section. None of the fragments removed were recovered. With the exception of one vessel that can be positively identified with the Sutherlands Bluff or San Marcos period by its bell shape, the other vessels were Irene, most of them combining the attributes of Incising and Pilpot Stamping. The specific attributes of the vessels in this deposit will be discussed further in chapter five (Fig.6 A-H).

Five horse conchs (Pleuroloca gigantea) were found around the burial also. Since this was the only occurrence of the Florida horse conch at the site, it was considered to be an intentional deposit.

Burial 1975-10. The last vestiges of a child's skull cap comprised burial 1975-10. It was located a few inches northeast of the pit for burial 1975-9 and at a depth of 46 inches below datum. A cluster of 10 stones accompanied this burial, two of which were fragments of celt. Both celt fragments had been worn smooth in several places since being fractured from the whole implement. Five of the other stones showed similar wear. The material has not been viewed by a geologist, but the author identified five stones as quartzite and one as sandstone. Eighty one discoidal shell beads (2-7mm) were found in the sand around the skull(Fig.3).
Burial 1975-11. This burial was the skeleton of an adult male about 38 years of age at time of death. It was found at 48 inches below datum about five feet south of burial 1975-2. The skeleton was flexed on the right side facing east. A faint indistinct discoloration in the soil first noted at 40 inches below datum indicated the southern half of a burial pit containing this burial and burial 1975-12. No grave goods were present (Fig. 3).

Burial 1975-12. This was the flexed skeleton of a male age 48. It was in a flexed position on the right side facing east. As noted above it was contained in what was apparently a burial pit that contained the preceeding burial also. The base of burial 1975-12 was 40 inches below datum. No artifacts were present (Fig. 3).

Burial 1975-13. Several feet southeast of the corner of feature one was found the skeleton of an adult male in a loosely flexed position on its back with head west and facing south. The base of the burial was 35 inches below datum. Although no burial pit could be distinguished in the sand, the depth of this burial was eleven inches below the elevation of the southeastern base of feature one. This depth would indicate burial below the approximate elevation of the pre mound surface surrounding feature one. No artifacts were found with this burial (Fig. 3).
An unusual fracture of the lower occipital bone was noted in the laboratory after cleaning the skull. The fractured area was depressed but still in place with the exception of a small plug of bone that had broken out and shifted to a position deep within the cranial cavity. This fracture has been classified as antemortem for the following reasons:

1) The plug of bone had apparently been out of place from the time of burial or shortly after since it was excellently preserved. The area where the plug had originated was rotted by soil acids. The plug is well preserved because it was protected from leaching acidity by being inside of the skull.

2) The plug was warped and would not fit properly into the area where it had originated. Because of its small size (about 15X20mm) the amount of warping noted could only have occurred when the bone was fresh or "green".

3) The occipital bone where the fracture had occurred is the thickest and strongest bone of the skull and post mortem soil pressure related fracture would be less likely to occur in that area.

4) The rest of the skull was cracked into several sections, and all of the cracks radiated from the proposed post mortem fracture, as if it was present first, and formed a weak spot for other fractures to originate from. The cracks
were of the same type as those found in virtually all of the other burials at the site and are presumably caused by the effects of soil pressure on decayed bone.

Since no bone resorption or bone regeneration were noted on the fragments from the fractured area, it is assumed that death occurred shortly after the trauma.

Le Moyne's account of the northeast Florida Indians describes a form of capital punishment where the victim received a severe blow to the back of the head with a club made of hard wood (Bennett 1968:66). Burial 1975-13 may represent an execution.

**Burial 1975-14.** In a flexed position on its right side facing south was the skeleton of a child approximately eight years of age at time of death. This burial was located about two feet south of burial 1975-13 and at a depth of 35" below datum. No burial pit was visible, although the depth suggests one. No artifacts were found with this burial (Fig. 3).

**Burial 1975-15.** This burial was the skeleton of an adult. No other specific sex or age data could be derived from the skeletal material since it was badly disturbed, probably by road grading. The vertebrae, ribs, right humerus, right femur, and right tibia made up the extant remains of the burial. The burial position appeared to be flexed on the
right side facing east. Burial depth was 20 inches below datum or about four inches above the elevation of the base of the southeastern corner of feature one, and the presumed elevation of the mound surface.

**Burial 1975-15.** This skeleton was in a flexed position on its back with the legs and head turned to the east. The skeleton was located at the eastern edge of feature one, with its pelvis seven inches below the feature's base. It was identified as an adult female approximately thirty years of age at time of death. No burial pit could be distinguished from the homogeneous sand around this burial, however, the burial was positioned on a surface that sloped gently eight inches from the skull to the pelvis. The knees were four inches lower than the skull and four inches higher than the pelvis. No artifacts were found with this burial (Fig. 3).

**Burial 1975-17.** A skeleton in a disturbed condition such as that described for burial 1975-15 was located about a foot west of the southeastern corner of feature one at a depth of thirty-two inches below datum, or eight inches above the base of feature one. Again no burial pit was visible. Seven discoidal beads (3-7mm) were found in the sand around this burial (Fig. 3).

**Burial 1975-18.** Excavation of the N16 trench to a level below the base of feature one (an elevation below which the 1965 excavation did not extend) revealed the north end of a pit. This feature was quite distinct from its top (34"B.D.) to its bottom (52"B.D.), but the south half was co
obscured by the roots of a medium sized live oak tree. The fill of the pit contained medium brown sand, shells, animal bones, and sherds, contents which made it distinguishable from the yellow sand around it at every point (Fig. 3, 4).

On the base of this feature lay the skeleton of an adult female approximately twenty eight years of age at time of death. The skeleton was flexed on the right side facing east. Near the left and right mastoid processes pointing east and north east respectively were two shell ear pins. About fifty small discoidal shell beads (2-3mm) were found in the cervical region (Fig. 7E, F).

**Burial 1975-19.** This unusual interment was an articulated foot without the phalanges. It was located at a depth of 44 inches below datum about one foot west of the pelvis of burial 1975-2. The foot was covered with hematitic (Fig. 3).

**Artifacts**

A large number of artifacts other than those described in the previous section were found not associated with burials. Ceramic sherds were by far the most frequently found artifacts. Other artifacts, although less common, reflect a variety of uses, most of them related to village activity. Table 3 presents the artifacts by physical material, functional name and provenience. As noted in the introduction to chapter four, ceramic data will be presented and analyzed in chapter five.
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<th>Functional Name</th>
<th>Number and Description</th>
<th>Provenience</th>
</tr>
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<tbody>
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<td>tobacco pipe</td>
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<td></td>
<td>1- plain stem fragment</td>
<td>feature 9</td>
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<td></td>
<td></td>
<td>1- plain stem</td>
<td>feature 11</td>
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<td></td>
<td></td>
<td>1- plain bowl fragment</td>
<td>feature 11</td>
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<td>knots) pipe with</td>
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<td>bowl(Fig. 7A).</td>
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<td>potsherd hone</td>
<td>20- V shaped</td>
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<td>groove worn in</td>
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<td>1- edge hone (edge</td>
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<td>of sherd worn.</td>
<td>units A21,A22,</td>
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<td>A9, A26, A19,</td>
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<td>A11, A15.</td>
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<td>1- deer ulna</td>
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<td>1- long bone splinter</td>
<td>feature 1</td>
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<td>hairpin</td>
<td>1- engraved with</td>
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<td>feature 8</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>zone</td>
</tr>
<tr>
<td>Shell</td>
<td>hoe</td>
<td>3- conch (Busycyon</td>
<td>feature 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>carica)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2- conch (Busycyon</td>
<td>feature 9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>carica),</td>
<td></td>
</tr>
<tr>
<td></td>
<td>pin</td>
<td>1- rounded Busycyon</td>
<td>feature 11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>colomella</td>
<td></td>
</tr>
<tr>
<td>Stone</td>
<td>projectile</td>
<td>1- Kirk Stemmed (archaic</td>
<td>feature 8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fig. 7C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>abrader(?)</td>
<td>unspecified number of</td>
<td>feature 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>large sandy Iron</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>concretions</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER V
CERAMIC ANALYSIS

The ceramic assemblage from the features at the Kent Mound were analyzed as separate units in order to determine any significant variations in the Irene complex that may have occurred at the site. Specific provenience data for the material utilized is given in appendix one. The analysis of each sample is presented according to chronological arrangement of the features as given in chapter four.

Feature One

Feature one was not only the earliest construction stage in the Kent Mound, but a very early feature of the Irene village that surrounded the mound. This is indicated by the fact that the small amount of excavation outside the mound periphery indicated intensive village activity (shell debris, and midden or storage pits), but the old humus zone beneath feature one was relatively free of debris and large intrusions. The ceramic sample from feature one is given in table 4.

The frequency of fillet stamping shown in table 5 is compatible with the 70 - 82% range reported by Caldwell (1941:11-12) and Pearson (1977:100) at Irene sites on the north Georgia Coast.
Table 4. Shards from feature 1 cross-tabulated by temper material and surface treatment. Rim sherd keyed by decorative technique.*

<table>
<thead>
<tr>
<th>Temper</th>
<th>Plain</th>
<th>Filbert Std.</th>
<th>Incised</th>
<th>Cord-marked</th>
<th>Check Std.</th>
<th>Indeterminate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>103,280</td>
<td>59,126</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>121,168</td>
<td>867</td>
</tr>
<tr>
<td></td>
<td>58R, 118</td>
<td>6R, 118</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grit &amp;</td>
<td>12,240</td>
<td>65,123</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>13</td>
<td>134</td>
</tr>
<tr>
<td>Sherd</td>
<td>12,45</td>
<td>12,10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13,733</td>
<td>73,13</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>135</td>
<td>1001</td>
</tr>
</tbody>
</table>

*Rim Key: RS=Segmented rim strip, RN=no rim decoration, RN=plain rim with no strip, but bearing hollow punctations, RR=rim strip decorated with hollow punctations.

Table 5. Percentages of each decorative type from feature 1 cross-tabulated by temper material and surface treatment (indeterminate sherd excluded).

<table>
<thead>
<tr>
<th>Temper</th>
<th>Plain</th>
<th>Filbert Std.</th>
<th>Incised</th>
<th>Cord-marked</th>
<th>Check Std.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>12,8</td>
<td>73,0</td>
<td>0,1</td>
<td>0,1</td>
<td>0,1</td>
<td>86,1</td>
</tr>
<tr>
<td></td>
<td>12,2</td>
<td>11,7</td>
<td>0,0</td>
<td>0,0</td>
<td>0,0</td>
<td>13,9</td>
</tr>
<tr>
<td>Grit &amp;</td>
<td>12,2</td>
<td>11,7</td>
<td>0,0</td>
<td>0,0</td>
<td>0,0</td>
<td>13,9</td>
</tr>
<tr>
<td>Sherd</td>
<td>15,0</td>
<td>84,7</td>
<td>0,1</td>
<td>0,1</td>
<td>0,1</td>
<td>100,0</td>
</tr>
<tr>
<td>Total</td>
<td>15,0</td>
<td>84,7</td>
<td>0,1</td>
<td>0,1</td>
<td>0,1</td>
<td>100,0</td>
</tr>
</tbody>
</table>
The rim attributes represented in table 4 are all present in the large Irene samples from Bryan County described by Cook (1971:11-12) and Pearson (1977:115). The Kent Mound sample, however, demonstrates less variability. The inclusion of bits of ground sherd in an otherwise gritty paste has not been reported from any other Irene site. At 13.9 percent of the total, this temper type is considered as a significant assemblage attribute.

The singly occurring sherds of incised, cordmarked and check stamped do not seem to be significant in such a large sample. The incised sherd was found in the second excavation level, and may be associated with feature 11. The cordmarked sherd had a tapered rim with no flan, and a rough gritty interior, and can be associated with an earlier Savannah I occupation. The check stamped sherd had a slightly flaring rim with no decoration and a gritty interior surface, and probably originates from an earlier Savannah occupation also.

The ceramics from feature 1 demonstrate a ceramic complex that is composed of Irene Fillet Stamped and Irene Plain with Irene Incised being extremely rare. Rim decoration on sherds from feature 1 occurs mainly on the fillet stamped jar form and consists of a band of clay segmented by a knife-like tool. A row of hollow punctations on a clay band is the next most common technique. Hollow punctations on a plain rim are rather uncommon.
comprising only one and one half percent of the total (Table 6).

**Burial pit 1975-18**

The fill of this feature contained thirty six sherds, thirty of which could be positively identified. Irene Incised was not present (Table 7). The number of sherds is small but the percentages of each type conform closely to those from feature one (Table 8). The dark midden stained soil in this feature clearly terminated at the base of feature eleven, and therefore antedates it (Fig.4). This feature demonstrates that at least one burial was placed next to feature one before the construction of feature eleven.

**Feature 11 (Sand fill)**

Feature 11 demonstrates the introduction of Irene Incised as a significant ceramic type. As noted in chapter four only one sherd of this type was found in feature one and none were recovered from burial pit 1975-18. The incising on this type is the broad shallow incising typical of other Irene sites throughout the range proposed by Caldwell. Vessel forms include shallow bowls with incurved rims, globular vessels with flaring rim and globular vessels with restricted throat and straight rim. Cordmarked and check stamped sherds were not present (Table 9).
Table 6. Percentages of each rim type from feature 1 cross-tabulated by temper material and decorative technique.

<table>
<thead>
<tr>
<th>Temper</th>
<th>Hn Hollow Punched w/no Rim Strip</th>
<th>RH Hollow Punched Rim Strip</th>
<th>R8 Segmented Rim Strip</th>
<th>RN No Rim Decoration</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>1.5</td>
<td>15.5</td>
<td>38.0</td>
<td>16.9</td>
<td>71.9</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>0.0</td>
<td>2.8</td>
<td>7.0</td>
<td>18.3</td>
<td>28.1</td>
</tr>
<tr>
<td>Total</td>
<td>1.5</td>
<td>18.3</td>
<td>45.0</td>
<td>35.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 7. Sherd from burial pit 1975-16 fill cross-tabulated by temper material and surface treatment. Rim sherd keyed by decorative technique (see Table 4).

<table>
<thead>
<tr>
<th>Temper</th>
<th>Plain</th>
<th>Fillet Std.</th>
<th>Incised</th>
<th>Cord-marked</th>
<th>Check Std.</th>
<th>Indeterminate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>2</td>
<td>18,18</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>3</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>36</td>
</tr>
</tbody>
</table>
Table 8. Percentages of each decorative type from Burial pit 1975-16 fill cross tabulated by temper material and surface treatment (indeterminate sherds excluded).

<table>
<thead>
<tr>
<th>Temper</th>
<th>Plain</th>
<th>Fillet Std.</th>
<th>Incised</th>
<th>Cord-marked</th>
<th>Check Std.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>6.7</td>
<td>63.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>70.0</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>10.0</td>
<td>20.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>30.0</td>
</tr>
<tr>
<td>Total</td>
<td>16.7</td>
<td>83.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 9. Sherds from Feature 11 cross-tabulated by temper material and surface treatment. Rim sherds keyed by decorative technique (see Table 4).

<table>
<thead>
<tr>
<th>Temper</th>
<th>Plain</th>
<th>Fillet Std.</th>
<th>Incised</th>
<th>Cord-marked</th>
<th>Check Std.</th>
<th>Indeterminate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>70,12R 6R</td>
<td>272</td>
<td>12R 3R</td>
<td>17,6R</td>
<td>0</td>
<td>0</td>
<td>56,12R</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>20,2R 1R 3R 5R</td>
<td>17,3R 1R 0</td>
<td>0 0 0</td>
<td>18 93</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>103 31,3</td>
<td>23</td>
<td>0</td>
<td>0</td>
<td>76</td>
<td>545</td>
<td></td>
</tr>
</tbody>
</table>
Unfortunately feature eleven may be a poor provenience for ceramic analysis. As noted before, feature eleven formed the sand fill over feature one that gave the final shape and size to the mound. Its exterior surface was subject to intrusion and erosion. The homogeneous nature of the sand left little evidence to determine the extent of disturbances caused by nature or man. During analysis of this feature it was noted that only two Irene Incised sherds were recovered below a depth of twelve inches and that none were found below the 12-16 inch level. The vertical distribution of Irene Incised ceramics suggests later introductions may have occurred after its completion or possibly after a portion of it had been deposited. The construction of at least one additional borrow pit (feature 9) further east and stratigraphically later than the initial borrow pit (feature 8) indicates more than one deposition occurred. On the basis of visible stratigraphy feature 11 was constructed after feature one and burial pit 1975-18, but before the remaining features. This position will be accepted as representative of the majority of the contents of feature 11. The reader should, however, bear in mind the relative weakness of the data from feature eleven.

The proportions within the ceramic assemblage changed after the introduction of Irene Incised and Irene Filfold stamped decreases from over eighty percent in the first two proveniences to about 73 percent.
The increase noted in plain sherds is partially due to the fact that incising generally occurs on the upper half of Irene Incised vessels. Sherds from the lower half of vessels of this type or from unincised rims (on the flared rim vessels incising occurs on the shoulder) would be erroneously classified as Irene Plain (Table 10).

Table eleven indicates that the frequency of plain rims increased only slightly, while segmented rims decreased somewhat. The total occurrence of hollow punctation remained constant at twenty percent, but an interesting shift to a greater frequency (1.5–6.7%) of hollow punctation on a plain rim is noted.

**Feature 8**

Since sand removed from this feature was used in the construction of feature eleven, the debris that accumulated in the resulting depression is chronologically later than part of feature eleven. As mentioned in the previous section, feature eleven was probably constructed in several stages. If this was the case, then feature eight may antedate a portion of feature eleven and postdate another portion of it. At any rate, it most certainly antedates the area that included burial 1955-7, as noted in chapter four.

No Irene Incised ware was recovered from this feature. For this reason alone it would seem that feature eight supplied sand for a very early stage of mound
Table 10. Percentages of each decorative type from feature 11 cross-tabulated by temper material and surface treatment (indeterminate sherds excluded).

<table>
<thead>
<tr>
<th>Temper</th>
<th>Plain</th>
<th>Fillet Std.</th>
<th>Incised</th>
<th>Cord-marked</th>
<th>Check Std.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>17.1</td>
<td>62.2</td>
<td>4.9</td>
<td>0.0</td>
<td>0.0</td>
<td>84.2</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>4.9</td>
<td>10.9</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>15.8</td>
</tr>
<tr>
<td>Total</td>
<td>22.0</td>
<td>73.1</td>
<td>4.9</td>
<td>0.0</td>
<td>0.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 11. Percentages of each rim type from feature 11 cross-tabulated by temper material and decorative technique.

<table>
<thead>
<tr>
<th>Temper</th>
<th>Hn Hollow Punched w/No Rim Strip</th>
<th>Hn Hollow Punched Rim Strip</th>
<th>Hn Segmented Rim Strip</th>
<th>Hn No Rim Decoration</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>6.7</td>
<td>13.3</td>
<td>31.1</td>
<td>33.3</td>
<td>84.4</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>0.0</td>
<td>0.0</td>
<td>11.2</td>
<td>4.4</td>
<td>15.6</td>
</tr>
<tr>
<td>Total</td>
<td>6.7</td>
<td>13.3</td>
<td>42.3</td>
<td>37.7</td>
<td>100.0</td>
</tr>
</tbody>
</table>
construction. The debris that accumulated in feature eight is slightly later than feature one (Table 12).

The cord marked sherd that was recovered from this feature was similar to the one found in feature one (Table 12).

In feature eight the frequency of the combined grit and sherd tempering is somewhat higher than feature one, otherwise the ceramic complex is similar to the latter (Table 13).

Analysis of rim types and comparison to feature one shows increase in the popularity of hollow punctations on a band of clay while the segmented rim strip declines in frequency. The absence of hollow punctations on a plain rim is compatible with a frequency of only one and one-half percent in feature one (Table 14).

**Feature 9**

The fill of feature nine included a significant number of Irene Incised Sherds. A restorable Irene Incised vessel with globular body and flaring rim was recovered from the lower fill of this feature. One sherd of Irene Incised found in the lower fill of this feature fitted to another almost complete Irene Incised vessel that was found in the lower fill of feature ten (Table 15).

The ceramic complex in this feature is much like feature eleven. The increase in plain ware is probably
Table 12. Sherd s from feature 8 lower fill (dark stained midden) cross-tabulated by temper material and surface treatment. Rim sherd s keyed by decorative technique (see Table 11).

<table>
<thead>
<tr>
<th>Temper</th>
<th>Plain</th>
<th>Fillet Std.</th>
<th>Incised</th>
<th>Cord-marked</th>
<th>Check Std.</th>
<th>Indeterminate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>32,1R@</td>
<td>128,2R@</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>26</td>
<td>190</td>
</tr>
<tr>
<td></td>
<td>1RN</td>
<td>1RN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1RH</td>
<td>1RH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>6,1R@</td>
<td>40,1RN</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6,1R@</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>1RN</td>
<td>1RH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>43</td>
<td>180</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>23</td>
<td>217</td>
</tr>
</tbody>
</table>

Table 13. Percentages of each decorative type from feature 8 lower fill cross-tabulated by temper material and surface treatment (Indeterminate sherd s excluded).

<table>
<thead>
<tr>
<th>Temper</th>
<th>Plain</th>
<th>Fillet Std.</th>
<th>Incised</th>
<th>Cord-marked</th>
<th>Check Std.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>15.6</td>
<td>61.6</td>
<td>0.0</td>
<td>0.5</td>
<td>0.0</td>
<td>77.7</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>3.6</td>
<td>13.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>22.3</td>
</tr>
<tr>
<td>Total</td>
<td>19.2</td>
<td>80.3</td>
<td>0.0</td>
<td>0.5</td>
<td>0.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 14. Percentages of rim style from feature 8 lower fill cross-tabulated by temper material and decorative technique.

<table>
<thead>
<tr>
<th>Temper</th>
<th>RH Hollow Punched w/no Rim Strip</th>
<th>RH Hollow Punched Rim Strip</th>
<th>RH Segmented Rim Strip</th>
<th>RN No Rim Decoration</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>0.0</td>
<td>27.8</td>
<td>11.1</td>
<td>33.3</td>
<td>72.2</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>0.0</td>
<td>5.6</td>
<td>11.1</td>
<td>11.1</td>
<td>27.8</td>
</tr>
<tr>
<td>Total</td>
<td>0.0</td>
<td>33.4</td>
<td>22.2</td>
<td>44.4</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 15. Sherds from feature 9 cross-tabulated by temper material and surface treatment. Rim sherds keyed by decorative technique (see Table 4).

<table>
<thead>
<tr>
<th>Temper</th>
<th>Plain</th>
<th>Fillpot Std.</th>
<th>Incised 2,3RH</th>
<th>Cord-marked</th>
<th>Check Std.</th>
<th>Indeterminate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>1L,1RH,1R</td>
<td>42,1R@</td>
<td>2,3RH</td>
<td>0</td>
<td>0</td>
<td>23</td>
<td>86</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>3</td>
<td>13</td>
<td>vessel #</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>56</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>29</td>
<td>109</td>
</tr>
</tbody>
</table>
a function of the increase in Irene Incised as noted in
discussion of the latter feature (Table 16).

The analysis of rim types shows a significant in-
crease over the previous features in the use of hollow
punctations on a plain rim. The relatively high frequency
of plain rims may be due to a greater number of bowls that
typically have plain rims. The reduction in segmented
rims from one provenience to another is significant since
it was the most popular rim treatment in feature one
(Table 17).

Burial pit 1975-9

This burial was contemporary with the dark fill of
features nine and ten. Careful excavation of these fea-
tures produced in situ recovery of several sherds that
link the three features chronologically. The contem-
poraneity of the features is demonstrated by the follow-
ing occurrences:

1) A sherd that fitted to a nearly complete Irene
    Incised vessel (Fig 61) found in the dark organic
    stained fill of feature ten was recovered from
    similar fill in feature nine.

2) The sherd mentioned above was found among sherds
    of another restorable Irene Incised vessel.

3) A sherd from a nearly complete offeratory Irene
    Filfot Stamped vessel from burial 1975-9 was
    found in feature ten with the vessel (Fig 61)
Table 16. Percentages of each decorative type from feature 9 cross-tabulated by temper material and surface treatment (indeterminate sherds excluded).

<table>
<thead>
<tr>
<th>Temper</th>
<th>Plain</th>
<th>Fillet Std.</th>
<th>Incised</th>
<th>Cord-marked</th>
<th>Check Std.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>18.8</td>
<td>53.8</td>
<td>6.3</td>
<td>0.0</td>
<td>0.0</td>
<td>78.9</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>3.7</td>
<td>16.2</td>
<td>1.2</td>
<td>0.0</td>
<td>0.0</td>
<td>21.1</td>
</tr>
<tr>
<td>Total</td>
<td>22.5</td>
<td>70.0</td>
<td>7.5</td>
<td>0.0</td>
<td>0.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 17. Percentages of each rim type from feature 9 cross-tabulated by temper material and decorative technique.

<table>
<thead>
<tr>
<th>Temper</th>
<th>Hn Hollow Punched w/ no Rim Strip</th>
<th>RH Hollow Punched Rim Strip</th>
<th>OR Segment Rim Strip</th>
<th>OR No Rim Decoration</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>0.0</td>
<td>16.7</td>
<td>16.7</td>
<td>49.9</td>
<td>33.3</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>16.7</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>16.7</td>
</tr>
<tr>
<td>Total</td>
<td>16.7</td>
<td>16.7</td>
<td>16.7</td>
<td>49.9</td>
<td>100.0</td>
</tr>
</tbody>
</table>
mentioned above. This sherd can be seen as the large dark stained rim sherd on the right side of Figure 60.

4) All three vessels had perforations of the base, and none of this portion was recovered in any case. This may indicate ceremonial "killing" of the vessels found in features nine and ten, as well as most of the vessels with burial 1975-9.

Two categories of ceramics were available for analysis from burial pit 1975-9. The first category represents sherd s that were incidental to refilling the pit after the burial was placed in it. In spite of the statistically small sample the percentages of type are very similar to those from feature nine (Table 18,19). The second category is represented by a small sample also, but the fact that whole or nearly whole vessels intentionally deposited at one time are represented somewhat balances the detrimental effects of a small sample size (Table 20).

It is interesting to note that over half of these vessels have a combination of surface treatment that includes both fillet stamping and incising. The incidence
Table 18. Shards from burial pit 1975-9 cross-tabulated by temper material and surface treatment. Rim sherds keyed by decorative technique (see Table 4).

<table>
<thead>
<tr>
<th>Temper</th>
<th>Plain</th>
<th>Filmot Std.</th>
<th>Incised</th>
<th>Cord-marked</th>
<th>Check Std.</th>
<th>Indeterminate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>8</td>
<td>18.1RM</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>11.1RM</td>
<td>40</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>22</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>45</td>
</tr>
</tbody>
</table>

Table 19. Percentages of each decorative type from burial pit 1975-9 cross-tabulated by temper material and surface treatment (indeterminate sherds excluded).

<table>
<thead>
<tr>
<th>Temper</th>
<th>Plain</th>
<th>Filmot Std.</th>
<th>Incised</th>
<th>Cord-marked</th>
<th>Check Std.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>24.2</td>
<td>57.6</td>
<td>3.0</td>
<td>0.0</td>
<td>0.0</td>
<td>84.8</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>6.1</td>
<td>9.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>15.2</td>
</tr>
<tr>
<td>Total</td>
<td>30.3</td>
<td>66.7</td>
<td>3.0</td>
<td>0.0</td>
<td>0.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 20. Vessels from burial pit 1975-9 cross-tabulated by temper material and surface treatment. Rims are keyed by decorative technique (see Table 4).

<table>
<thead>
<tr>
<th>Temper</th>
<th>Fillet Std.</th>
<th>Incised</th>
<th>Fillet-Incised</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>1RN</td>
<td>1RN</td>
<td>1RN</td>
<td>5</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>1RN</td>
<td>1Rn</td>
<td>2Rn</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 21. Percentages of each decorative type from burial pit 1975-9 (vessels) cross-tabulated by temper material and surface treatment.

<table>
<thead>
<tr>
<th>Temper</th>
<th>Fillet Std.</th>
<th>Incised</th>
<th>Fillet-Incised</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>9.1</td>
<td>18.2</td>
<td>18.2</td>
<td>45.5</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>9.1</td>
<td>9.1</td>
<td>36.3</td>
<td>54.5</td>
</tr>
<tr>
<td>Total</td>
<td>18.2</td>
<td>27.3</td>
<td>54.5</td>
<td>100.0</td>
</tr>
</tbody>
</table>
of incising has at this point in time become very popular, with a total occurrence of over eighty percent (Table 21).

Several recurring motifs can be noted on the incised vessels. One is the barred oval, a common Mississippian design (Fig. 6B, C, H). This design is figured by Caldwell also and apparently represents a typical Irene Incised motif (Caldwell 1941:48). Another design element is the concentric circle or square with dotted center (Fig. 6E). The scroll design shown in Figure 6F is probably the most common Irene Incised design on the North Georgia Coast, while the wavy line technique is very common also (Fig. 6B, E). The incised design shown in figure 6I may be a stylized snake with its body coiled around the vessel and its mouth and tail overlapped as shown. This is, of course, speculative, and the terminal elements of the design may represent no more than an attempt to fill in an area of the vessel that was not large enough to allow another scroll to be executed (This vessel is from feature 10, Fig. 6I).

Another important aspect of these vessels is what appears to be a reduction in the popularity of the segmented rim and an increase in the occurrence of the hollow punctated plain rim (Table 22).

The vessels suggest the incidence of combined grit and sherd tempering increased to over 50% of the total tempering inventory. In two cases the tempering
Table 22. Percentages of each rim style from burial pit 1975-9 (vessels) cross-tabulated by temper material and decorative technique.

<table>
<thead>
<tr>
<th>Temper</th>
<th>Hn Hollow Punched w/no Rim Strip</th>
<th>RH Hollow Punched Rim Strip</th>
<th>R@ Segmented Rim Strip</th>
<th>RN No Rim Decoration</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>9.1</td>
<td>0.0</td>
<td>9.1</td>
<td>27.3</td>
<td>45.5</td>
</tr>
<tr>
<td>Grit &amp; Sherd</td>
<td>27.3</td>
<td>0.0</td>
<td>0.0</td>
<td>27.3</td>
<td>54.6</td>
</tr>
<tr>
<td>Total</td>
<td>36.4</td>
<td>0.0</td>
<td>9.1</td>
<td>54.6</td>
<td>100.0</td>
</tr>
</tbody>
</table>

seemed to be almost entirely sherd, but no microscopic examination was made to confirm it (Table 21).

Finally, it is interesting to note that several of these vessels had spotted exteriors and one contained a thick coat of charred food remains on the interior (Fig. 6D, G, 1). Several vessels had chipped and worn rims implying considerable use prior to burial. Considering all factors the vessels mortuary purpose seemed to be secondary, with their primary purpose being utilitarian.

Ceramic Analysis Summary

Analysis revealed several important trends throughout the period of construction and use of the Kent Mound.

First, inclusion of finely ground sherd or clay in the paste is significant throughout the site's occupation. There seems to be an erratic but overall increase in the frequency of sherd temper from a low of 13.9 percent in feature one to a high of 54.5 in burial 1975-9. The change in temper material may be due to cultural preferences or to the availability of standard (grit) temper material. Sherd temper has not been noted for any other Irene site (Fig. 8A).

Second, the type Irene Incised is not a significant component of the Irene ceramic complex during the accretion of feature one, the filling of burial pit 1975-18 and the accumulation of debris in feature eight. Irene Incised, however, is introduced to the ceramic complex in a
Figure 8. Ceramic summary. Chronological intervals not to scale.
significant frequency during the construction of feature 11, which has questionable provenience. Incising increases in frequency after its introduction and becomes the most popular decorative technique by the time the site is abandoned (Fig. 8E).

Finally, hollow punctation of a plain rim makes up an insignificant portion of the rim decoration in feature one, but a sharp increase makes it the most frequent decorative technique by late in the site’s occupation. Hollow punctation of a rim strip declines from a maximum of over 33 percent in feature eight to an absence in burial 1975-9. The decline in segmentation and hollow punctation on a rim strip seems related to the declining frequency of the rim strip as a decorative technique. The frequency of hollow punctation is not affected by the reduction of the rim strip, rather the punctations are simply executed on a plain rim (Fig. 8C).
CHAPTER VI

IRENE PHASE SUBSISTENCE

In order to test the hypothesis concerning Irene Phase subsistence, a complete biological model of the Kent Mound refuse must first be constructed. This study will attempt to derive the model objectively from analytical data, using as much floral and faunal information as possible.

Feature one was used as the principal sample area for the following reasons:

1) Over 90% of the faunal remains found during excavation came from feature one.

2) Preservation was better in feature one and samples were not skewed toward the larger bones.

3) Feature one was a single homogeneous deposit that did not show any significant difference in floral or faunal frequencies by area or excavation level.

Feature nine served as a source of quantitative data concerning the bedstraw plant because of the excellent conditions for preservation and recovery of its seeds.

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It should be pointed out here that since feature one predates all of the burials found at the site, subsistence data from it corresponds to an earlier aspect of Irene occupation. The ceramic analysis in chapter 5 did however, indicate that burial activity commenced shortly after the completion of feature one. Since the entire occupation and mortuary activity of the site lay within the Irene phase, the generalizations resulting from analysis of subsistence from this feature are considered useful in defining Irene phase subsistence on St. Simons Island.

As noted in chapter three the methods of excavation in 1965 were oriented toward recovery of fragile as well as durable remains. Troweling and hand sorting accomplished this, but at the expense of incomplete recovery of small items. In 1975 a compromise between large scale recovery of animal remains and small scale complete proportional analysis was reached by using two different field methods. The first method was simply to hand sort the material retained on a 1/4 inch screen. The second method was the intoto removal of midden samples that were separated into their physical (Tables 1,2) and biological components (Tables 23-27) by alkyl halide flotation (Cook 1975) and fine screening (ASTM #20). These samples are designated as complete analysis samples (CAS).

In general, quantification of plant remains was
Difficult since fortuitous charring was the only chemical means by which they survived the effects of soil bacteria. On the other hand, physical preservation of each charred item depended on the density of the residual carbon and its location in the midden. The best condition for physical preservation was the minimal pressure of the loose organic sandy matrix of the borrow pits and the inverted interior of horizontally positioned oyster shells.

Unlike plants, animal structures made of bone, chitin, calcareous cartilage, or shell were preserved by high soil pH and mineral saturation originating from topsoil shell.

The floral and faunal data recovered from the excavation of the Kent mound are presented in groups according to the standard biological classification of each item.

**Floral Remains**

A large quantity of charred seeds of the common Bedstraw plant were found in both complete analysis examples from feature one, and the complete analysis sample from feature nine. The analysis shown in table 23 indicates a very high frequency of the plant throughout the site. Several possible explanations for its presence are offered:

1) Bedstraw grows on open disturbed soils. Periodic burning of the site to clear weeds could have resulted in accumulations of charred seeds.
Table 23. Floral remains from the Kent Mound.

<table>
<thead>
<tr>
<th>Species</th>
<th>Common Name</th>
<th>M.N.I.* or Approximate Frequency</th>
<th>Sample Information</th>
<th>Source of Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gallium sp.</td>
<td>Bedstraw</td>
<td>47/10cm</td>
<td>CASN15,E55-1, 50g of feature 9</td>
<td>Francis Uhler</td>
</tr>
<tr>
<td>Gallium sp.</td>
<td>Bedstraw</td>
<td>Many (not counted)</td>
<td>CASNOE30-1, 2 ft.³</td>
<td>Francis Uhler</td>
</tr>
<tr>
<td>Gallium sp.</td>
<td>Bedstraw</td>
<td>Many (not counted)</td>
<td>CASN15,E11-1,1 liter</td>
<td>Francis Uhler</td>
</tr>
<tr>
<td>Acalypha virginica</td>
<td>Copperleaf</td>
<td>frequent</td>
<td>CASNOE30-1</td>
<td>Martin and Barkley, 1961</td>
</tr>
<tr>
<td>Acalypha virginica</td>
<td>Copperleaf</td>
<td>frequent</td>
<td>CASN15,E11-1</td>
<td>Martin and Barkley, 1961</td>
</tr>
<tr>
<td>Zea mays</td>
<td>Corn</td>
<td>present</td>
<td>CASNOE30-1</td>
<td>UGA Ethnobotany Laboratory</td>
</tr>
<tr>
<td>Phytolacca americana</td>
<td>Pokeweed</td>
<td>1/sample</td>
<td>CASNOE30-1</td>
<td>Martin and Barkley, 1961</td>
</tr>
<tr>
<td>Cucurbita sp.</td>
<td></td>
<td>present</td>
<td>CASNOE30-1</td>
<td>-</td>
</tr>
</tbody>
</table>

*M.N.I. = Minimum number of individuals.  
**Frequent = Present in all or nearly all sample or excavation units.  
***Present = Noted as more than one, but not many.
2) Bedstraw derived its common name from its suitability as a bedding material. Periodic disposal and burning of dried bedding could result in large numbers of seeds accumulating in the midden of feature one and the borrow pits.

3) According to Francis Uhler Research Biologist for the U.S. Fish and Wildlife Laboratory in Laurel, Maryland, roasted bedstraw seeds have a high caffeine content and make an excellent substitute for coffee. The charred seeds may be waste from such activity.

Unfortunately there is no particular reason for one of these explanations being any more acceptable than the others.

Copperleaf is a common plant of disturbed areas and its low frequency suggests that it was accidentally introduced into the midden, probably as in 1) above (Table 23).

Pokeweed bears inedible purple berries and grows on disturbed soil. While the presence of its seeds may indicate use of the berry as a dye substance, it could also have originated as in 1) above (Table 23).

Corn was present as exploded charred kernels. Several fragments were noted in one of the complete analysis samples from feature one, and it is assumed that fortuitous charring of food waste was responsible for its presence (Table 23).
Several charred endosperm fragments that might be cucurbits were found in the complete analysis sample. This identification is extremely weak and should not be considered positive (Table 23).

Animal Remains

**Mollusks.** Seventeen species of mollusks were identified from the site. Four of these were pelecypods and the remainder were gastropods. As is the case in practically all coastal sites, the bulk of the midden (both weight and volume) was oyster valves. Calculations indicated that about 53% of the weight of feature one was shell, mostly from the oyster. A two cubic foot sample from feature one yielded a minimum count of 110 oysters per cubic foot. The volume of feature one was approximately 600 cubic feet (Table 1, 24).

According to an intensive study by V.I. Loosanoff (1947:222), the weight relationship between the eastern oyster and its shell ranges from 1:5 for three year old specimens to 1:8 for eight to thirteen year old oysters. Using the lesser ratio the following calculation indicates the approximate weight of meat that could have been obtained from the oysters represented in feature one:

\[
600 \text{ ft}^3/\text{feature 1} \times 40 \text{ lbs./ ft}^3 \times 53 \text{ lbs shell/100 lbs midden} \\
\times 1 \text{ lb oyster meat/8 lbs shell} = \frac{1590 \text{ lbs oyster meat}}{\text{feature 1 midden}} (721\text{kg})
\]
Table 24. Mollusk remains from the Kent Mound.

<table>
<thead>
<tr>
<th>Species</th>
<th>Common Name</th>
<th>M.N.I. or Approximate Frequency</th>
<th>Sample Information</th>
<th>Source of Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crassostrea</td>
<td>Eastern oyster</td>
<td>53% by wt.</td>
<td>CASNH15211-1 (feature 1)</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>Virginica</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crassostrea</td>
<td>Eastern oyster</td>
<td>110/ft³</td>
<td>CASNCE030-1 (feature 1)</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>Virginica</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercenaria</td>
<td>Quahog clam</td>
<td>13/2ft³</td>
<td>CASNCE030-1</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>mercenaria</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modiolus</td>
<td>Atlantic ribbed</td>
<td>6/ft³</td>
<td>CASNCE030-1</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>demissus</td>
<td>mussel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tagelus</td>
<td>Stout razor</td>
<td>2/ft³</td>
<td>CASNCE030-1</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>plebeius</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Busycon</td>
<td>Kneaded whelk</td>
<td>6/5ft³</td>
<td>Unit N15E11,0°-12&quot;</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>carica</td>
<td></td>
<td></td>
<td>25ft³</td>
<td></td>
</tr>
<tr>
<td>eilissa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Busycon</td>
<td>Channeled whelk</td>
<td>1/ft³</td>
<td>N15E11,0°-12&quot;</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>canaliculatum</td>
<td></td>
<td></td>
<td>25ft³</td>
<td></td>
</tr>
<tr>
<td>Polyinca</td>
<td>Shark eye</td>
<td>frequent</td>
<td>feature 1</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>duplicatus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Littorina</td>
<td>Marsh periwinkle</td>
<td>frequent</td>
<td>feature 1</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>irrora</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td>Common Name</td>
<td>M.N.I. or Approximate Frequency</td>
<td>Sample Information</td>
<td>Source of Identification</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------------------</td>
<td>---------------------------------</td>
<td>--------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Littorina nebulosa</td>
<td>Cloudy periwinkle</td>
<td>frequent</td>
<td>feature 1</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>Urosalpinx cinerea</td>
<td>Atlantic oyster drill</td>
<td>frequent</td>
<td>feature 1</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>Fasciolaria milium</td>
<td>Banded tulip</td>
<td>frequent</td>
<td>feature 1</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>Pleuroloca gigantea</td>
<td>Florida horse conch</td>
<td>5/site</td>
<td>burial 1975-9</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>Busycon contrarium</td>
<td>Lightning whelk</td>
<td>2/site</td>
<td>burial 1965-11, burial 1975-5</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>Cassis spinella</td>
<td>Cemches helmet</td>
<td>1/site</td>
<td>burial 1975-2</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>Murax fulvescens</td>
<td>Giant eastern murex</td>
<td>1/site</td>
<td>feature 1</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>Trydopesis hopstonensis</td>
<td>Land snail</td>
<td>1/liter</td>
<td>CASM15E11-1</td>
<td>Abbott, 1974</td>
</tr>
<tr>
<td>Gastrocopta rupicola</td>
<td>Land snail</td>
<td>1/liter</td>
<td>CASM15E11-1</td>
<td>Abbott, 1974</td>
</tr>
</tbody>
</table>
It is difficult to determine the second most significant mollusk food source, since the quahog clam and ribbed mussel occurred in approximately the same frequency, and averaged about the same size. According to modern studies the quahog clam is highly dependent on a rather narrow range of salinity and substrate conditions to survive. Modern clam populations are restricted to relatively few locations and are not present today in commercially harvestable numbers. (Godwin 1967:8-11, 1968:12-14)

On the other hand the ribbed mussel is adapted to a wide range of growing conditions in oyster beds and in compact marshes. Considering relative abundance, the equality in numbers between the quahog clam and the ribbed mussel may indicate a preference for the former (Table 24).

The size and abundance of the knobbed whelk indicates that it was the next most important food source. Since the knobbed whelk served as a chopping tool and as a source of raw material for beads, shell pins and gorgets it is difficult to say that all of those found were used exclusively for food. Nevertheless, the condition of the whelks recovered from feature one indicates that the vast majority were discarded after the animal was removed, and served no additional purpose.

The razor clam was the most infrequent of the mollusks that are considered as important food sources. The valves
of this mollusk are extremely thin and fragile and most were in a crushed condition (Table 24).

Estimations based on size and frequency indicate only four of the twelve species of gastropods recovered were important or significant food sources. As mentioned above the knobbed whelk should be considered an important food source. The channeled whelk was fairly common but the size was usually less than 10 centimeters. The estimated quantity of food that could have been derived from channeled whelks represents a minimal supplement to the mollusk portion of the diet. The shark eye and the banded tulip were present in virtually all excavation units and may have served as supplemental food sources. A number of shark eye shells were obviously not used since bryozoan growths were noted on their interior wall. These shells may have been collected along the beaches and brought back to the village as trinkets. The oyster drill, marsh periwinkle and the banded periwinkle were present in almost every unit excavated in feature one. They probably served as food sources, but the volume of meat that could be obtained precludes their consideration as a significant food source (Table 24).

One murex shell was found in feature one. It was probably collected on the beach as a curiosity and later discarded in the midden. The remaining marine gastropods served as shell dippers or special burial
furniture and were not significant food sources (Table 24).

Two species of land snails were frequent, but their small size (2-5 mm) and the fact that land snails are attractive to decaying organic matter suggest that they were not a food source. Even if these mollusks were used as food, their size and frequency preclude their consideration as a significant food source.

**Crustacean.** Claw fragments from the blue crab (*Callinectes sapidus*) were noted as frequent in feature one but the rather poor condition of the remains prevented specific counts from being made. The blue crab was probably a significant component of the diet.

**Fish.** The abundance and diversity of fish remains recovered from feature one indicate this food source was of primary importance. Eighteen hundred and ninety-eight fish vertebrae were sorted from the organic component of two cubic feet of midden (GASCOE 50-1). The laboratory requirements for analyzing the entire sample were staggering. For this reason the analysis of the smaller complete analysis sample is more thorough (Table 25, 26). In spite of incomplete analysis, the vertebrae count from this sample is considered to be a potential source of quantitative data for calculating the approximate abundance of fish remains in feature one.

Members of the Sciaenidae family are particularly well represented in both complete analysis samples. These
Table 25. Fish remains from the Kent Mound. Sample number CASN15211-1 (1 liter).

<table>
<thead>
<tr>
<th>Species</th>
<th>Common Name</th>
<th>M.N.I.</th>
<th>Approximate Weight</th>
<th>Source of Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cynoscioe nebulosus</td>
<td>Seatruet</td>
<td>1</td>
<td>50g</td>
<td>L.C.#</td>
</tr>
<tr>
<td>Galeichthys Felix</td>
<td>Sea catfish</td>
<td>1</td>
<td>75g</td>
<td>L.C.</td>
</tr>
<tr>
<td>Micropogon aurabilis</td>
<td>Atlantic croaker</td>
<td>1</td>
<td>50g</td>
<td>L.C.</td>
</tr>
<tr>
<td>Paralichthys lethostigma</td>
<td>Southern flounder</td>
<td>1</td>
<td>200g</td>
<td>L.C.</td>
</tr>
<tr>
<td>Pogonias barbula</td>
<td>Black drum</td>
<td>1</td>
<td>600g</td>
<td>L.C.</td>
</tr>
<tr>
<td>Sciaenops ocellata</td>
<td>Red drum</td>
<td>1</td>
<td>1000g</td>
<td>L.C.</td>
</tr>
</tbody>
</table>

*L.C.* = Local Comparative Collection
<table>
<thead>
<tr>
<th>Species</th>
<th>Common Name</th>
<th>M.N.I.</th>
<th>Approximate Weight</th>
<th>Source of Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>G. elongatissima</td>
<td>Sea catfish</td>
<td>1</td>
<td>200-600 g</td>
<td>L.C.</td>
</tr>
<tr>
<td>Monopterus</td>
<td>Atlantic creel</td>
<td>1</td>
<td>50 g</td>
<td>L.C.</td>
</tr>
<tr>
<td>Paralichthys</td>
<td>Southern flounder</td>
<td>1</td>
<td>225 g</td>
<td>L.C.</td>
</tr>
<tr>
<td>Salmo</td>
<td>Red drum</td>
<td>1</td>
<td>225 g</td>
<td>L.C.</td>
</tr>
<tr>
<td>Pomponius</td>
<td>Butterfish</td>
<td>1</td>
<td>30-50 g</td>
<td>L.C.</td>
</tr>
<tr>
<td>Balistes</td>
<td>Silver perch</td>
<td>6</td>
<td>3-6 g</td>
<td>L.C.</td>
</tr>
<tr>
<td>Mull</td>
<td>Mullet</td>
<td>2</td>
<td>15, 50 g</td>
<td>L.C.</td>
</tr>
</tbody>
</table>
fish (seateout, croaker, drum, and perch) make up approximately 45% of the combined estimated weight of fish in both samples. Menhaden composed about 8% of the samples. Recent netting studies in the St. Simons estuary indicated that Sciaenidae was the most important family taken, representing 51.2 percent of the total catch. The second most important family was the Clupeidae (herring, menhaden), at 20.7% (Georgia Department of Natural Resources 1974:20). The similarity between modern data and excavated data is probably due to similar fishing techniques (beach netting). The wide range of species and size indicates that little preference was exercised by the primitive fishers. Everything that was caught was probably used.

The smaller complete analysis sample indicated a minimum number of six fish per cubic decimeter (liter) of midden volume. The larger sample indicates a total of not less than 38 fish present if 50 is used as the maximum vertebrae count per fish (most sciaenids have less than 30 vertebrae, while the clupeids had 42-50, the greatest number of all fish identified; Bigelow et al. 1963:342). Since the volume of feature one was approximately 600 cubic feet the total estimated number of fish can be calculated as:

\[ 600 \text{ft}^3/\text{feature 1} \times 38 \text{ fish/}2\text{ft}^3 = 11,400 \text{ fish/feature 1} \]

The average weight for the 30 weight estimated fish from both samples is .147 kilograms. Using this figure as an average fish weight for feature one,
calculations yield:

11,400 fish/feature 1 x .147 kg./fish = 1,676 kg./feature 1

Although this number is based on approximations and averages, it reflects the huge quantity of fish consumed during the accretion of feature one.

Reptiles. Only two reptiles were identified at the site. One was represented by several alligator (alligator Mississippensis) scutes. The other reptile was the diamond back terrapin (Malaclemys terrapin). The crushed condition of the terrapin carapaces did not allow a minimum number to be estimated but their occurrence in feature one was noted as frequent. The larger complete analysis sample yielded 13 carapace fragments two mandibles and three unidentified leg bones. Subjectively speaking, the quantity of parts recovered from this sample indicate that the diamondback terrapin was a significant food source. Since the alligator was not particularly large, it is considered as an unimportant food supplement.

Mammals. Five common mammals were found in feature one and elsewhere on the site (Table 27). Three species seem to have been rather heavily exploited.

Remains from a minimum number of five deer were recovered from feature one. The astragalus bones were most frequent and were therefore used to estimate M.N.I. These bones ranged from 32 to 38 millimeters in length,
Table 27. Mammal and marsupial remains from the Kent Mound.

<table>
<thead>
<tr>
<th>Species</th>
<th>Common Name</th>
<th>M.N.I.</th>
<th>Sample Information</th>
<th>Source of Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odocoileus virginianus</td>
<td>Whitetail deer</td>
<td>5</td>
<td>feature 1</td>
<td>L.C.</td>
</tr>
<tr>
<td>Procyon lotor</td>
<td>Raccoon</td>
<td>10</td>
<td>feature 1</td>
<td>U. GA. Faunal Laboratory</td>
</tr>
<tr>
<td>Procyon lotor</td>
<td>Raccoon</td>
<td>1</td>
<td>feature 11</td>
<td>U. GA. Faunal Laboratory</td>
</tr>
<tr>
<td>Procyon lotor</td>
<td>Raccoon</td>
<td>1</td>
<td>no prov.</td>
<td>U. GA. Faunal Laboratory</td>
</tr>
<tr>
<td>Sylvilagus sp.</td>
<td>Rabbit</td>
<td>9</td>
<td>feature 1</td>
<td>L.C.</td>
</tr>
<tr>
<td>Sylvilagus sp.</td>
<td>Rabbit</td>
<td>1</td>
<td>feature 11</td>
<td>L.C.</td>
</tr>
<tr>
<td>Didelphis marsupialis</td>
<td>Opossum</td>
<td>2</td>
<td>feature 1</td>
<td>L.C.</td>
</tr>
<tr>
<td>Didelphis marsupialis</td>
<td>Opossum</td>
<td>1</td>
<td>feature 11</td>
<td>L.C.</td>
</tr>
<tr>
<td>Didelphis marsupialis</td>
<td>Opossum</td>
<td>1</td>
<td>burial pit 1975-18</td>
<td>L.C.</td>
</tr>
<tr>
<td>Sciurus carolinensis</td>
<td>Eastern grey squirrel</td>
<td>1</td>
<td>feature 1</td>
<td>L.C.</td>
</tr>
</tbody>
</table>
and therefore were probably all from mature animals. Adult females range from 50 to 250 lbs. in live weight, and males range from 75 to 400 lbs. (Burt and Grossenheider 1964:230). Taking 150 lbs. as an average weight for females and 238 lbs as an average for males, calculations yield:

(all females) 150 lbs/animal \times 5 \text{ animals/feature} = 750 \text{ lbs/feature 1 (340 kg.)}

or

(all males) 238 lbs/animal \times 5 \text{ animals/feature} = 1190 \text{ lbs/feature 1 (540 kg.)}

Since the sex of the animals was not determined, the average of these two figures (440 kg) will be accepted as the closest approximate weight can be obtained from the data.

Ten raccoon mandibles (right side) were recovered from feature one and two came from other proveniences at the site (Table 27). All of the mandibles were from adult animals. Using 23 lbs as an average weight for adults (Burt and Grossenheider 1967:54), calculations give:

23 \text{ lbs/animal} \times 10 \text{ animals/feature 1} = \frac{230 \text{ lbs}}{\text{feature 1}}

(104 \text{ kg.})

The raccoon was a significant, but not important food source.
Nine rabbit mandibles (left side) were found in one, and one was found in feature eleven. The average weight of live rabbits is approximately three pounds. Although species was not determined, the marsh rabbit averages only one half pound less than the Eastern cottontail, a weight that is considered insignificant here. Calculations are as follows:

\[
3 \text{ lbs/animal} \times 9 \text{ animals/feature} = 27 \text{ lbs/feature} \quad (12 \text{kg})
\]

In spite of its frequency the rabbit was probably an unimportant food supplement, as indicated by the total weight contribution.

The opossum is next in frequency. Two individuals were indicated in feature one, and two others were found elsewhere at the site. Considering an average weight of 11 lbs, the total weight may be calculated as follows:

\[
11 \text{ lbs/animal} \times 2 \text{ animals/feature} = 22 \text{ lbs/feature} \quad (10 \text{kg})
\]

The opossum was not a significant food source.

The eastern grey squirrel was represented as only one individual in feature one. This low frequency seems unusual considering the modern presence of extensive live oak forest that these animals are so well adapted to.
Data Summary

In spite of anticipated relative and absolute error, the data and calculations indicate that fish was the principal animal component of Irene Phase refuse at the Kent Mound. A minimum estimation of the total original weight of fish present in feature one was almost three times the least conservative estimates for all terrestrial animals (figure 9). The eastern oyster was second in order of importance. No attempt has been made to estimate the total contribution of other mollusks, but the data presented in table 24 indicates several were important supplements.

While the whitetail deer was apparently a significant component of the diet, the total live weight calculated may be an overestimation. Since no sex determination was made on these animals, the use of male live weight is questionable. The raccoon was the least important of the significant food sources, while the rabbit and opossum were insignificant.

Unfortunately, the plant portion of feature one could not be quantified. As in all coastal sites, preservation of cultigens occurred only by accidental charring. Judging from the relative abundance of corn in one complete analysis sample, it can be said that this cultigen was probably used frequently. Since dry corn is suitable for storing and transportation, no contention is made that it was grown at the site.
Figure 9. Estimated original live weight of quantified animal remains from feature one.
Most of the other plant remains are indicative of wild plants that grow freely on disturbed soils or in otherwise open areas. Obviously the surface of a refuse midden represents a potential location for such pioneer plants.

Finally, the almost astronomical abundance of bedstraw seeds in at least two proveniences indicates either an extensive natural growth of the plant or heavy use of it or its seeds.

A comparison of the subsistence information derived from the Kent Mound excavation to other Irene sites is largely disappointing. Charles Pearson has recently published summary tables of all Irene phase subsistence data, in addition to recent data from his Ossabaw Island work. Floral and faunal lists for each site are furnished, but none are quantified as minimum number of individuals or relative abundance. (Pearson 1977:56-60). The most important occurrences are noted as follows:

1) The eastern oyster was identified at all of the six sites reported.
2) Fish were reported at five of the six sites.
3) The ribbed mussel and the quahog clam were reported at five sites and the stout razor at four.
4) White-tailed deer was reported at all six sites.
5) Raccoon was reported at four sites.
6) Rabbit was noted at five sites.
7) The blue crab was found at four sites.
8) Corn was found at four sites.
9) A number of other species occurred at lesser frequencies.

As indicated for the Kent Mound, these eight food sources seem to be the most important to Irene phase subsistence. The main difference between this study and all previous studies seems to be a lack of emphasis on fish in the latter. The subsistence data published by Pearson shows the sea catfish as the most frequently occurring species. Identification of fish in all of these sites may be biased toward a few species, such as sea catfish, because of the distinctiveness of their body parts. Lack of quantification may have been due to sampling problems, but in most cases the reports were oriented toward other aspects of Irene culture.
CHAPTER VII

CONCLUSIONS AND SUMMARY

The preceding three chapters have presented data, calculations and summaries that will now be used to test the hypotheses stated in chapter one. Discussion of the results and implications for future research will complete this study.

Hypothesis One

"The type "McIntosh Incised" is a ceramic component of the late prehistoric phase that includes the ceramic types Irene Filfot Stamped, Irene Incised and Irene Plain on St. Simons Island, Georgia."

In consideration of the type McIntosh Incised, that is a vital component of the Pine Harbor Ceramic complex and hallmark of the Pine Harbor period according to Larson (1955:75), hypothesis one is totally rejected. No sherds with "deep narrow incising", "that represent the wings and claws of a bird" were found at the Kent Mound (Larson, n.d.: 4). Since excavations by the University of Florida on the north end of St. Simons Island did not locate any sherds of this type either (at least their published tables do not indicate that any was found), this study will conclude that Pearson was correct in suggesting that the Pine Harbor Complex
"is a regional variant of Irene and not significant enough to warrant a separate complex name." (Pearson 1977:52).

Although McIntosh Incised is not a component of the Irene Ceramic Complex on St. Simons Island, the ceramic analysis revealed several differences between the Kent Mound Ceramic Complex and that defined by Caldwell and McCann (1941:1-2). These variations should be discussed here, and their importance evaluated in terms of the applicability of Caldwell's Irene Ceramic Complex to the entire Georgia Coast. More specifically, the variations are:

1) Irene Incised is not a significant component (0.5%) of the early Irene Ceramic Complex of the Kent Mound site. Irene Incised, however, becomes popular by the late Irene phase at the Kent Mound.

2) Rim decoration of the Kent Mound ceramics does not include several types noted at the Irene site and at other Irene phase sites on the North Georgia Coast (Caldwell and McCann 1941:47, Cook 1971:11-12, Pearson 1977:115).

3) Sherd or clay tempering occurs in significant percentages in all of the Kent Mound proveniences. Caldwell notes the tempering material for Irene ceramics as "invariably grit or gravel" (Caldwell and McCann 1941:47).

The virtual absence of Irene Incised from the early Irene Ceramic Complex at the Kent Mound may not be
drastically different from Irene sites on the North Georgia Coast. Caldwell and McCann did not analyze the ceramics from the Irene site by provenience, but their report does contain a ceramic count table for the multistage platform mound. According to the tables and Caldwell and McCann's descriptions of each successive mound stage, the occupation zone of the first seven summits contained Savannah ceramics as the latest ware, no Irene ware was found in these proveniences. The last or eighth mound contained both Savannah and Irene ceramics, notably one whole Irene Filpot Stamped vessel (Caldwell and McCann 1941:7.,18,78). This evidence indicates that the last stage of the mound was completed during a period when the Savannah Ceramic Complex was being superseded by the Irene Complex. The majority of the Irene ceramics in the fill of this stage can be classified as Early Irene. Caldwell and McCann's ceramic table shows that only six out of 1829 Irene sherds from the fill of mound eight were Irene Incised (,3%), and these could well have been the result of later depositions (Caldwell and McCann 1941:78).

Irene Incised seems to be popular in other proveniences at the Irene site. Caldwell and McCann do not include sherd counts for the other proveniences but he does mention the frequent use of Irene Incised bowls as burial urn covers. Of the thirty vessels excavated from the
mortuary 10 percent were Irene Incised.

Budreau, another Irene site in the Savannah estuary, exhibited a low percentage of Irene Incised (.7%) and may be an early Irene site also (Caldwell 1943:25).

As noted in chapter two, survey excavations at the Seven Mile Bend site in Bryan County revealed an Irene context in which Irene Incised increased in frequency rather drastically through time (Cook 1971).

It seems that Irene Incised may have been introduced to the Irene Ceramic Complex after Irene Filfot Stamped, or was present in a very low frequency and increased in popularity through time. Considering the relative infrequency of Irene Incised in Early Irene context on the North Georgia Coast, the Kent Mound Early Irene Ceramic Complex does not seem to be significantly different from the Irene Ceramic Complex described by Caldwell and McCann (1941:46-49).

The lack of variability noted in Kent mound rim treatment cannot be explained at the present time. Irene ceramics from North Georgia Coast sites include nodes, punctated nodes, and segmented and punctated rim strips in addition to the types found at the Kent Mound (Caldwell and McCann 1941:47, Cook 1971:11-12, Pearson 1977:115). While this lack of variability may be related to the relatively small size of the Kent village, there is no evidence upon which to base an argument.
Sherd and clay tempering was not found at the Irene site, but Pearson notes its presence as rare on Ossabaw Island (Pearson 1977:104). The significance of this temper material cannot be assessed at the present time, but a poor availability of the standard "grit" or gravel" temper may have required use of a substitute. If this temper material occurs only in fluvial sand, the Kent Mound is over ten miles from a suitable supply. In general the Irene ceramics from the Kent Mound contained a finer quartz temper than Irene ceramics from the Central and North Georgia Coast.

In conclusion, the ceramic complex from the Kent Mound shows no significant variation from the Irene Ceramic Complex described by Caldwell and McCann except in temper material and variability of rim decoration. These differences may be regional variations, but do not seem important enough to suggest that a redefinition of the Irene Ceramic Complex on the Lower Georgia Coast is needed. The "Pine Harbor" concept is considered to be untenable for the St. Simons Island area.

**Hypothesis Two**

"The San Marcos–Altamaha Ceramic Complex developed from the Irene Ceramic Complex, and this transition is demonstrable with ceramic data from Late Irene–Early Historic sites."

Descriptions and analysis of the Kent mound ceramic
data have already been presented, but before the hypothesis can be evaluated, certain salient characteristics of the San-Marcos-Altamaha wares should be discussed. Research by Otto and Lewis (1974:95-117) Hemmings and Deagan (1973) and Cook (1977a) will be referred to as updated sources of information on the wares of the St. Augustine-Altamaha period, although a number of previous writers have made significant contributions (Caldwell 1943, Smith 1948, Kelso 1968, Larson n.d.).

Otto and Lewis note the type Ft. King George Malliated (Altamaha series) as "virtually identical to San Marcos from St. Augustine (Otto and Lewis 1974:97)."

Following their suggestion the two types will be considered as the same for the purpose of comparison to the Kent Mound ware. Otto and Lewis also not the similarity of the Pine Harbor phase (Irene) ceramics to the stamped San Marcos ware of the St. Augustine period (Otto and Lewis 1974:97).

Rather than focusing on similarities, the origin of differences between historic San Marcos and Irene will be sought through analysis of various physical attributes. It should be pointed out, however, that the subsequent comparisons span somewhat over a century. Caldwell's (1971:89-91) latest date for Irene is 1550 A.D. while Otto and Lewis' (1974:100) data is based on San Marcos ware from late 17th and early 18th century contexts in St. Augustine.
The first attribute to be examined is rim decoration. The obvious difference between Irene and San Marcos rim decoration is the high frequency of the rim strip in Irene, and its total absence in San Marcos (Otto and Lewis 1974:96). Pearson's Ossabaw Island data shows a frequency of 47.5 percent for decorated rim strips in the overall Irene ceramic sample. Feature one at the Kent mound demonstrates a slightly higher popularity for the decorated rim strip (Table 6, 63.3% for punctated and segmented rim strips). In spite of its popularity in this early Irene feature the rim strip declines in popularity to only 9.1 percent by late Irene (Table 22, Fig.8C). In this case late Irene is actually Early Historic. The European trade items with burial 1955-11 and burial 1975-2 exemplify typical middle to late 18th century goods that were sparsely distributed among aboriginal populations in the Southeastern United States.

Another attribute is the use of hollow punctations to decorate an otherwise plain rim. This type comprised only 1.5 percent of the Early Irene rim decoration in feature one but increased to 36.4% of the rim types by late Irene (Table 22, Fig.8C). Otto and Lewis note this decorative technique as frequent but do not quantify its occurrence in the San Marcos wares from St. Augustine. Another technique noted by Otto and Lewis, which probably appears in the middle 17th Century is a triangular punctuation, produced by a stylus.
or other tool. The triangular punctation was not noted on any of the Kent Mound rims. Folding or thickening of the rim is apparently another later characteristic and also was not noted in the Kent Mound ceramics.

"Cross-simple" stamping was the most frequent (51%) surface treatment found in St. Augustine by Otto and Lewis (1974:101), while simple stamping was the next most popular technique (25%). Check stamping, complicated stamping and plain made up the balance of the San Marcos Complex. San Marcos cross-simple stamped is equivalent to Caldwell's Ft. King George Malleated (Otto and Lewis 1974:97). Fillet stamping has not been noted in any of the St. Augustine San Marcos ware. The stamped ceramics from the Kent mound that were large enough to determine the stamp elements, were all impressed with the fillet design described by Caldwell and McCann (1941:47, left two figures only).

Vessel shapes for the San Marcos ware include globular pots, elongated vessels with flaring rim almost identical to the Irene jar form, shallow bowls, plates, and casuela bowls. Some bowls have a ridge or collar on the shoulder that gives them a characteristic "bell" shape (Caldwell 1943:40); Hemmings and Deagan 1973:15, fig.3,a). Loop and strap handles are rather frequent fixtures on colono-Indian plain ware such as mugs or cups (Otto and Lewis 1974:95). The ridged shoulder is not included in
Caldwell and McCann's description of the Irene Ceramic Complex, and seems to have originated after, and possibly as a result of European contact. Loop handles were not found at the Irene site, but another Irene phase site has produced a loop handled vessel (Moore 1897:61).

The group of vessels found with burial 1975-9 at the Kent Mound included one Irene Filpot Stamped and Incised bowl constructed with the San Marcos-Altamaha "bell" shape (Fig. 6H). Another vessel was a Irene Filpot Stamped and Incised bowl with loop handles. With the exception of a decreased frequency of rim strip decoration and an increased frequency of hollow punctated plain rims, the form and decoration of the other vessels corresponded to Caldwell and McCann's description of Irene Filpot Stamped and Irene Incised (Caldwell and McCann 1941:48). The occurrence of both decorative techniques on the same vessel may be more popular at the Kent Mound than at the Irene site (Caldwell and McCann 1941:48).

Another San Marcos attribute noted on the vessels with burial 1975-9 was red slipping. Four of these vessels had a patchy red slipping that had a worn appearance. Caldwell and McCann (1941) do not note red slipping as occurring on Irene ceramics but Caldwell (1943:43) notes its presence on King George Red Filmed and Otto and Lewis (1974:107) describes San Marcos Stamped sherds with red
filming. Red slipping is considered to be a San Marcos attribute.

Sherd temper or a combined grit-sherd temper was recognized in low frequencies (1-2%) at two St. Augustine sites recently, but previous writers make no mention of its occurrence in San Marcos wares (Cook 1977a:11). As noted above grit-sherd temper was not present at the Irene site, but the Kent Mound ceramic complex contained a significant percentage of this temper type (13.9-54.5%, Fig.8,A).

On the basis of the comparisons presented here, hypothesis two is tentatively accepted. A high frequency of hollow punched plain rims is evidence that the late proveniences at the Kent Mound represent a transitional Irene-St. Augustine-San Marcos situation. This transition may even be traced from early to late Irene by the gradual replacement of the segmented and hollow punctated rim strip by hollow punctations on a plain rim. The "bell" shaped vessel found with burial 1975-9 is assignable to the St. Augustine-Altamaha period on the basis of form, but the stamping on it is typical Irene Fiftot. The other rather typical Irene ceramics in direct association with the "bell" vessel are indisputable evidence that the San Marcos and Irene wares are closely linked (Fig.6,A-G). Since San Marcos stamping techniques were not noted at the Kent Mound, the evidence points to a very early transitional situation for burial 1975-9 and features nine and ten. The other features are
earlier and probably represent pre-contact proveniences.

Hypothesis Three

"As a component of the Irene phase, the Kent Mound site had an archaeologically recoverable culture (material artifacts, and mortuary practices) that shows little or no influence from the St. Johns area of Northeast Florida."

St. Johns ceramics were not found at the Kent Mound. On the basis of ceramic evidence alone, Larson's contention that there was little or no contact between the Guale (Irene) and Northeastern St. Johns areas seems to be supported. However, it is not only appropriate, but necessary to consider other aspects of culture before hypothesis three is evaluated. The Kent mound excavation has contributed data that suggests Irene-St. Johns interaction on cultural levels other than purely technological.

The discussion of cultural relationships between Irene and St. Johns that follows will be based primarily on negative evidence concerning certain material and non-material aspects of the archaeological record. Watson, LeBlanc and Redman emphasize the value of negative evidence in testing archaeological hypotheses. Their suggestion that negative evidence can be pertinent to the testing of a hypothesis in a positive manner with the proper evaluation of archaeological data forms the basis of the following discussion. (Watson et.
Every major Irene burial mound that has been excavated on the Georgia Coast from Creighton Island to Ossabaw Island included cremation as a form of burial in addition to primary burial and bundle burial (Moore 1897:28, 47, 57, 87, 79, 89; Larson 1957). Conversely, contemporary St. Johns IIB, C sites in Northeast Florida do not seem to include cremation as a burial method at all (Moore 1894:16, 38, 55, 91, 198, 200, 204, mounds contemporaneous with Mt. Royal). Since no cremated burials were found at the Kent Mound, the origin of certain mortuary practices may be more closely associated with St. Johns. Urn burial emphasizes this contention more strongly. The use of pottery vessels to contain cremated remains, primary infant burials and the disarticulated bones of adults is a common feature of Irene sites from Creighton Island to Ossabaw Island (Moore 1897). The placement of cremated remains incinerary urns and uncremated skeletal remains in jars is not only unknown to St. Johns II culture, but to the entire Northeast Florida area (Moore 1897:138). The absence of Urn burial at the Kent Mound is not different from other late prehistoric sites south of the Altamaha River. No examples of urn burial have been recorded in this section of the coast for any period site (Cook 1977b:27, 30). As before, the Kent Mound is similar to St. Johns in the absence of a mortuary practice that is common on the Central and North Georgia Coast.
Larson bases part of his argument for lack of Irene-St. Johns interaction on the presence of copper plaques in St. John sites, and an absence of these artifacts in Pine Harbor (Irene) period sites (Larson 1958:16-17). The copper plaques found by C.B. Moore in sites along the St. Johns River and in Camden County, Georgia have a basic design that consists of a central perforation encircled by a series of indentations. A central boss is usually present. The shape of the plaque itself is circular, oval or rectangular (Moore 1894,1897).

Although copper plaques were not found at the Kent Mound a similar motif occurred on two bone artifacts. One motif was engraved on a small flat disc while the other embellished the spatulate head of a bone pin (Fig. 7 B,D). The elements of both motifs include a semicircular arc of indentations above a central perforation. The boss is not present but the nature of the raw material may have prevented its execution, a circle that encloses the perforation on both objects may be a stylized representation of the boss.

Another site on St. Simons has produced copper plaques. The Taylor mound on the north end of the island contained several early historic burials that were approximately contemporary with buried 1965-11, 1975-2, and 1975-9 at the Kent Mound. One of these burials was accompanied by a celtsform iron ax, iron knife, iron chisel, iron punch
and nine copper plaques hammered from Spanish coins (identified as Maravedis struck at Seville in the mid to late 16th century; Pearson n.d., b:6). The final products were virtually identical to a plaque found in Mt. Royal on the St. Johns River (Moore 1894:140).

Two sites on St. Simons demonstrate the presence of the copper plaque or its motif. The fact that the boss motif appears on bone or Spanish metal instead of native copper as in Florida may be related to the availability of raw material. Nevertheless cultural interaction between St. Johns and St. Simons Irene is indicated.

Another way in which St. Simons Irene differs from Irene north of the Altamaha is the absence of the discoidal stone and its pottery counterpart.

Irene sites from the north bank of the Altamaha to Chatham County have produced discoidal stones and/or pottery discs made from sherds or fired clay. Small discs made from sherds are most frequent. These have not been quantified in most of the literature, but Caldwell reports 34 from the Budreau Site and Cook notes over 50 from Seven Mile Bend. C.B. Moore found discoidal stones and sherd discs in Irene phase burial mounds on the Georgia Coast. He notes the Townsend mound on the Altamaha north bank as the most southern occurrence of the discoidal (Moore 1897:22).

More recent excavations have failed to produce discoidal stones or pottery discs from the Georgia coastal area.
south of the Altamaha (Cook and Pearson 1973, Cook 1974). No stone or pottery discs were found at the Kent Mound site. Since extensive excavations in St. Johns sites in Northeast Florida did not yield any examples of the discoidal, it is again assumed that interaction for St. Simons Irene is toward that area.

Several writers have proposed that the discoidal stone was used in a game similar to "chunckey" of the historic Creeks (Moore 1897:34, Caldwell and McCann 1941:55). At any rate the perfection with which the Coastal Georgia stones circularity is executed suggests a rolling function, one that seems to have no technonic purpose. Caldwell and McCann believed that the sherd discs were counters (Galdwell and McCann 1941:5). This author suggests that the joint occurrence and absence of these two artifacts indicates related functions. Perhaps the "counters" were to keep score in a game that involved the use of the stone disc.

If the stone and pottery discs are indeed components of a game, then St. Simons Irene may share with St. Johns a type of leisure activity that differs from Irene on the Central and North Georgia coast.

In conclusion, information derived from mortuary practices and other aspects of culture indicates a strong relation between St. Simons Irene and the St. Johns area of Northeast Florida. On the other hand, the ceramic complex at the Kent Mound demonstrates a total lack of St. John's
influence. In consideration of the data utilized, hypothesis three cannot be accepted at this time.

**Hypothesis Four**

"The Irene phase subsistence system relied heavily on marine resources, and identification and quantification of subsistence remains from Irene phase sites should reflect this orientation."

As in all coastal sites, soil conditions only allowed preservation of charred plant remains. Since charring was probably accidental, there is no conceivable way to quantify the total amount of plants consumed from the recovered remains. Differential preservation creates serious problems in evaluating the significance of various plants to the Irene subsistence system. From the standpoint of the animal portion of the diet, the Kent Mound subsistence system can be evaluated with a reasonable degree of accuracy. Salt water fish were the most important component of this fraction of the diet. Mollusks were second in importance, and land animals, primarily deer and raccoon were of the least importance. Certain other terrestrial animals and two reptiles supplemented the diet.

Estimations of distance to the most important resources are in the same order as that calculated for each of the resources discussed above with the exception of agricultural products, which at this time are not quantifiable with direct evidence (Fig.9). A basic concept of
settlement theory may allow a substitution of indirect evidence for unrecoverable information concerning the plant portion of the Irene subsistence system. This concept is that the location of sites of human occupation reflects in some way an accessibility to vital resources. Considering the level of socio-cultural development of Irene, it may be assumed that subsistence was a vital factor in the location of village sites (not necessarily ceremonial sites or special activity centers). The foundation for this assumption lies in several premises that most geographers accept as law-like generalizations.

"1. The spatial distribution of human activity reflects an ordered adjustment to distance. . .

2. Locational decisions are taken in general so as to minimize the frictional effects of the distance.

4. There is a tendency for human activities to agglomerate to take advantage of scale economies. . . (Garner 1967:304-305)"

According to the settlement theory cited the location of the Kent Mound may reflect an ordered adjustment to the distance of various resources in order of their importance.

The junction of St. Simons sound and the Atlantic Ocean represent the closest identified resource being only 1300 feet south of the Kent Mound and surrounding village. This distance agrees with the subsistence analysis in chapter 6, where fish was indicated as the most important resource (Figure 10).
Figure 10. Direction and distance from the Kent Mound to proposed subsistence resources.
The second closest resource deals with the unquantified plant portion of the subsistence system, and requires a discussion of potential land utilization.

A recent unpublished soil survey map shows the southern upland section of the island as being primarily composed of Mandarin Fine Sand (formerly classified as Leon). Patches of Rutlege and Cainhoy Fine Sand (formerly classified as Lakeland) occur intermittently. All of these soils are low in fertility, highly acid, and excessively leached, but Cainhoy Fine Sand is somewhat superior to the other two (Johnson et al. 1974:12).

A U.S.D.A. classification shows both Mandarin and Rutlege soils to be poor for agricultural purposes (6S and 6W respectively). Cainhoy Fine Sand is classified as marginal (4S) and probably the best agricultural soil present on the Sea Islands (U.S.D.A. Soil Conservation Service Files, Brunswick). Charles Pearson ranked Lakeland Sand as first of seven soil types on Ossabaw Island and found that six of the eight largest Irene village sites occurred on this soil type (Pearson 1977:23,91).

The Kent Mound site is located on Mandarin Fine Sand, but a rather large area of Cainhoy Fine sand is located about 2000 feet north. If this area was utilized for agricultural purposes then it would represent the second closest resource. There is no way to determine if this area was actually utilized. Irene people through practical
experience may have located and utilized areas of soil that were most conducive to agriculture (Fig. 10).

At 6000 feet west, King Creek is next in order of distance. A recent hard clam study indicated King Creek as the third most productive of 41 clam producing sites (Godwin 1968:19). Oysters and other pelecypods are abundant in this location as well as the marsh rimmed east bank of St. Simons Sound (Fig. 10).

It is difficult to evaluate the availability of game animals since their distribution is wide and sometimes cross-cuts several environmental zones. Johnson (1974:54) indicates that "live oak acorns are probably the most important single food for many species of wildlife including deer, raccoons, feral hogs, wild turkeys and other birds." For this reason the maritime live oak forest is considered to be the source of most game, although raccoons do frequently feed in the high marsh.

The present plant community that dominates the southern end of St. Simons can be classified as near-climax maritime live oak forest (Johnson et al. 1974:49). Although some areas have been stabilized by man's selection for the live oak, the frequency and size of these trees is compatible with undeveloped areas. The most habitable area that would allow maximum access to this forest, its acorns and its wildlife is approximately 6000 feet north of the Kent Mound (Fig. 10). This distance is the same as that
estimated for the last group of resources, but it should be pointed out that distances over water are not equivalent to similar distances over land, in terms of transportation energy. As this author can attest from experience, shellfish collection can often be accomplished without leaving the boat. Navigating a flood tide to and an ebb tide from the shellfish beds would only require steering. Actual transportation distance overland would be only 1300 feet.

Similar results have been found for other Irene sites on the North Georgia Coast. In an analysis of 47 Irene phase sites on Ossabaw Island, Charles Pearson found a strong relationship between four environmental variables and the relative size of sites. The environmental variables of the highest rank seemed to be associated with the largest class of sites. Pearson notes a tendency for the largest sites to be located on Lakeland soil, forested with mixed oak-hardwood, and less than 100 meters from a salt creek and marsh (Pearson 1977:89-96).

The Kent Mound site does not fit perfectly into Pearson’s pattern, but if the locations of important resources are considered, it does seem to be singularly located in an optimum position for fishing, horticulture, and exploitation of shellfish and terrestrial game respectively. Hypothesis four cannot be rejected on the basis of the recovered data. There is strong evidence for a heavy reliance on marine related resources, particularly fish
protein. Since the plant portion of the diet cannot be quantified directly, rather weak indirect evidence must be used. If this evidence is correct, the importance of agriculture may require reevaluation.

Summary

This study has attempted to test four hypotheses concerning the Irene phase on St. Simons Island. Without claim to absolute solution, each hypothesis has been evaluated in light of available data from the Kent Mound excavation and elsewhere. It is hoped that the data has been presented in a completeness and manner that other researchers may find useful.

The ceramic data indicates that the St. Simons Irene ceramics fit the descriptions for the Irene Complex found in Chatham County and on the North Georgia Coast and do not require a separate complex name. This finding does not particularly oppose the proposed Pine Harbor Ceramic Complex of the Central Georgia Coast. Larson describes this complex as identical to that described for Irene with the exception of the additional pottery type McIntosh Incised. At the present time McIntosh Incised seems to be a Central Georgia Coast variant of Irene Incised, that is not distributed as far south as St. Simons Island, nor as far north as Casabaw Island. The designs depicted on this ware may represent a participation in the Southeastern Ceremonial Complex that is particularly well expressed in ceramics (pottery figurines and incising on bowls) in the Creighton Island area (Waring 1945, Larson 1955). On St. Simons the
complex is less evident, but has appeared on bone or copper artifacts. The Townsend mound on the north bank of the Altamaha River seems to fit more into the St. Simons pattern. A late marginal burial was found there that demonstrated a Southeastern Ceremonial complex affiliation through the association of a spatulate axe and rattlesnake-baton effigy bone pins (Cook 1970). A spatulate axe was also found on the north end of St. Simons Island (Wallace 1975). In Camden County and northeastern Florida southeastern complex affiliation is primarily through copper plaques, but spatulate axes occur also.

Other questions arise from a comparison of these areas. For example; is the differential expression of the Southeastern Ceremonial Complex due to:

1) idiosyncrasies of local craftsmen?
2) trade with different complex centers?
3) differences in the supply of raw material?
4) variances in cultural preference?

It is suggested that future research be directed at these questions, hopefully to provide a better understanding of the Southeastern Ceremonial Complex on the Georgia Coast.

Data directed at testing the second hypothesis indicated that the late St. Simons Irene Ceramic Complex represents a transition to the San Marcos–Altamaha Ceramic Complex (St. Augustine–Altamaha periods respectively). San Marcos
attributes, notably rim decoration, red slipping, and the bell form; occurred on vessels that were otherwise Irene. Several San Marcos attributes that did not occur at the Kent Mound are, rim thickening or folding, triangular rim punctations, San Marcos stamping techniques and certain Colono-Indians forms such as ring footed plates. The vessels and the historic burials at the Kent Mound are tentatively dated at 1550-1600 A.D. Ceramic data from an early 17th century site is needed to further test this hypothesis. The origin of the second group of attributes will probably be found in such a site.

Hypothesis three has been upheld on the basis of ceramic data, but rejected on the basis of mortuary and other cultural data. A lack of Irene-St. Johns ceramic interaction is indicated by the total absence of the latter type at the Kent Mound. On the other hand mortuary practices at the Kent Mound are much like Mt. Royal (St. Johns IIB,C) or Southeastern Ceremonial Complex influenced St. Johns. The absence of the discoidal from sites south of the Altamaha River, gives them a St. Johns or general Florida affiliation on the level of a suggested game that was extremely popular throughout Mississippian Culture in the Southeastern United States exclusive of Florida. Finally, as mentioned before, St. Simons participation in the southeastern Ceremonial Complex is more closely associated with the copper plaque
of Northeast Florida, than the "eagle being" portrayed on ceramic figurines and vessels on the Central Georgia Coast.

Evaluation of this hypothesis creates an inconclusive suggestion that St. Simons Irene may have interacted with the St. Johns area at levels that affected certain aspects of culture other than ceramic. Ray Crook has recently created a settlement model for Mississippian sites on the Georgia Coast, that indicates a similar orientation for St. Simons. This model, called the aggregate village, has the characteristics of large site size, spatial clustering of circular shell middens, and association with two or more mounds. He notes the fact that the Canoah Point site on the north end of St. Simmons and the High Point site on Cumberland Island seem to be transitional between the aggregate village pattern and a different pattern to the south (Crook 1978:31). The Kent Mound and village does not fit Crook's aggregate village pattern either and therefore may more closely associated with a St. Johns type settlement pattern. At this point, it can only be suggested that hypothesis three be tested more rigorously. The St. Simons area provides an interesting research potential in that it seems to represent a transition between two major culture areas showing interaction with Irene on the basis of ceramics and an affiliation with St. Johns on the basis of several other aspects of culture.

The final aspect of Irene culture that has been
examined is the St. Simons Island subsistence pattern. The subsistence analysis was based on physically and biologically quantified samples of known size. For this reason, statements concerning subsistence have a more objective basis than those for any previous Irene phase study, Caldwell and McCann (1941), Larson (1970), and Pearson (1977) notwithstanding. Analytical results indicated a rather heavy exploitation of fish. The location of the Kent Mound and village also suggests a position that was primarily related to fishing the relatively calm waters of the protected southern beach. Access to agricultural land to the north of the site may explain why the Kent Mound and village were not located adjacent to the beach. The position of the site seems to reflect an attempt to reduce the frictional effects of distance to both important resources. The other quantified resources of shellfish and terrestrial game were less abundant than fish, more distant, and hence considered less important than the first two.

If the indirect evidence is correct, agriculture may be more important than previously assumed. More specific data concerning agriculture needs to be collected and evaluated. Obviously, the importance of plants cannot be assessed directly with remains from typical shell middens. Suggestions are made here for several possible avenues to the solution
of this problem. These are:

1) Soil depletion studies—Spectroscopic analysis of soil from potential agricultural sites may show depletion of certain elements that would infer intensive agricultural. For example, corn extracts relatively large amounts of zinc from the soil. Soils that have been exhausted by intensive corn cultivation may show low levels of zinc when compared to similar soils in other locations.

2) Midden enrichment studies—If large quantities of agricultural debris were discarded in midden piles, the midden should have acquired a corresponding chemical composition. Spectroscopic analysis should show relatively high levels of mineral elements characteristic of agricultural products. Since many wild plants may have a chemical composition similar to domesticated plants this procedure would be most effective if used in conjunction with number one above (Hole 1973:251).

3) Excavation of marsh bordering rim land sites—agricultural debris thrown into marsh areas near village sites may have become embedded in mud. The perpetual moisture, even temperature, and reducing atmosphere (methane gas) that is generally provided below several feet of marsh mud could preserve plant remains for hundreds of years.
4) Pollen analysis - Although wet basic conditions are not generally conducive to pollen preservation, this has not been demonstrated for Coastal Georgia sites. If shell middens prove to be deficient in plant pollen, attention should be directed toward marsh areas near village sites, as in number three.

5) Spectroscopic analysis of human skeletons - Wallace (1975:238) demonstrates a shift in subsistence from a Marine-resource economy to a plant-consuming economy through time with a spectroscopic analysis of residual Strontium in bone. More studies of this type may prove valuable in gaining information about the importance of agriculture to the Irene phase subsistence system.

In general the Kent Mound site has provided a rather detailed example of a small Irene village with accompanying burial mound. Several earlier but very sporadic occupations were noted at the site in the form of one archaic projectile point and three sherds from the Savannah I phase. Intensive occupation began during the early Irene phase. Shortly after the initial Irene occupation, a square shell mound was constructed from village debris following the pattern of earlier Savannah II phase sites south of the Altamaha River. It was from this refuse that data for the subsistence
analysis was collected.

As mortuary activities began at the site, the shell mound received burials as intrusions into it or adjacent to it in sand and shell filled pits. Later burials were placed on a modified surface surrounding the shell mound and covered with sand. At least one large borrow pit was dug near the edge of the mound that rapidly accumulated village debris. Continued mortuary activity led to the digging of additional borrow pits at a greater distance from the mound. At this time Irene Incised became a significant ware. As burials were added to the east, the initial borrow pit was filled intentionally or by slope wash. One burial was then placed above the fill of the first borrow pit.

After what was probably a short abandonment of the site, several late Irene (Early Historic Guale) burials were placed in deep intrusive pits dug into the mound at several locations. This burial technique was noted at the Taylor Mound on the north end of St. Simons Island. At that site, historic burials approximately contemporary with the historic burials at the Kent Mound were placed in intrusions dug into a Savannah II phase mound. At the Kent mound, the pit of one such burial, possibly the last, served as a receptacle for a number of pottery vessels. These vessels may have signified a termination of mortuary activities or may have represented an offering for the entire burial
population. It is unlikely that these vessels were solely intended to be grave furniture for burial 1975-9, since none of the other typical status symbols such as beads, knives, etc. were present. The estimated age of the European artifacts found with burials indicates a date of circa 1550-1600 A.D. for the termination in mortuary activities at the site.

Vessels from a similar pottery deposit at the Taylor Mound seem to be transitional Irene-San Marcos also. According to Wallace's descriptions of these vessels, several were Irene and one was San Marcos. This author does not agree with Wallace's contention that the vessels had a special ceremonial significance and are therefore not representative of contemporary utilitarian ceramics. Many of the vessels found at the Kent Mound showed the usual signs of wear and damage that are accrued during normal utilitarian usage. One vessel contained charred food residue, while several others had accumulations of carbon on their base. Furthermore, the vessels' form, construction, and decoration was indistinguishable from sherds found elsewhere on the site.

The Kent Mound site requires additional work in the village area. Information concerning village and house pattern is needed to round out a descriptive concept of Irene culture on St. Simons Island. Equipped with a more
accurate culture history of Irene, we may then direct our attention to the more important anthropological problems of sociocultural adaptation and culture change.
APPENDIX I

CERAMIC PROVENIENCE LIST

The following list gives the actual proveniences analyzed and presented in Tables 4-6, and 9-17.

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