This is to certify that the

dissertation entitled

A RECONSIDERATION OF FORMATIVE CULTURAL DEVELOPMENT IN THE SOUTHEASTERN UNITED STATES

presented by

GEORGE WARD SHANNON, JR.

has been accepted towards fulfillment
of the requirements for

DOCTOR OF PHILOSOPHY degree in ANTHROPOLOGY

Major professor

Date Nov. 13, 1987

A RECONSIDERATION OF FORMATIVE CULTURAL DEVELOPMENT IN THE SOUTHEASTERN UNITED STATES

By

George Ward Shannon, Jr.

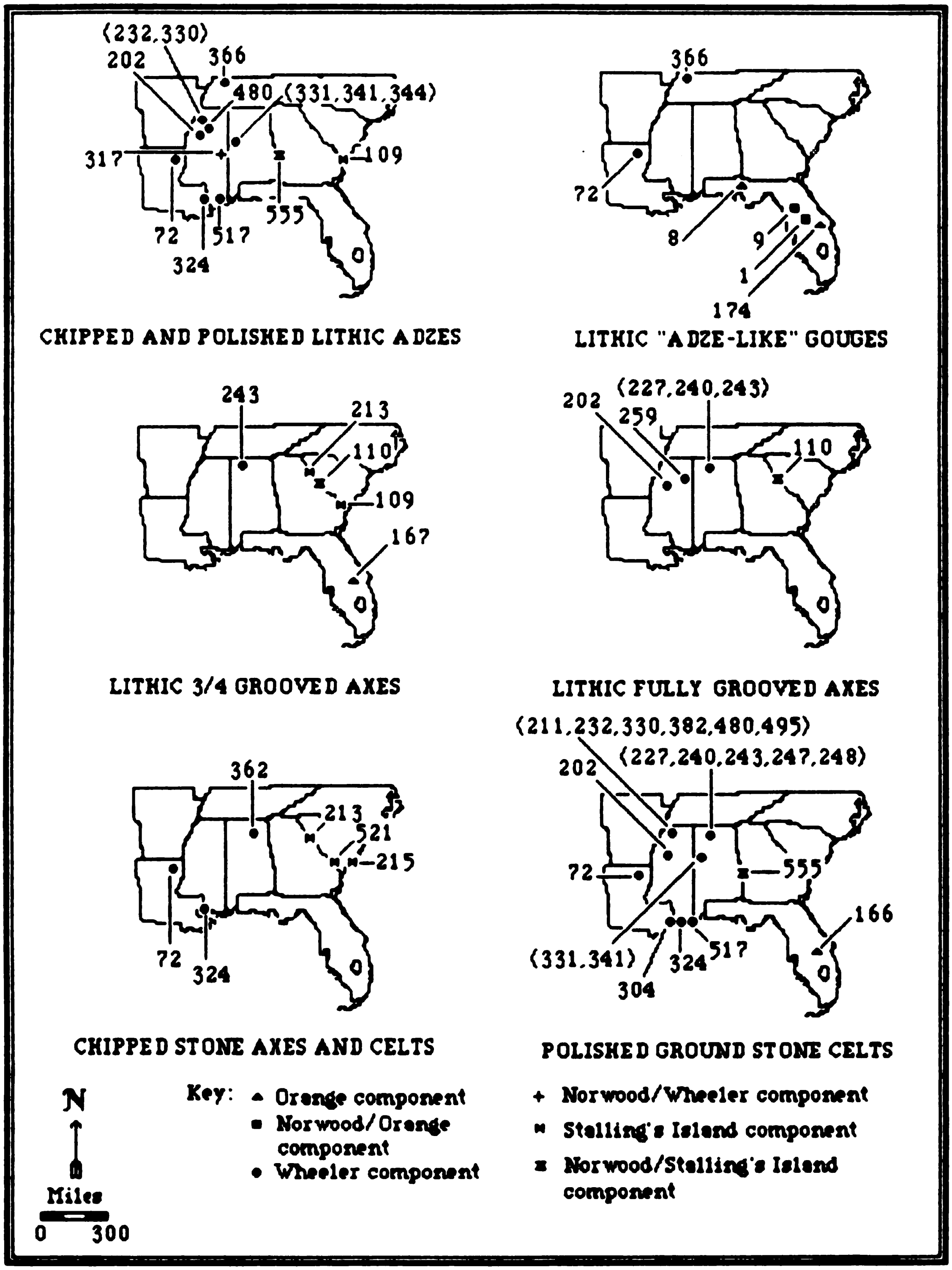
AN ABSTRACT OF A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

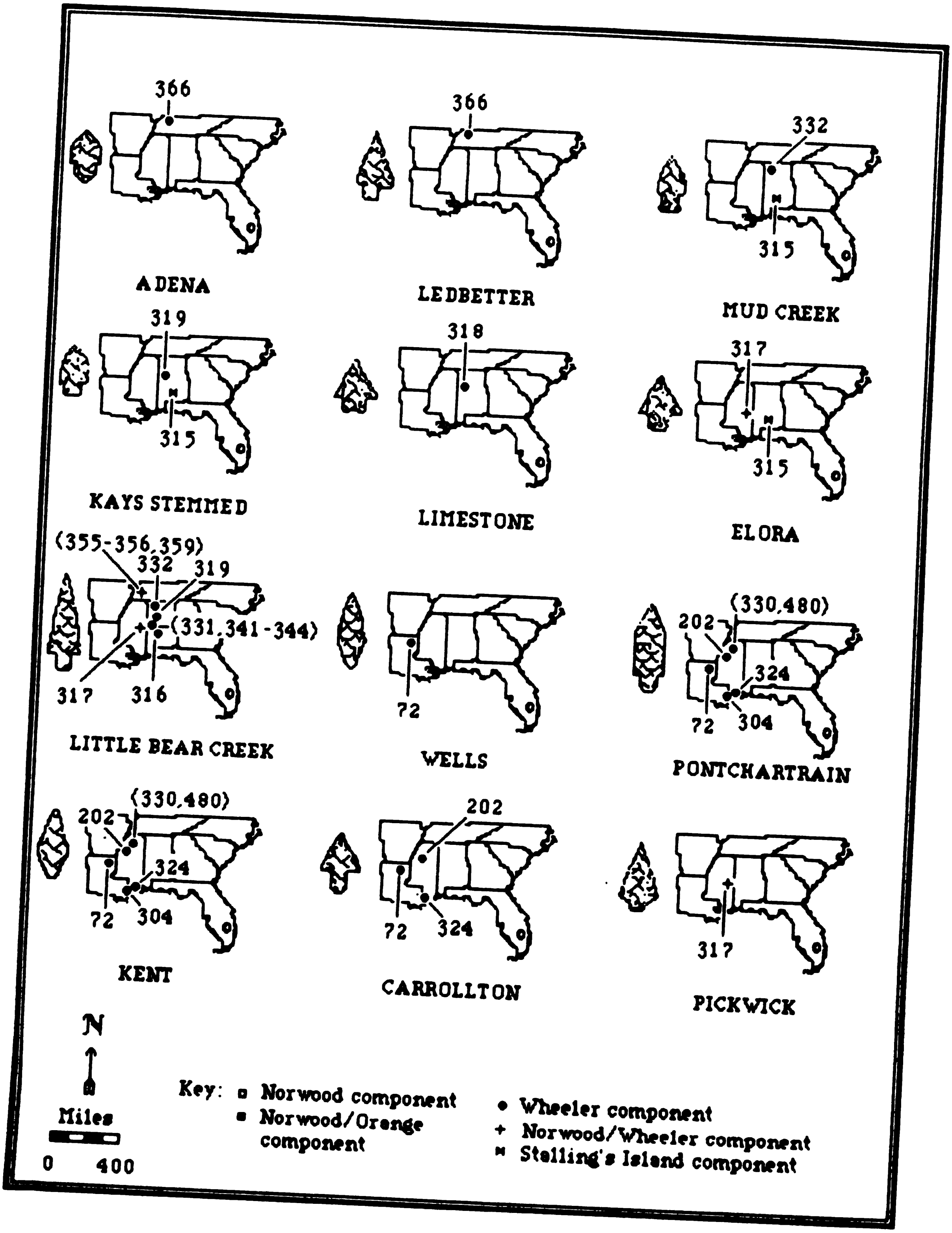
DOCTOR OF PHILOSOPHY

Department of Anthropology

1987



APPENDIX R1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE MANUFACTURE OF WOODEN ARTIFACTS AMONG SFT SITES.



APPENDIX N1. SPATIAL DISTRIBUTION OF "STEMMED" PROJECTILE POINTS AMONG SFT SITES (cont'd.).

A RECONSIDERATION OF FORMATIVE CULTURAL DEVELOPMENT IN THE SOUTHEASTERN UNITED STATES

By

George Ward Shannon, Jr.

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Anthropology

1987

ABSTRACT

A RECONSIDERATION OF FORMATIVE CULTURAL DEVELOPMENT IN THE SOUTHEASTERN UNITED STATES

By

George Ward Shannon, Jr.

The southeastern Formative period constitutes a temporal span which bridges aceramic Archaic societies with the first pottery making southeastern societies. Previous researchers have contended that four fiber-tempered ceramic series: Norwood, Orange, Wheeler, and Stalling's Island, represent four regional cultural expressions of the period's Southeastern Fiber-tempered Tradition (SFT). In this work all forms of Formative material culture are studied from a pan-southeastern perspective to gain a better understanding of the Formative period's history and dynamics.

The conclusion drawn from this study is that the validity of using fiber-tempered ceramics as the basis for studying Formative space and time problems is questionable. It is proposed that spatial and temporal distributions of SFT material culture reflect cultural configurations which relate to adaptations to environment, time, and to other cultural factors; however, those configurations do not relate to distributions of ceramic series upon which the tradition has been defined.

Existing SFT cultural boundaries, those circumscribed by ceramic distributions, are considered against the cultural and geographical evidence supporting the recognition of a new configuration of Formative development. This development has been referred to by Walthall and Jenkins (1976:43-49) as the Gulf Formational Stage.

George Ward Shannon, Jr

Given the results of this study, it is now apparent that the four traditional SFT ceramic taxons are simply a product of local inspection and not inspection of the whole tradition. Thus, two rather than four divisions of the SFT are defined: an eastern cultural development bounded by the distributions of marine shell tools, annular ring middens of molluscan debris and incised fiber-tempered ware, and, a western development bounded by the distribution of a vast array of lithic tools and stamped semi-fiber- and fiber-tempered ware. Cross-cultural exchanges between and among these cultural developments resulted from their dual participation within a vast Formative interregional exchange network.

ACKNOWLEDGMENTS

I am indebted to many individuals for aid in the completion of this dissertation. I should like to take this opportunity to express my gratitude to the following individuals for their guidance, encouragement, and support.

I am grateful to Dr. David S. Phelps, East Carolina University, for initially peaking my interest in fiber-tempered ware in 1974. Our discussions about Norwood ware provided the original stimulus for this work. I thank Dr. Phelps for his assistance during my study of the collection of Norwood type specimens housed in the Archaeology Laboratory at East Carolina University.

I have benefited from discussions with Dr. James B. Griffin during my research at the Ceramic Repository of the Museum of Anthropology, University of Michigan. I am indebted to Dr. Griffin for making available original Stalling's Island and Wheeler type specimens, as well as the facilities of Ceramic Repository, for the purpose of this research.

Dr. Jerald T. Milanich, University of Florida, provided me with a representative sample of Orange Plain specimens from the Bluffton Midden, and for this I thank him.

To Dr. William H. Sears, Florida Atlantic University, I owe thanks for the many hours of creative discussion we had regarding southeastern prehistory, in general, and fiber-tempered ware, in particular. Dr. Sears stimulated my interest in the southeastern Formative period at my Masters level of study.

I should like to express my appreciation to my major professor, Dr. Charles E. Cleland for aiding me throughout my doctoral studies at Michigan State University. Dr. Cleland helped with the clear formulation of the problem, and, then gave generously of his time, information, and opinions as this dissertation developed. I have benefited greatly from his vast wealth of anthropological knowledge and archaeological expertise. Special thanks is extended to the remainder of my committee members; Drs. William A. Lovis, Moreau S. Maxwell, and Lawrence H. Robbins whom have read draft versions of this manuscript and contributed valuable comments and suggestions. I should like to express my gratitude to all these individuals for their constructive comments and creative insights.

I thank Dr. Janet E. Rafferty, Mississippi State University, for generously providing data on sites containing fiber-tempered ware within the state of Mississippi, Dr. David H. Dye, Memphis State University, and Dr. Robert C. Mainfort, Tennessee Department of Conservation, for providing me with site information pertaining to finds within Tennessee, and Dr. Prudence Rice, University of Florida, for her comments pertaining to the analysis of fiber-tempered ware.

To my parents, a simple thanks will not suffice as words alone cannot begin to express my gratitude for the nurture, support, and guidance they have provided me throughout my personal and academic life.

A final expression of appreciation goes to my lovely wife, Ms. Faye Joy Shannon to whom I owe a considerable debt of gratitude. Without her unfailing encouragement my research would certainly have fallen short of its mark.

TABLE OF CONTENTS

Page

LIST OF TABLES x

LIST OF FIGURES xi

CHAPTER 1: THE FORMATIVE PATTERN OF LIFE 1

Introduction 1

Shell Middens 2

Fiber-tempered Ware 3

Southeastern Fiber-tempered Tradition Defined 8

The Problem with Formative Developmental Classifications 10

Archaeological Background to the Problem 12

Previous and Current Interpretations of SFT Culture and Chronology 20

-The Norwood Phase Definition- 20

-The Orange Culture Definition- 23

-The Wheeler Complex Definition- 26

-The Stalling's Island Culture Definition- 31

Conclusions 35

CHAPTER 2: DATA BASE DESCRIPTION 36

Introduction 36

Nature of the SFT Site Sample 36

Nature of the SFT Artifact Sample 45

SFT Ceramic Data 46

-Norwood Ware- 46

TABLE OF CONTENTS (cont'd.).

- Orange Ware - 49

- Wheeler Ware - 52

- Stalling's Island Ware - 55

- Baked Clay Objects - 62

<u>SFT Non-Ceramic Data</u> 65

- Vessels and Utensils - 65

- Atlatls - 69

- Projectile Points - 71

- Microlithic Core and Blade Industry - 74

- Tools of Stone, Shell, Bone, Wood, and Hide - 76

- Decorative Paraphernalia - 78

- Ceremonial Paraphernalia - 81

The Cultural Importance of Plain Fiber-tempered Ware 83

CHAPTER 3: ANALYSIS 85

Introduction 85

Hypotheses To Be Tested 86

Coding of SFT Sites and Artifact Classes 87

Formative Site Locations and Ceramic Patterns 90

<u>Spatial Patterning Among SFT Sites</u> 90

<u>Ceramic Patterning Among SFT Sites</u> 95

<u>Conclusions</u> 107

Patterning Among All Forms of Formative Material Culture 109

Patterning Among Formative Sites 125

Summary of the Statistical Approach 141

Formative Dating and Chronology 142

CHAPTER 4: CONCLUSIONS 156

TABLE OF CONTENTS (cont'd.).

APPENDIX A. NUMERICAL LIST OF SITES SHOWN ON ALL FIGURES.......... 160

APPENDIX B. SOUTHEASTERN FORMATIVE ACTIVITIES AND MATERIAL CULTURE SUMMARY AND COMPARISON.............................. 262

APPENDIX C. DEVELOPMENT OF NORWOOD CHRONOLOGY.......................... 274

APPENDIX D. DEVELOPMENT OF ORANGE CHRONOLOGY............................ 275

APPENDIX E. DEVELOPMENT OF WHEELER CHRONOLOGY.......................... 276

APPENDIX F. DEVELOPMENT OF STALLING'S ISLAND CHRONOLOGY......... 277

APPENDIX G. SUMMARY COMPARISON OF THE DISTRIBUTION OF NORWOOD TYPES AMONG "PURE" NORWOOD COMPONENTS.. 278

APPENDIX H. SPATIAL DISTRIBUTION OF NORWOOD TYPES AMONG "PURE" NORWOOD COMPONENTS... 281

APPENDIX I. SUMMARY COMPARISON OF THE DISTRIBUTION OF ORANGE TYPES AMONG "PURE" ORANGE COMPONENTS...... 282

APPENDIX J. SPATIAL DISTRIBUTION OF ORANGE TYPES AMONG "PURE" ORANGE COMPONENTS... 286

APPENDIX K. SUMMARY COMPARISON OF THE DISTRIBUTION OF NORWOOD AND ORANGE TYPES AMONG "MIXED" NORWOOD/ORANGE COMPONENTS.. 287

APPENDIX L. SPATIAL DISTRIBUTION OF NORWOOD TYPES AMONG "MIXED" NORWOOD/ORANGE COMPONENTS......................... 289

APPENDIX M. SPATIAL DISTRIBUTION OF ORANGE TYPES AMONG "MIXED" NORWOOD/ORANGE COMPONENTS......................... 290

APPENDIX N. SUMMARY COMPARISON OF THE DISTRIBUTION OF WHEELER TYPES AMONG "PURE" WHEELER COMPONENTS. 291

APPENDIX O. SPATIAL DISTRIBUTION OF WHEELER TYPES AMONG "PURE" WHEELER COMPONENTS... 300

APPENDIX P. SUMMARY COMPARISON OF THE DISTRIBUTION OF NORWOOD AND WHEELER TYPES AMONG "MIXED" NORWOOD/WHEELER COMPONENTS....................................... 301

APPENDIX Q. SPATIAL DISTRIBUTION OF NORWOOD TYPES AMONG "MIXED" NORWOOD/WHEELER COMPONENTS........................ 303

APPENDIX R. SPATIAL DISTRIBUTION OF WHEELER TYPES AMONG "MIXED" NORWOOD/WHEELER COMPONENTS........................ 304

TABLE OF CONTENTS (cont'd.).

APPENDIX S. SUMMARY COMPARISON OF THE DISTRIBUTION OF STALLING'S ISLAND TYPES AMONG "PURE" STALLING'S ISLAND COMPONENTS 305

APPENDIX T. SPATIAL DISTRIBUTION OF STALLING'S ISLAND TYPES AMONG "PURE" STALLING'S ISLAND COMPONENTS 314

APPENDIX U. SUMMARY COMPARISON OF THE DISTRIBUTION OF NORWOOD AND STALLING'S ISLAND TYPES AMONG "MIXED" NORWOOD/STALLING'S ISLAND COMPONENTS 315

APPENDIX V. SPATIAL DISTRIBUTION OF NORWOOD TYPES AMONG "MIXED" NORWOOD/STALLING'S ISLAND COMPONENTS 317

APPENDIX W. SPATIAL DISTRIBUTION OF STALLING'S ISLAND TYPES AMONG "MIXED" NORWOOD/STALLING'S ISLAND COMPONENTS 318

APPENDIX X. SUMMARY COMPARISON OF THE DISTRIBUTION OF ORANGE AND STALLING'S ISLAND TYPES AMONG "MIXED" ORANGE/STALLING'S ISLAND COMPONENTS 319

APPENDIX Y. SPATIAL DISTRIBUTION OF ORANGE TYPES AMONG "MIXED" ORANGE/STALLING'S ISLAND COMPONENTS 320

APPENDIX Z. SPATIAL DISTRIBUTION OF STALLING'S ISLAND TYPES AMONG "MIXED" ORANGE/STALLING'S ISLAND COMPONENTS 321

APPENDIX A1. SUMMARY COMPARISON OF THE DISTRIBUTION OF NORWOOD,ORANGE, AND STALLING'S ISLAND TYPES AMONG "MIXED" NORWOOD/ORANGE/STALLING'S ISLAND COMPONENTS 322

APPENDIX B1. SPATIAL DISTRIBUTION OF NORWOOD TYPES AMONG "MIXED" NORWOOD/ORANGE/STALLING'S ISLAND COMPONENTS 323

APPENDIX C1. SPATIAL DISTRIBUTION OF ORANGE TYPES AMONG "MIXED" NORWOOD/ORANGE/STALLING'S ISLAND COMPONENTS 324

APPENDIX D1. SPATIAL DISTRIBUTION OF STALLING'S ISLAND TYPES AMONG "MIXED" NORWOOD/ORANGE/STALLING'S ISLAND COMPONENTS 325

APPENDIX E1. SPATIAL DISTRIBUTION OF LITHIC AND SHELL COOKING VESSELS AND UTENSILS AMONG SFT SITES 326

TABLE OF CONTENTS (cont'd.).

APPENDIX F1. SPATIAL DISTRIBUTION OF SFT MATERIAL CULTURE ASSOCIATED WITH PLANT AND ANIMAL FOOD PROCESSING 327

APPENDIX G1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE ATLATL AMONG SFT SITES 328

APPENDIX H1. SPATIAL DISTRIBUTION OF "BASALLY-NOTCHED" PROJECTILE POINTS AMONG SFT SITES 329

APPENDIX I1. SPATIAL DISTRIBUTION OF "CORNER-NOTCHED" PROJECTILE POINTS AMONG SFT SITES 330

APPENDIX J1. SPATIAL DISTRIBUTION OF "SIDE-NOTCHED" PROJECTILE POINTS AMONG SFT SITES 331

APPENDIX K1. SPATIAL DISTRIBUTION OF "STEMMED" PROJECTILE POINTS AMONG SFT SITES 332

APPENDIX L1. SPATIAL DISTRIBUTION OF "STEMMED" PROJECTILE POINTS AMONG SFT SITES (cont'd.) 333

APPENDIX M1. SPATIAL DISTRIBUTION OF "STEMMED" PROJECTILE POINTS AMONG SFT SITES (cont'd.) 334

APPENDIX N1. SPATIAL DISTRIBUTION OF "STEMMED" PROJECTILE POINTS AMONG SFT SITES (cont'd.) 335

APPENDIX O1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH AQUATIC RESOURCE HARVESTING AMONG SFT SITES 336

APPENDIX P1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE MANUFACTURE OF BONE ARTIFACTS AMONG SFT SITES 337

APPENDIX Q1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE MANUFACTURE OF BONE ARTIFACTS AMONG SFT SITES (cont'd.) 338

APPENDIX R1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE MANUFACTURE OF WOODEN ARTIFACTS AMONG SFT SITES 339

APPENDIX S1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE MANUFACTURE OF WOODEN ARTIFACTS AMONG SFT SITES (cont'd.) 340

APPENDIX T1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE MANUFACTURE OF WOODEN ARTIFACTS AMONG SFT SITES (cont'd.) 341

TABLE OF CONTENTS (cont'd.).

APPENDIX U1. SPATIAL DISTRIBUTION OF ORNAMENTAL PARAPHERNALIA AMONG SFT SITES 342

APPENDIX V1. SPATIAL DISTRIBUTION OF ORNAMENTAL PARAPHERNALIA AMONG SFT SITES (cont'd.) 343

BIBLIOGRAPHY 344

LIST OF TABLES

Page

Table 1. Data Set 1: Nominal Scale Ceramic Class Tabulations by Site 88

Table 2. Distance Coefficients at the Final Fifteen Clustering Steps in Figure 20 93

Table 3. Distance Coefficients at Each Clustering Step in Figure 22 97

Table 4. Cross-tabulation of Ceramic Decoration Against Region 103

Table 5. Chi Square Value Calculated for Table 4 Data 103

Table 6. The Current (SFT) Phase Classification of Table 1 Sites Compared to the (SFT) Ceramic Types Identified at Each Site 105

Table 7. Data Set 2: Nominal Scale Ceramic and Non-Ceramic Class Tabulations by Site 111

Table 8. Varimax Rotated Factor Loadings 115

Table 9. Varimax Rotated Factor Score Coefficients 115

Table 10. Artifact Clusters Obtained Through Three Agglomerative Hierarchical Clustering Analyses 124

Table 11. Occurrence of Artifact Class Groups in Site Clusters 129

Table 12. Calibrated B. P. Dates from Formative Sites 143

LIST OF FIGURES

			Page
Figure	1.	Spatial distribution of fiber-tempered ware within southeastern United States as presently known	9
Figure	2.	Pivotal steps leading to the development of the Southeastern Fiber-tempered Tradition concept	13
Figure	3.	Current (SFT) Cultural Chronology	21
Figure	4.	Spatial distribution of "Pure" Norwood pottery components	38
Figure	5.	Spatial distribution of "Pure" Orange pottery components	39
Figure	6.	Spatial distribution of "Mixed" Norwood/Orange pottery components	40
Figure	7.	Spatial distribution of "Pure" Wheeler pottery components	41
Figure	8.	Spatial distribution of "Mixed" Norwood/Wheeler pottery components	42
Figure	9.	Spatial distribution of "Pure" Stalling's Island pottery components	43
Figure	10.	Spatial distribution of "Mixed" Norwood/Stallings; Orange/Stallings; and Norwood/Orange/Stallings pottery components	44
Figure	11.	Norwood Series of fiber-tempered pottery	47
Figure	12.	Orange Series of fiber-tempered pottery	50
Figure	13.	Wheeler Series of fiber-tempered pottery	54
Figure	14.	Stalling's Island Series of fiber-tempered pottery	61
Figure	15.	Common types of Poverty Point (a-d) and Elliott's Point (e-f) baked clay objects	63
Figure	16.	Spatial distribution of Poverty Point and Elliott's Point Baked Clay Objects among southeastern Late Archaic and Formative sites	64

LIST OF FIGURES (cont'd.).

Figure 17. The Southeastern Formative Microlithic Industry............ 75

Figure 18. Common types of bone pins ("daggers" and "bodkins") found among southeastern Formative sites........................ 80

Figure 19. Common types of Tubular Pipes and Figurines found among southeastern Formative sites.................................... 82

Figure 20. Average linkage dendrogram showing the spatial relationships among sites based on their geographic coordinates.. 91

Figure 21. Graph of the Distance Coefficient Values at the Final Fifteen Clustering Steps in Figure 20.................................... 94

Figure 22. Average linkage cluster analysis of the pooled ceramic data on Table 1, showing between-ware relationships among sites.. 96

Figure 23. Graph of the Distance Coefficient Values at each Clustering Step in Figure 22.. 98

Figure 24. A geographical display of between-ware relationships among Table 1 sites.. 100

Figure 25. A geographical display of individual design application methods among Table 1 sites.. 101

Figure 26. The location of Data Set 2 sites employed in the search for patterning among ceramic and non-ceramic artifact classes.. 113

Figure 27. Table 7. Sites Clustered Based on the Distances Between Their Twelve Respective Presence/Absence Artifact Classes.. 126

Figure 28. Graph of Distance Coefficient Values at the Final Fifteen Clustering Steps in Figure 27................................ 127

Figure 29. The Location of Cluster 1 sites: the eastern dimension..... 130

Figure 30. The Location of Cluster 2 sites: the western dimension.... 134

Figure 31. The Location of Cluster 3 sites: the interregional exchange dimension.. 137

Figure 32. Revised (SFT) Cultural Chronology.................................... 155

CHAPTER 1: THE FORMATIVE PATTERN OF LIFE

Introduction

Considerable literature has been published concerning southeastern United States shell middens and fiber-tempered pottery. A comprehensive bibliography of that literature is offered at the end of this work. The magnitude and complexity of this archaeological record is overwhelming because the advent of fiber-tempered ware had far-reaching and long-lasting consequences. Geographically, it embraced much of the southeastern United States. Chronologically, it covered more than two millennia, from 3000-500 B.C. In the introduction emphasis will be placed on three hallmarks of the literature: shell middens, fiber-tempered ware, and the interpretations offered to explain the pattern of life associated with these two variables.

The joint occurrence of shell middens and fiber-tempered pottery, circa 3000 - 2500 B.C., represents a consolidation of two contiguous cultural patterns (preceramic and ceramic) within the Southeast. Ripley P. Bullen (1959a;1960) introduced the *Southeastern Fiber-tempered Tradition*, henceforth referred to as SFT, to incorporate the cultures associated with the emergence of fiber-tempered pottery into a workable temporal-spatial framework. Bullen's integrative concept was followed by James A. Ford's (1966:782;1969:4-5) conception of the *American Formative*, a term he defined to denote southeastern lifeways during those critical centuries when ceramics were being diffused and welded into the socio-economic life of Archaic people living in the region extending from South America to eastern United States. Walthall and Jenkins (1976) modified the SFT model by drawing Formative Coastal Plain cultures into an intermediate cultural stage, called the

Gulf Formational Stage. All three concepts represent cultural frameworks derived primarily from ceramic typology. The SFT represents the earliest reorientation of southeastern Archaic culture along lines that we can designate as Formative.

Shell Middens

A brief examination of the nature and extent of shell middens should provide a convenient point of departure for the ensuing discussion. Shell middens consisting of snails and mussels inland, and oysters, clams, and coquina on the coast are widespread and may be found wherever mollusks abound (Claassen 1986b:121). They are found within both littoral environs (i.e., coastal: shore-lines, lagoons, bayous, estuaries, and brackish drainages), and riparian environs (i.e., inland freshwater: riverbanks, creeks, and marshes). To meet local aquatic resource availability coastal Formative peoples focused heavily upon eating shellfish. Inland, the dependence upon shellfish as a dietary mainstay appears less pronounced. It was on, in, and around shell middens that America's first potters developed their craft.

Shell middens are rather sharply defined. Their horizontal limits are often enormous, covering several acres in area. Most are of considerable depth, some being as much as ten meters deep. Some examples of deep shell middens are these: the Palmer-Hill Cottage Midden, Little Sarasota Bay, Florida (Bullen and Bullen 1976: 3-20); the Orange Mound, St. Johns River, Florida (Rouse 1951:127-129); the Cotton Site, Halifax River, Florida (Griffin and Smith 1954); the Perry Site, Tennessee River, Alabama (Webb and DeJarnette 1942:77-93); the Bluff Creek Shell Midden, Tennessee River, Alabama (Webb and DeJarnette 1942:127-130); and the Stalling's Island Mound, Savannah River, Georgia (Claflin 1931). These extensive, deep shell middens represent the consumption of huge numbers of shellfish over long periods of time.

Many shell middens show no signs of natural stratigraphy, although in some, such as the Chattahoochee site (J-5), located near the confluence of the Chattahoochee and Flint Rivers, Florida (Bullen 1958c:333-350) and the Stoutamire site, Ochlockonee River, Florida (Phelps 1969:8) it is possible to recognize deposits of fluvial materials (i.e., flood lain silts, sands, and clays). Most shell middens are multi-component sites, clearly stratified with a succession of preceramic and ceramic levels. Such cultural deposits may be found interspersed among several superimposed levels of shell, sand, and humus. Usually they contain materials like prepared clay floors, hearths, lithics, pottery, and faunal remains. Occasionally, lenses of different kinds of shell occur, representing preference for a given shellfish species during gathering activities at different times.

The initial occupation of a shell midden is usually characterized by the presence of preceramic cultural materials found deep within the shell deposit. An example of such a deposit from Alabama is the Perry site's preceramic component which dates to 2813 B.C. (Walthall 1980:5). These levels are succeeded by the advent of fiber-tempered pottery sometime after 2500 B.C. As time passed, the people who created these refuse deposits increasingly gained their livelihood by the intensive exploitation of mollusks.

Fascination with shell middens began over two centuries ago when William Bartram (1791) made notes on a number of shell middens while traveling in Florida, Georgia, and the Carolinas. Bartram's observations created considerable speculation about the origin of large shell heaps found along coasts and river valleys of southeastern United States, and as a result debates over the origin and function of shell mounds took place for some years to follow (e.g., Drayton 1803).

As early as 1824, Pierce (1825) discovered some concrete evidence that put an end to much of this speculation. Upon examination of several coastal shell mounds, Pierce noted the presence of pottery coupled with the absence of complete shells, that is shells with both valves found together. From this observation, Pierce (1825: 122) theorized that shell mounds had an artificial origin. Recognition of this fact led to early explorations of several great shell heaps.

A pioneering effort providing further evidence for Pierce's "artificial origin" theory took place in the 1850's when Jones (1861:14) first tested the Stalling's Island shell mound, the type site for southeastern "shell mound culture." Jones' (1861:17) poetic account, "Monumental Remains of Georgia," described the mound's stratigraphy and mentioned the presence of pottery fragments. His account included a functional interpretation of the mound as the general cemetery of the prehistoric tribes nearby. Later, Jones (1873) changed his interpretation of shell mounds as necropolises in a work titled, "Antiquities of the Southern Indians, Particularly of the Georgia Tribes." In this work, Jones (1873:200) offered an interpretation of shell mounds as, "...the *débris* of the long-continued encampments of the natives upon the river-bluffs, while engaged in hunting and fishing." Today, Jones' later interpretation appears correct. Systematic investigations of shell middens demonstrate that they are refuse deposits accumulated through several centuries of seasonal habitation. Jones (1873) was also first to draw our attention to the presence and function of an especially interesting type of shell midden, the "shell ring" (also referred to as Indian-O-Forts, shell doughnut, shell horseshoe, and shell-U or shell-C) shaped middens on the Georgia coast. These circular enclosures of shell may range from fifty to three hundred feet in diameter with walls reaching nine feet in height. Jones proposed that the circular configuration of these sites reflected the discard pattern of refuse thrown out of circular, domiciliary structures. Alternatively, it has been suggested by Waring (in Williams 1977:263-279) that shell rings represent the remains of ceremonial enclosures. Notwithstanding Waring's argument, most archaeologists recognize Jones' later interpretation as the most plausible explanation for the presence of shell middens and shell rings.

Fiber-tempered Ware

It was 1860 before the recognition of fiber-tempered ware within a shell midden context took place. This discovery brought researchers to a consideration of the cultural context, form, and function of fiber-tempered pottery. Most sites containing fiber-tempered ware are shell middens; however a few fiber-tempered pottery types have been recognized and dated from non-shell middens. Currently, the relationship of fiber-tempered pottery to non-shell middens is unclear. Most non-shell middens are located in upland drainages along the tributaries of major rivers. Their presence may represent cold weather hunting/nut gathering stations demarcating the other half of Late Archaic people's seasonal-round subsistence settlement pattern.

Fiber-tempered ware, dated to the third millennium B.C., is the earliest pottery in North America (Stoltman 1966). Quite suddenly it appeared in a regional culture sequence where it had no antecedent. The presence of this ware within basal levels of shell middens represents a late, non-disruptive additive trait grafted onto the traditional Middle/Late Archaic shellfish oriented economy. In fact few, if any, differences in the material culture inventories of preceramic and ceramic levels exist in most shell middens, except for the introduction of pottery.

The oldest evidence for fiber-tempered ware in the New World comes from Puerto Hormiga, Columbia where this ware dates to 2914 B.C. (Reichel-Dolmatoff 1961:334; 1965:53). Fiber-tempered pottery did not occur in the southeastern United States until later in time, circa 2500 B.C. (Stoltman 1966). The origin of southeastern fiber-tempered ware has been explained at various points in the past by three cultural processes: diffusion, invention, and migration. The idea that stimulus diffusion from the Woodland wares of the northeast could explain the origin of southeastern fiber-tempered ware was presented by W. H. Sears and J. B. Griffin in 1950. However, recent radiocarbon dates indicate that the advent of southeastern fiber-tempered wares occurred approximately 1000 years before the development of Woodland ceramic traditions (Stoltman 1974, 1978). Another point of view proposed that their origin may be explained by purely local, independent invention (Bullen 1961:106). However, recently, the validity of in situ development has been questioned by the possibility of a southern origin for southeastern fiber-tempered ware. This interpretation has been offered by several scholars. Initially, David S. Phelps suggested the possibility of a land diffusion of Mesoamerican Formative ideas across the coastal circuit and up into the Southeast. He suggested that Puerto Hormiga and the Southeast might be the polar ends of a Gulf coastal network (Phelps 1964:118,122). James A. Ford also suggested a southern Mesoamerican origin for this ware; however, his view was based upon the recognition of major seaborne movements of Formative people. He suggested this migration was, "similar to colonizing ventures of the Vikings" (Ford 1966:782; 1969:8,150-151). Most recently, William H. Sears summarized the evidence for seaborne contacts between early cultures in lower southeastern United States and areas across the Caribbean and the Gulf of Mexico. To Sears, the accumulated evidence strongly suggests movement up through the Antilles and/or across the Gulf of Mexico by many groups of people over several millennia (Sears 1974:1,11). Sears concluded that fiber-tempered pottery and its decorative complexes originated across the Caribbean and then was carried into the Southeast by a steady stream of small group movements.

Regardless of its source of inspiration, in the beginning all fiber-tempered pottery was very crude in nature, simple in form, and without decoration. Organic temper added to this hand-molded ware is known to be of vegetal origin. The majority of fiber-tempered ware is soft, thick, vermiculated, and poorly fired. This early ware, on the whole, is amazingly uniform over wide areas and easily recognizable.

The archaeological record indicates that a plain-surfaced, fiber-tempered pottery phase preceded development of later decorated pottery phases. However, decorated forms became abundant by 2000 B.C. Then, plain and decorated fiber-tempered types followed coeval paths of development, until approximately 1000 B.C. Many archaeologists believe plain and decorated fiber-tempered pottery developments reflect recognizable phases of southeastern Formative development (Phelps 1969; Bullen 1972; Jenkins 1981; and Stoltman 1974). Around 1000 B.C., the popularity of fiber-tempered ware waned as a gradual transition towards the manufacture of semi-fiber-tempered, limestone tempered, sand tempered, and temperless (diatomaceous paste) forms occurred across specific areas of the Southeast. By 500 B.C., the manufacture of fiber-tempered pottery ceased, marking the dissolution of southeastern Formative lifeways. The culmination of this period of transition brought about the acceptance of new techniques of ceramic manufacture.

Fiber-tempered ware was grafted onto the overall pattern of southeastern Archaic culture by 2000 B.C. with little if any modifications of other material culture. The addition of fiber-tempered ware may have enriched the basic overall pattern of Late Archaic lifeways by providing in the form of pottery a more efficient means for the collection, storage, and preparation of food. The function that fiber-tempered pottery performed is not known with any degree of certainty.

It is generally assumed that it was used as a cooking utensil; however, as Stoltman (1972:44) has suggested, since the palatability of mollusks depends upon their being kept alive until they are eaten, techniques for their live storage must have been devised. In this light, perhaps some fiber-tempered vessels served as aquariums in which shellfish could be conveniently retained, near or in a home base. Thus, perhaps the development or introduction of fiber-tempered pottery enabled Southeastern Formative people to exploit their environmental niches more effectively.

The Southeastern Fiber-tempered Tradition Defined

The SFT is a significant part of early pottery manufacture in the Southeast between approximately 2500 B.C. and 500 B.C. Four classificatory units are at the core of the SFT: the Norwood, Orange, Wheeler, and Stalling's Island pottery series. These are generally accepted as representative of four distinct ceramic technologies diagnostic of four discrete cultures. In fact, these series are the basis of the spatial and temporal boundaries underlying interpretation of four Formative cultures in the Southeast: the Norwood phase (Phelps 1966a), the Orange culture (Bullen 1972), the Wheeler complex (Jenkins 1975), and the Stalling's Island culture (Stoltman 1972). Together, these four series have been incorporated into a single fiber-tempered ceramic tradition (Figure 1), which is defined as, " a group of series sharing a stylistic integrity of ceramic traits that continue through time" (Willey 1945:53). Although there has been nearly a century of active research into the nature and extent of the SFT, the interrelationships of certain cultures of the tradition are still poorly understood.

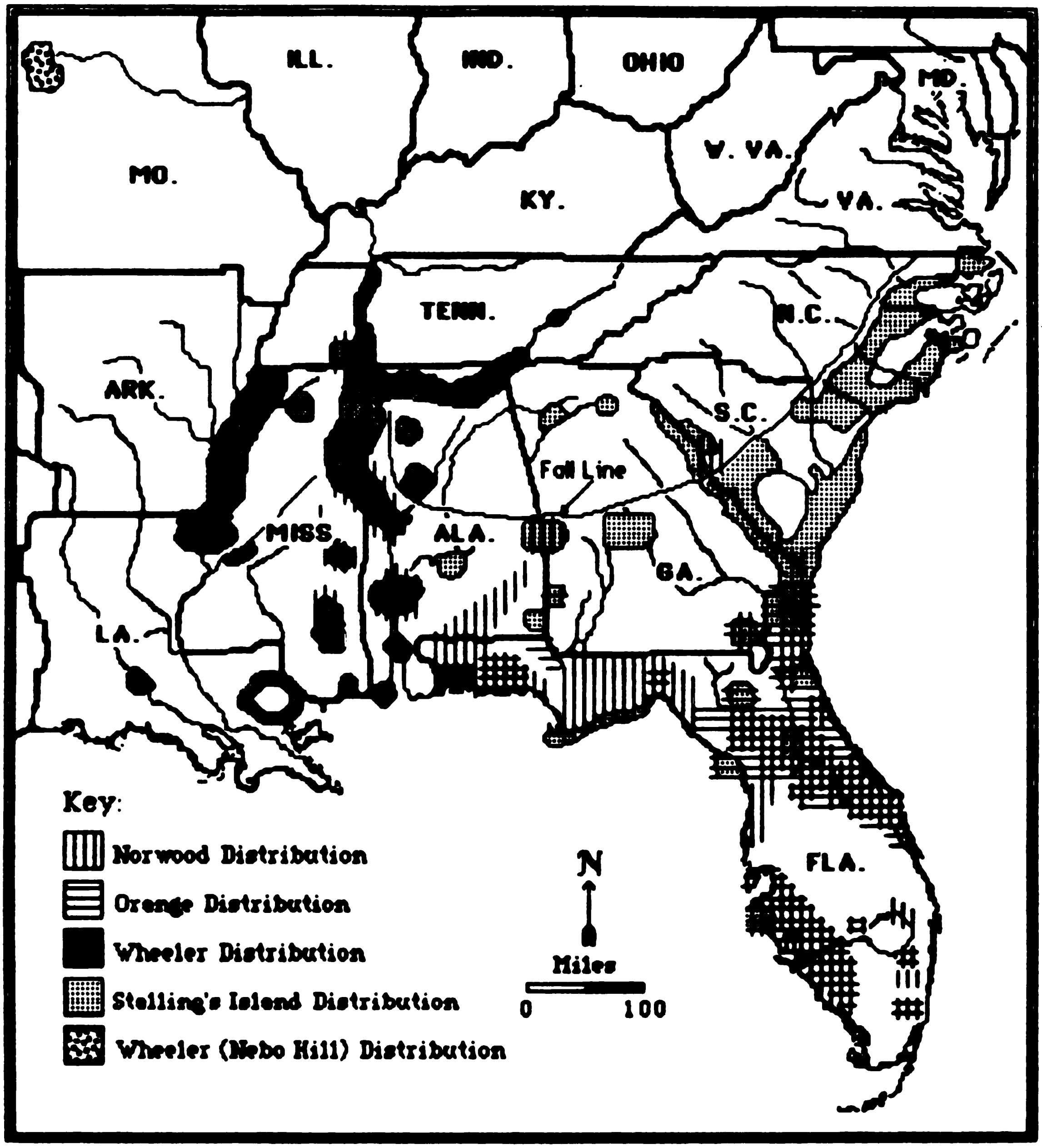


Figure 1. Spatial distribution of fiber-tempered ware within southeastern United States as presently known.

The definition of the SFT, outlined above, attempts to promote ceramic typology as a means for understanding the culture changes that occurred during the Formative period. This study will explain the SFT more clearly as a cultural problem by first outlining the currently accepted formal, spatial, and temporal dimensions of the tradition within the southeastern United States, and then by discussing the implications of the findings of this analysis for understanding the SFT and southeastern Formative prehistory. This reconsideration of the artifacts originally employed to differentiate the cultures of this tradition challenges the usefulness of pottery as the criteria for establishing four discrete cultures.

The Problem with Formative Developmental Classifications

A pilot study (Shannon 1986) re-analyzed a representative sample of plain sherds drawn from the original "modal" type collections used by Phelps (1965), and, Sears and Griffin (1950) to formally describe the Norwood, Orange, Wheeler, and Stalling's Island Plain types. That study revealed that previous type distinctions are open to question because practically all of the ceramic attributes allocated to the plain ware of each series are common to all fiber-tempered series. Thus the results of the preliminary analysis led to the suspicion that there may be less variability within the ceramics of the SFT than previously thought.

Southeastern Fiber-tempered Tradition "cultures" are by definition "ceramic" in content (Bullen 1960; Phelps 1965,1966a; and Sears and Griffin 1950). Since past theories of SFT culture-historical interpretation are based almost entirely upon the temporal and spatial distributions of certain ceramic types, SFT cultures are founded almost totally upon comparative ceramic typology.

Certainly, ceramic types are to a degree useful for tracing southeastern Formative developments in geographically delimited regions, but their reliability as "culture indicators" remains questionable.

Given the findings of the pilot study, the validity of the current four-fold cultural interpretation of the SFT is questioned. To investigate this problem, it is proposed that spatial and temporal distributions of the material culture of this tradition reflect cultural configurations which relate to the dimensions of space, time, and to other cultural factors; however, those configurations may or may not relate to distributions of ceramic series upon which the tradition has been defined. This proposition leads us to question the traditional practice of using fiber-tempered ceramics as the basis for studying SFT space and time problems.

The major purpose of this study is to investigate all the ceramic and non-ceramic products of the tradition to attempt to arrive at coherent co-occurrences of artifacts within the total SFT assemblage. It is assumed that if such configurations exist, then they may have some spatial and temporal dimensions. To complete this study, newly derived configurations of SFT artifacts will be compared with the four cultural taxons defined by previous researchers on the basis of ceramics alone, and with the interregional distribution of certain non-ceramic artifactual variables. From these comparisons conclusions will be drawn about the validity of our current interpretation of the tradition. Finally, if the current interpretations are shown to be invalid, then the recognition of a new configuration of southeastern Formative cultural development will be proposed.

<u>Archaeological Background to the Problem</u>

In order to comprehend the problem, it is necessary to have an historical overview of the major events leading to our present understanding of the SFT. In general, the following background information retraces the major trends characterizing the development of the study of fiber-tempered ware during the nineteenth and twentieth centuries. In particular, this historiographic discussion will detail the pivotal steps leading to the development of the tradition (Figure 2). Our history begins with a consideration of an initial phase of research demarcated by several pioneering discoveries made during the nineteenth and early twentieth centuries. These pioneering efforts, marked by the incipient discovery, recognition, and description of fiber-tempered ware, resulted in the location and study of several major sites of southeastern Formative activity. The works of Jeffries Wyman, Clarence B. Moore, and William H. Holmes dominated this phase.

The initial study of fiber-tempered ware began when both field and analytical techniques were in their infancy. Jeffries Wyman was the first to discover and report fiber-tempered ware in 1860. He is credited with defining the first prehistoric ceramic sequence in North America. Wyman referred to this ware as "palmetto-fibre tempered ware." He went a step beyond discovery, recognition, and description of fiber-tempered ware when he realized the great antiquity of shell heaps, and that they are stratified in preceramic and ceramic levels (Wyman 1875:20,52-56). Moreover, Wyman concluded the former were earlier than the latter. Thus, the first systematic stratigraphic excavation of a shell midden was carried out by Wyman during the late nineteenth century.

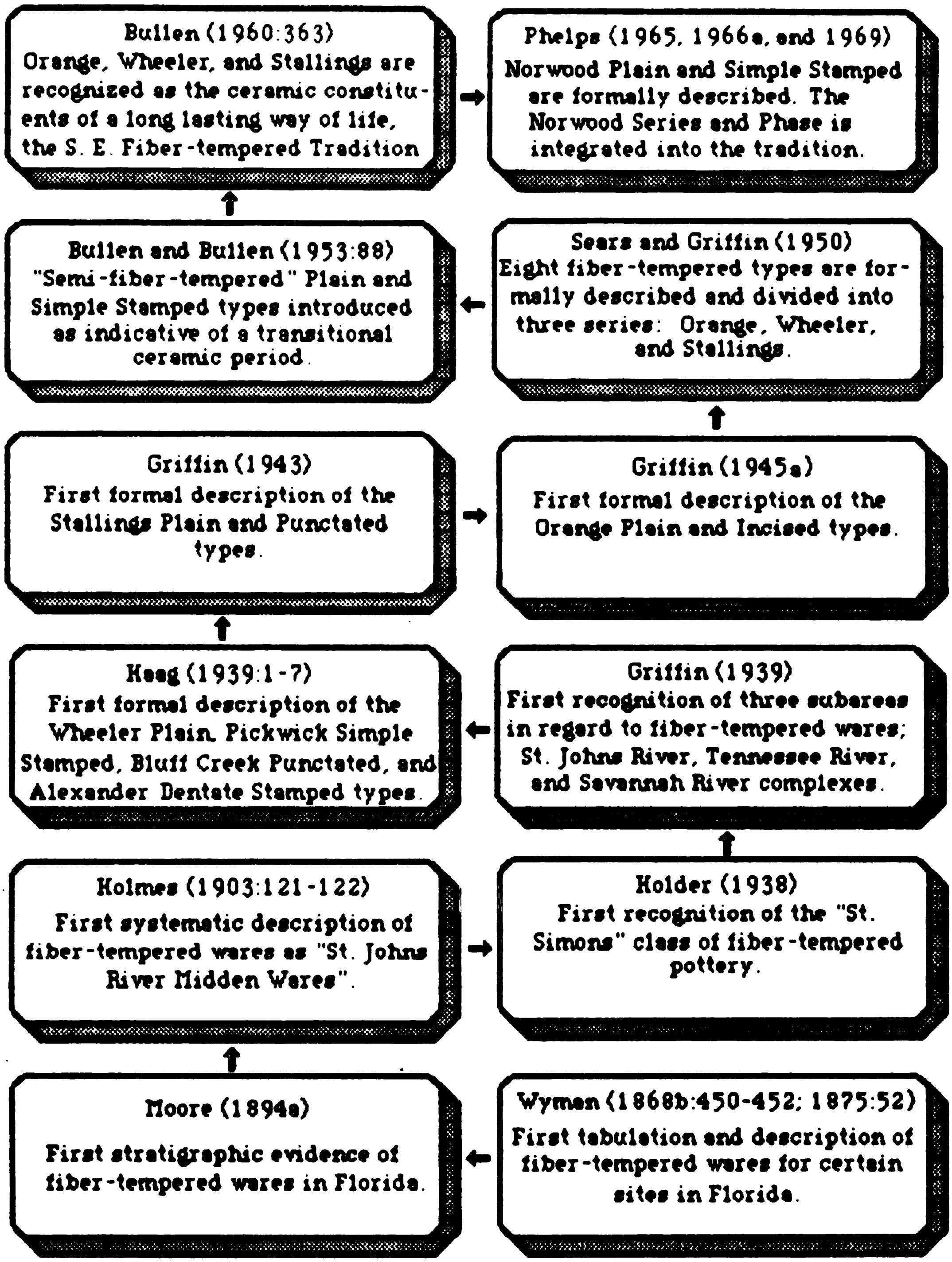


Figure 2. Pivotal steps leading to the development of the Southeastern Fiber-tempered Tradition concept.

Moore's nineteenth century explorations led to confirmation and further elaboration of Wyman's stratigraphy. Between 1892-1894, Moore published a number of descriptive reports on shell mounds. His contributions on the archaeology of the St. Johns River region are perhaps most important of all his efforts. His astute observations of actual stratigraphic relationships of fiber-tempered ware occurred during his extensive survey of the St. Johns River, Florida (Moore 1894d:211-212). At the Tick Island and Orange Mounds, he noted this pottery lay over extensive pre-ceramic remains and under fine-grained and shell-tempered types.

Holmes' significant contribution to the study of this ware was his ability to view fiber-tempered, soft chalky, and hard, fine-grained ceramics from a systematic comparative perspective. In his encyclopedic account, "Aboriginal ware of the Eastern United States," Holmes is credited with an early attempt at defining the botanical identity of fiber as pounded grass or bark (Wyman's "palmetto-fibre"), and for noting geographical distributional correlates for the pottery he described. Holmes (1894;1903) was first to place fiber-tempered ware in a regional perspective.

In addition, Holmes (1903:121-122) was also among the first to recognize the relative stratigraphic position of fiber-tempered ware. He distinguished two early ceramic periods in Florida; an early palmetto fiber tempered "Midden Ware" period coming immediately after an aceramic horizon and a later one characterized by chalky ware. Holmes' research at the turn of the century brought to a close the initial phase of research characterized by the rudimentary discovery, recognition, and description of this pottery. These early descriptive and distributional studies of the nineteenth century laid the foundation for the chronological considerations of the twentieth century.

The stock market crash of 1929 and the resulting economic depression of the early 1930's led to the organization of Roosevelt's Federal Emergency Relief Administration and to the start of a new era in the archaeology of the Southeast. The inception of archaeological salvage work under the Works Progress Administration, Tennessee Valley Authority, Civilian Conservation Corps, and other government agencies served as the impetus for intensive discussions over the classification and spatial distribution of fiber-tempered ware. The work of: Claflin (1931), Caldwell and McCann (1941), Flannery (1943), Goggin (1940), J.B. Griffin (1939, 1943, 1945a, 1945b, 1946), Haag (1939, 1942), Holder (1935, 1938), Kelly (1938), March (1934), McKern (1939) Stirling (1935), Waring (1934, 1939, 1940), Webb (1939), Webb and DeJarnette (1942, 1948a, 1948b, 1948c, 1948d), and Wimberly and Tourtelot (1941), brought forth the first classifications and regional chronologies based upon comparative ceramic analyses. The principal focus of this work shifted from earlier concerns with discovery and description of this ware, to the definition of cultural units, and the establishment of regional chronologies based upon relative dating techniques. This second phase of research originated around 1930 when studies concerned primarily with the relative chronological demarcation of this ware were in vogue. This phase began when William H. Claflin, Jr. (1931) published the results of his work at the Stalling's Island Shell Mound in Georgia. Claflin did not describe the pottery he found there as fiber-tempered, nor did he equate his finds with the fiber-tempered ware of Florida (Wyman 1875). In fact, the fibrous composition of Stallings sherds was not emphasized until Preston Holder (1935) published a brief report and mentioned the presence of "muck ware" fiber-tempered pottery on the Georgia Coast. Later, Holder (1938) would introduce the St. Simon's fiber-tempered nomen to classify ceramics collected from St. Simon's Island, Georgia. Initially, Arthur R. Kelly (1938:30) referred to this pottery as "grass-tempered ware" because he inferred that these vessels were tempered with a type of "wire grass" growing on coastal plain "crawfish soils". Much of the confusion over Claflin's (1931), Kelly's (1938), and Holder's (1938) different terminologies for Georgia fiber-tempered ware was cleared up by the publication of needed standardized ceramic type descriptions which became available to archaeologists in 1938 as a result of the inauguration of the Southeastern Archaeological Conference in Ann Arbor, Michigan (Caldwell and Waring 1939:6-7). That same year, James B. Griffin created the Ceramic Repository for Eastern United States at the Museum of Anthropology, University of Michigan, Ann Arbor. As a result of his study of the fiber-tempered collections housed in the repository Griffin attempted a regional cultural synthesis. He recognized three subareas of pottery development comprising eastern Florida, northern Alabama, and the border of Georgia-South Carolina. Ware representative of these areas were referred to as; St. Johns River, Tennessee River, and Savannah River complexes, respectively. Griffin (1939) compared the similarities of Alabama ware to those found on the coasts of Georgia, South Carolina, and Florida. Griffin (1939:160) called for more distributional studies because of his belief, "...that this method of tempering pottery has cultural importance." Due credit must be rendered to both William G. Haag (1939) and James B. Griffin (1939,1943) as the first to provide us with formal definitions of fiber-tempered types found in the Tennessee River's Pickwick, Wilson, and Wheeler Basins.

During the early and mid 1940's, there developed a vital need for hydro-electric dams across various rivers of the southeastern United States. Dam power was needed to run factories turning out wartime goods. Thus, reservoir construction instituted several River Basin Survey projects sponsored by the

Smithsonian Institution, United States Parks Service, and United States Engineers. These projects further promoted the study of fiber-tempered ware. One such study is Wimberly and Tourtelot's (1941) report of Wheeler ware from their investigation at the M^cQuorquodale Mound in Alabama. Another example is Caldwell and M^cCann's (1941) Irene site report. Publication of the Irene report drew to a close the prewar work accomplished in regard to the study of this ware.

The threshold of War World II interrupted much of the progress stimulated by relief agency excavations. However, during the war years and in immediate years following, an upsurge of interest developed for the study of this ware. Willey and Woodbury (1942) described fiber-tempered finds for the northwest coast of Florida. Haag (in Webb and DeJarnette 1942) discussed in some detail the ware found in Alabama.

As the war began, Charles H. Fairbanks (1942) reported the results of his excavation at the Stalling's Island type site. His work there resurrected interest in Stalling's pottery. The following year, J. B. Griffin (1943) formalized the classification of all Georgia fiber-tempered ware by subsuming all previous ware designations under one nomen-- Stalling's Island.

As the war ended, J. B. Griffin (1945a:223) discussed the significance of the fiber-tempered pottery of the St. Johns area in Florida and presented the first formal description of Florida's Orange ceramic types. He concluded that Orange ware may be recognized as one of the oldest types in the Southeast, and moreover, that it contributed decorative techniques and designs to later ceramic levels in the area.

By the late 1940's, a major scientific contribution, the discovery of radiometric dating, advanced the study of fiber-tempered ware. The introduction of the C^{14} dating technique led to a drastic alteration of our conception of the advent and diffusion of fiber-tempered ware. Radioactive carbon dating challenged previous temporal assumptions as the introduction of absolute dates enabled archaeologists to cross-date Formative sequences from one region to another. As a result, several classifactory advances were made in the study of fiber-tempered ware in the years to follow. For example, in 1950, William H. Sears and James B. Griffin subjected the fiber-tempered ware housed in the Ceramic Repository to closer scrutiny. As a result of their investigation, all fiber-tempered ware was classified as if it belonged to one of three regional "culture" areas: St. Johns River drainage of east Florida, Lower Tennessee River Valley of northern Alabama, or Savannah River basin of the Georgia-Carolina border. Eight types: Orange Plain and Orange Incised; Wheeler Plain, Wheeler Punctated, Wheeler Simple Stamped, and Wheeler Dentate Stamped; and Stalling's Plain and Stalling's Punctate were formally recognized as the representatives of these three regions, respectively. For each region, Sears and Griffin (1950) defined a ceramic *series* "... a group of pottery types which occur on the same ware and which are the product of a cultural group at a particular period of time." Their definition helped reinforce the long-established practice of equating "pottery" with "culture".

Ripley P. Bullen and John W. Griffin (1952) discussed the meaning of "semi-fiber-tempered" ware which was characterized by a double tempering technique that utilized both fiber and sand as additives. The following year, Bullen and Bullen (1953) reported additional finds of "semi-fiber-tempered" ware which they described as a "transitional" fiber-tempered ware of Florida.

Perhaps Bullen's major contribution to the study of fiber-tempered ware occurred when he recognized Orange, Wheeler, and Stalling's Island types as the ceramic constituents of a long lasting way of life defined as the Southeastern Fiber-tempered Tradition (Bullen 1960:363). The tradition grew to incorporate the "semi-fiber-tempered" ware found on the Florida Gulf Coast, when David S. Phelps (1965) subsumed all previous fiber-tempered types within the Big Bend Region of Florida into the formalized type descriptions; Norwood Plain and Simple Stamped. As a result, a new arena for the development of fiber-tempered pottery called the Norwood Phase was recognized and integrated into the SFT. Data from various field surveys and excavations have been used to embellish the four regional syntheses recognized since 1965.

In time, several comparative studies prompted by Bullen's synthesis were made (e.g. Rouse 1960; Reichel-Dolmatoff 1961; Phelps 1964; Meggers, Evans, and Estrada 1965; and Ford 1966, 1969). These studies led ultimately to an investigation of the origin and possible trans-and-intercontinental diffusion of this ware. So much interest was generated that a seven paper symposium on the nature and extent of fiber-tempered pottery was held, in 1969, during the 68th Annual Meeting of the American Anthropological Association in New Orleans. The New Orleans symposium would prompt publication of several regional syntheses of our knowledge of fiber-tempered ware three years later in *The Florida Anthropologist* (Bullen 1972, Stoltman 1972, and J. W. Griffin 1972).

In 1971, Charles Fairbanks published a brief article titled, "What do we know now that we did not know in 1938?" In that article he considered recognition of the importance of the far reaching implications of fiber-tempered ware as "...one of the major accretions of our knowledge over the past thirty years" (Fairbanks 1971:42). Our knowledge of fiber-tempered ware would continue to grow over the next two decades. The recent work of Walthall and Jenkins (1976) and Walthall (1980) on fiber-tempered ware and its part in the development of southeastern Formative culture during the "Gulf Formational Stage" has further increased our knowledge. Nor should the recent contributions of Sears

(1974), Jahn and Bullen (1978), Futato (1980), Milanich and Fairbanks (1980), Walthall (1980), Jenkins (1981), Simpkins and Scoville (1981), Reid (1984), and Simpkins and Allard (1986), Claassen (1986a, 1986b) be overlooked.

Previous and Current Interpretations of SFT Culture and Chronology

With the relevant historical data presented as a backdrop for our consideration, a brief summary of previous and current interpretations of culture and chronology is offered for each fiber-tempered ceramic series. Since 1960, the understanding of southeastern Formative lifeways has been enhanced by tracing the temporal development and spatial diffusion of fiber-tempered ceramics. However, not all of the ceramic representatives of the SFT are well defined or controlled in either time or space (Figure 3).

- The Norwood Phase Definition -

Of the four ceramic constituents of the SFT, it is the interpretation of the Norwood series that appears most problematic (Phelps 1965). The precedent was set for recognizing the double tempered vessels of this series as a representative of a distinct socio-cultural grouping when J. W. Griffin (1949) and Goggin (1949:24,1952:68,97) reported finding plain sherds containing both fibrous and sand temper within the St. Johns area of Florida. Phelps (1965:67) expanded upon this idea by creating the Norwood taxon and formally establishing the Norwood series. The Tucker site report underscored the importance of Gulf Coast fiber-tempered ceramic finds by instituting a Norwood phase for northwest Florida (Phelps 1966a). According to Phelps:

> "... the Norwood phase of the Big Bend region of Florida is defined by a fiber-tempered ceramic series including Norwood Plain, Norwood Simple Stamped, and a possible punctated type; by Savannah River, Gary, Newnan, and perhaps Eva projectile points; by Elliott's Point objects, steatite vessels, and possibly a few other traits." (Phelps 1969:13).

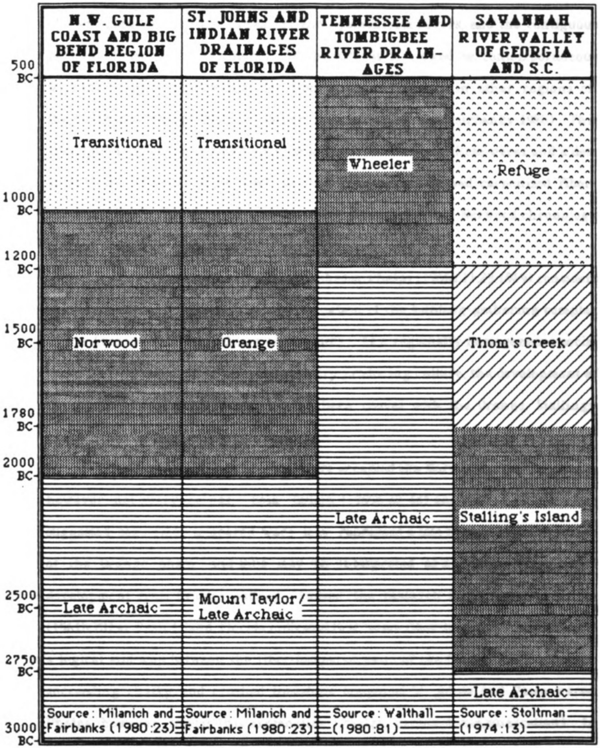


Figure 3. Current (SFT) Cultural Chronology.

Norwood ware is found in north central Florida, primarily within the area of Florida lying between the Suwannee and Apalachicola Rivers, and the contiguous portion of Georgia to the north. Temporally, it is viewed as contemporaneous with the range of known dates for fiber-tempered pottery in other regions of the Southeast (Phelps 1966a:19; Bullen 1961; Milanich and Fairbanks 1980). This assumption, however, is based upon its general similarity to those wares and a date of 1012 B.C. (Knauer et al. 1967) derived from the combined carbonized fiber-content of several Norwood sherds. The development of Norwood chronology may be traced in Appendix C.

Like other southeastern Formative phases, Phelps (1966a:11,23;1969) considers the Norwood manifestation to be a continuation of the hunting-gathering complex of the Archaic with the addition of ceramics. As a regionally homogeneous social variant of a general fiber-tempered pottery producing culture, the development of the phase is conceptualized as having been coeval with the Orange, Stallings, and Wheeler phases.

Since its inception in 1966, most have accepted the Norwood phase definition; however, not everyone has. Both Bullen (1969b:42-44) and Sears (1974:4) have suggested semi-fiber-tempered ware may represent a late regional manifestation of the Orange phase, and thus may be interpreted as a localized transitional development from Orange pottery. Indeed, the research by Bullen and Bullen (1961b:70) at Wash Island, Florida indicated that "semi-fiber-tempered" sherds form a logical mid-step between the fiber-tempered paste of the Orange period and the succeeding chalky and crushed limestone tempered St. Johns and Pasco wares. Phelps, however, rejects this explanation (Phelps, personal communication). In fact, he has suggested that Bullen's understanding of the Norwood series as a late Orange phase or Florida Transitional period variant is not correct (Phelps

1969:12). In Phelps' view a "built-in" transition occurred during the Norwood phase whereby the change from fiber to sand temper took place gradually, not by an abrupt transition as Bullen suggested (Phelps 1965:66-68). Thus the definition of the Norwood series includes all those ceramics found within the Big Bend Region of Florida, which contain fiber-tempering, regardless of the proportional amount of sand or other included aplastics (Phelps 1965:66).

In summary, aside from pottery, little is known of Norwood non-ceramic artifacts or lifeways. Since very few Norwood sites have been excavated we know very little about Norwood settlement, community, subsistence, and ceremonial patterning. Our current understanding is that the people who produced Norwood ware had an Archaic-like hunting-foraging subsistence pattern, and that they spent a great portion of the year outside of the interior highlands of Florida at central base, shell gathering stations.

- The Orange Culture Definition -

Our knowledge of Orange lifeways is based upon a firmer foundation. Initially, John Goggin (1947:123) recognized two fiber-tempered ceramic periods (Orange and Tick Island) coexisting within the northern St. Johns River region. Then, a year later, Goggin (1948:39) changed his earlier definition because the Tick Island period did not stand up on detailed analysis of its supposed importance. Thus, the Tick Island period was subsumed into the Orange period. Goggin (1952) assigned to the Orange period such non-ceramic artifacts: steatite vessels, *Busycon* gouges, *Strombus* celts, *Columella* chisels, thin grinding stones, bone awls, plain and incised bone pins, bone projectile points, and, incised turtle bones. John Griffin's (in J.B. Griffin ed 1952:324) summary of the Orange period, presented that same year, acknowledged these traits for Orange culture, and added shell discs to the list. Bullen (1954:47) expanded upon Goggin's (1948) work when he discussed culture changes during the Orange period based upon changes in pottery through time. Bullen's (1954) chronology of the Orange period arranged the presence or absence of certain ceramic technological attributes into five sub-periods. Orange 1 is a plain ware period with undecorated pottery, like ware from the lower fiber-tempered zone at Bluffton. Orange 2 is similar to Orange 1 except for the introduction of Orange Incised and Tick Island Incised, however, without the wide, decorated lips. Orange 3, as found at South Indian Field and the Cotton site, is similar to Orange 2 except for the presence of thicker body sherds and wide, flat, decorated lips, wider than the vessel walls. Orange 3 period ware also possesses a wider range of design motifs. Orange 4 would be similar to Orange 3 except for the introduction of steatite vessel fragments (i.e., Bullen 1954; Griffin and Smith 1954:44; and Ferguson 1951:43). Orange 5, the terminal Orange period, is a time when chalky St. Johns Incised or other non-fiber-tempered sherds are found in an undisturbed, predominantly fiber-tempered context. Site J-5 located on the Chattahoochee River offers a good example of an Orange 5 component as this site is composed of superimposed Archaic, Orange, Deptford, and Fort Walton zones. Five years later, Bullen (1959a:102-104) added information on vessel form for the Orange 1 and 2 sub-periods. According to Bullen (1959a:102), Orange 1 vessels are usually rectangular (sometimes circular) in cross section, about four inches deep with flat bottoms and straight sides having simple rounded rims and, sometimes, horizontally appended ears in the middle of the ends. Orange 2 vessels are similar to Orange 1 vessels, except for the usual omission of the appended ears. By 1972, Bullen curtailed his description of changes in Orange pottery through time to four periods, in an attempt to emphasize the cultural dynamics of a Florida Transitional period (previously referred to as Orange 5).

Milanich and Fairbanks summarized the current interpretation of Orange culture when they outlined its distinguishing characteristics as:

> "...the first appearance of pottery; handmolding (some coiling late); fiber-tempered. Early pottery all plain, later forms incised. Shallow, flat-bottomed bowls and rectangular vessels. First occupation of coastal lagoon" (Milanich and Fairbanks 1980:148, Table 2).

The Indian, St. Johns, and Oklawaha River drainages of Florida have long been recognized as major centers of Orange fiber-tempered pottery manufacture (Wyman 1875; Moore 1894d; Goggin 1947, 1948, 1952; Bullen 1972; Milanich and Fairbanks 1980). However, small sites with Orange period occupations are located along coastal shores, indicating a minor occupation of the littoral, as well. Temporally, the Orange culture dates from the end of the Mount Taylor period at 2000 B.C. to the beginning of the Florida Transitional period at 1000 B.C. Orange pottery of peninsular Florida was introduced to or independently developed in the middle portion of the St. Johns River Valley (Bullen 1972:20), around 2000 B.C. Orange culture held sway over this region until circa 1000 B.C. Radiometric dates ranging from 2150 to 750 B.C. are available for dating the Orange period (Bullen and Bryant 1965:28; Bullen 1972:11; Bullen and Bullen 1961b, and 1976:13; Crane and Griffin 1958a:1101, 1958b:1122; Lazarus 1965:109). The development of Orange chronology may be traced in Appendix D.

Milanich and Fairbanks (1980) concluded that Orange lifeways existed during both the Orange period proper, 2000-1000 B.C., when hunting and gathering was the main mode of subsistence, and the Florida Transitional period, 1200/1000 B.C.-500 B.C., when limited horticulture may have been practiced. They described the subsistence pattern of Orange people as a seasonal round. Winter months were spent on the coast in camps inhabitited by one or more family groups of 25 to 30 people. People manufactured pottery, gathered shellfish, fished, and hunted large and small mammals such as deer and rabbit. In addition, they ate sea birds, porpoise, domesticated dogs, and plants which they gathered along the coastal strand. With the coming of spring, people moved westward to the St. Johns River Valley, where central bases were established along the river. There they fished, produced pottery, and collected plant foods. Throughout the summertime, hunting, collecting, and fishing activities continued as berries, nuts, and fruits made up a large portion of their diets. Nut collecting activities increased throughout the fall. During these two seasons much of the collected food was stored for winter. Then winter was spent, once again, on coastal shell middens. In terms of settlement patterning, Orange people utilized riverine localities for making their camps which served as central bases, perhaps throughout the year. Of equal importance, however, is the initial occupation of the Atlantic and Gulf coastal strands during this period.

- The Wheeler Complex Definition -

The cultural interpretation of Wheeler ware began when William G. Haag (1939) and William S. Webb (1939) assigned the fiber-tempered ware found at northwestern Alabama sites Mg ° 2 and Lu ° 86 to the Lauderdale phase of Archaic cultural development. At that time, Webb felt the Lauderdale phase related closely with the Stalling's Island phase of Georgia. That same year, Webb (1939:2) sent sample potsherds collected during the Wheeler Basin survey to James B. Griffin (1939:139,160), for study and report. Griffin examined the ceramics and concluded that they represented the northern limit of spread from either an Atlantic Coast or Northwest Florida center.

Webb and DeJarnette (1942) expanded upon the previous classification by suggesting these types fit within the Lauderdale Focus, Pickwick Aspect, unknown phase, Archaic Pattern. It should be noted, Webb (in Webb and DeJarnette 1942), unlike Fairbanks (1942), placed the Lauderdale and Indian Knoll Foci together in a "Pickwick Aspect." Later, Miller (1950a:284) suggested Webb and DeJarnette's "unknown phase" be called "Southeastern" as an expression of its geographical limitation. His suggestion never caught on, however, since McKern's Midwestern Taxonomic system soon fell into disfavor among southeastern archaeologists.

In 1972, John W. Griffin summarized our knowledge of Wheeler ware. He indicated that its maximum concentration was restricted to the Pickwick Basin. He viewed the presence of the Wheeler series along the Tennessee River as:

> "... a late fiber-tempered manifestation which probably reached that area through the Tombigbee drainage (although there are other alternatives), and which proceeded to exploit the riverine environment, with heavy emphasis upon shellfish resources, in much the same way that other peoples producing fiber-tempered pottery exploited the resources of the sea, estuaries, and other rivers of the Southeastern Coastal Plain" (J. W. Griffin 1972:36).

Except for three radiocarbon dates made available during the sixties, we have very few dated contexts associated with Wheeler ceramics. Gagliano and Saucier (1963:326) reported a radiocarbon date of 1590 B.C. that may date a Wheeler sherd brought up by dredge bucket at the buried Linsley site. The Claiborne site's Wheeler component contained Wheeler Plain and Punctated sherds dated circa 1200 B.C. (Gagliano and Webb 1970:69). The development of Wheeler chronology may be traced in Appendix E.

Ned Jenkins (1974) discussed the position of the Wheeler series in southeastern prehistory and explored subsistence and settlement patterns in the Western Middle Tennessee Valley during the Transitional Archaic-Woodland period. Jenkins divided Wheeler components into two basic categories: those located on the river bank in upper levels of shell mounds, and sites located in upland microenvironments surrounding the river valley. He suggested that during the months of May through October, Wheeler people lived on the shell mounds by the river in macrobands subsisting primarily on shellfish, supplemented by game animals.

According to Jenkins (1974), people moved off these shell mounds in late October when they split into microbands and moved into the upland micro-environments. The occupation of upland sites was from November through April, when nut foods, a ready resource, could be supplemented by game animals such as deer, squirrel, raccoon, opossum, turkey, and rabbit. As spring flood waters subsided in May, people once again moved back onto the shell mounds.

Jenkins (1975:19) reworked his earlier ideas into an article examining the evidence for the origin and development of the series. He suggested a limited movement of Stalling's Island people from the Georgia-Carolina coast along the Gulf, north of peninsular Florida, to the Pearl-Pascagoula River drainage around 1300 B.C. However, Jenkins (1975:21) also noted, that the flat-based pan of the Orange series and the beaker form of the St. Johns series may have provided the stimulus for the Wheeler beaker vessel form.

Walthall and Jenkins (1976) presented the Gulf Formational Stage as an integrative concept for explaining Wheeler lifeways. Accordingly, Stalling's Island and Orange cultures existed during the Early Gulf Formational Period (2500-1200 B.C.), and Wheeler and Norwood cultures existed during the Middle Gulf Formational Period (1200-500 B.C.). During this stage, Wheeler people produced an assemblage consisting of fiber-tempered pottery, sandstone, and steatite vessels, stemmed projectile points (i.e., Cotaco Creek form), expanded-base drills, chipped bifacial tools, perforated ground stone bar gorgets, and a variety of bone and antler implements to intensively exploit riverine resources.

Dye (1977b), like Walthall and Jenkins (1976), emphasized the value placed upon hunting/gathering/fishing, but in addition, he raised the possibility of simple horticultural practices taking place during the Late Archaic in this area.

Walthall (1980:87-91) proposed that the heart of Wheeler culture was in the upper Tombigbee Basin and Tennessee River Valley. To trace its development he divided Wheeler culture up into two phases: the Bluff Creek phase of the western middle Tennessee Valley, and the Broken Pumpkin Creek phase of the upper Tombigbee drainage. Futato (1980) provided an additional overview of Wheeler Basin prehistory during the middle stage of the Gulf Formational Period. There he placed Wheeler ceramics within the context of the Bluff Creek phase. However, as of 1980, no specific assemblages had been isolated and reported for the Bluff Creek phase, and little was known about phase specifics. Nonetheless, Futato (1980:121) concluded that the presence of Bluff Creek phase fiber-tempered pottery in the Tennessee Valley indicated a movement of ideas rather than people. By 1981, only one specific assemblage had been isolated for the Bluff Creek phase.

Recent research in the Tombigbee drainage has revealed a concentration of Wheeler ware (the diagnostic ceramic made there during the Broken Pumpkin Creek phase 1200-500 B.C.) to rival Western Middle Tennessee Valley sites (Jenkins 1981;1982). Jenkins (1982:5) reported the presence of a six foot deep stratified midden deposit at site 1 Lu 59 containing a pure Wheeler zone characterized by plain and punctated sherds. These sherds were the predominate forms present in the lower three feet of midden. Plain, simple, and dentate-stamped sherds were found to increase in frequency throughout the upper three feet of midden.

As an explanation for the origin of Wheeler culture, Jenkins (1982:6) postulated early Wheeler ceramics resulted from steatite trade between Poverty Point and Stalling's Island Complex 2 groups, as he recognized several marginal sites located along the lower Chattahoochee River to be a part of the overall Stalling's Island distribution. To reinforce the implication that the Wheeler series is morphologically similar to the Stalling's Island series, Jenkins and Paglione

(1982:8) cited ceramic evidence provided by Sears and Griffin (1950), Jenkins (1975), and Walthall and Jenkins (1976).

Most recently an unnamed variant of fiber-tempered pottery has been reported from Missouri by Kenneth C. Reid (1984). The existence of Missouri fiber-tempered ware was first noted in the early fifties when Wilfred Logan (1952) excavated Graham Cave, an Archaic site located in Montgomery County. Logan (1952:60) discovered a single fiber-tempered basal sherd in Level IV of the cave. Twenty six years later, Reid (1978) recovered fiber-tempered pottery from the Nebo Hill site (23 Cl 11) located just east of Kansas City, Missouri. Reid's find was followed by Schmits and Wright's (1981) discovery of fiber-tempered pottery at the Turner-Casey site (23 Ja 35) located in the Little Blue valley just south of Kansas City, Missouri. One year later, Blakeslee and Rohn (1982) reported fiber-tempered pottery from the Doherty site (14 MM 27), located in the upper Marais des Cygnes basin southwest of Kansas City, Missouri. Reid discussed the meaning of the fiber-tempered sherds of the Nebo Hill phase located in western Missouri and eastern Kansas, and offered a taphonomic model to explain this northern distribution of fiber-tempered pottery as a product of the interacting variables of ceramic porosity, ambient soil moisture, winter temperature, and time, rather than as a direct reflection of prehistoric cultural dynamics (Reid 1984:56). He sees the distributional patterns of fiber-tempered ware and the cultural interpretations based on them as significantly biased by unexamined environmental variables, of which latitude is the most important. Thus, Reid suggested that an explanation for Missouri ware requires, " a major reappraisal of the assumed distribution and antiquity of Late Archaic ceramics in eastern North America" (Reid 1984:55). He concluded that, "...the presumed southeastern hearth of Late Archaic fiber-tempered pottery represents a preservational enclave where porous ceramics are less vunerable to decompositional processes typical of temporate zones" (Reid 1984:56). Given the northern extent of Wheeler distributional data presented in this work it seems best to refer to Reid's Missouri finds as Wheeler (Nebo Hill) ware until its distribution within the Plains culture area is better understood (Figure 1). To conclude, currently little is known about the specifics of Wheeler culture except for its definition based upon ceramic criteria (Futato 1980:121).

- The Stalling's Island Culture Definition -

Early attempts at the cultural classification of Stalling's Island ware began with Claflin (1931). Later, Fairbanks (1942) assigned material culture from Claflin's type site to the "Savannah River Focus." He supplied a detailed trait list comparison of artifacts found there, which he compared to traits from the "Green River Focus" Archaic freshwater shell heaps of Kentucky. He concluded that the Savannah River Focus of Georgia, Lauderdale Focus of northern Alabama, and Indian Knoll Focus of Kentucky should all be included within a "Shell Mound Aspect."

Miller (1949:30) indicated that Stalling's ware collected from the Lake Spring site belonged to the Savannah River Focus, Stalling's Island Aspect, of the Woodland Pattern. Later, Miller (1950a) changed his "Woodland" Pattern designation to "Archaic" Pattern. But wide usage of Fairbank's (1942) and Miller's (1949) term, "Savannah River Focus" by others did not result until Caldwell (in J.B. Griffin ed 1952:312) published the first synthesis of South Carolina prehistory.

M^c^Michael and Kellar (1960:205-206) excavated within the Oliver Basin to salvage data from several archaeological sites that would be inundated during the formation of the basin. Departing from earlier interpretations, they suggested that Stalling's Island pottery represented an Early Woodland derivation, and moreover that, "...there is some evidence to indicate that the fibre-tempered pottery making peoples did not rely greatly on the river (shellfish) for sustenance, rather they engaged in the seed gathering economy of the later Early Woodland peoples." The following year, Kellar, Kelly, and McMichael (1961:94) suggested that the Stalling's Island ware uncovered during their explorations at the Mandeville site in southwest Georgia indicated a movement of the Orange series up the Chattahoochee in pre-Deptford times.

By the mid-sixties, Stoltman (1966:872) reported two early absolute dates 2515 and 2505 B.C. for Stallings Plain ware, obtained from samples from the Rabbit Mount site, South Carolina. These dates indicate that Stalling's Island ware is the oldest ceramic complex presently known in North America, predating the appearance of northern Woodland ceramics by well over one thousand years. Rabbit Mount dates, suggesting an antiquity on the order of 4,500 years, are nearly 500 years earlier than present dates from fiber-tempered sites located in the Savannah River Delta (Ford 1969:Chart 1). The development of Stalling's Island chronology may be traced in Appendix F.

Bullen and Greene (1970:16,Table 5), on the basis of their research at Stalling's Island, Georgia, suggested three sequential ceramic complexes characterizing the development of Stalling's Island ware. First, a Stalling's Island 1 Complex characterized by undecorated pottery. Then, plain sherds and simple punctated sherds with their punctations loosely spaced, coexisted during a Stalling's Island 2 Complex. Finally, plain, simple punctated, and stab-and-drag punctate wares coexisted during Stalling's Island 3 Complex. Bullen and Greene also noted a great range of ceramic variation in regard to the amounts of sand present in the paste of Stalling's Island ware, as well as the existence of a few Stalling's vessels with inturned casuela-like upper sides.

Stephen Williams suggested that the development of Stalling's Island culture could be thought of as being made up of a series of three similar but regionally separable phases:

> "First there is the Stalling's Island phase known from the type site (Claflin, 1931) and a number of other nearby components; second the Bilbo phase with components Bilbo 2, and Deptford 1 and some other nearby components Meldrim 1 and the Oemler Marsh (Caldwell, 1952, p. 314). The third phase may be termed St. Simons for the sites first worked there by Holder (1938), and includes the Sapelo Rings, some sites in Glynn County, and at Valona, McIntosh County (Caldwell 1952: 314)" Williams (1977:320).

A few years later, Milanich (1971a:119-128) suggested a bipartite division for the development of fiber-tempered ware on the Georgia coast when he introduced the concept of a "Coastal Tradition". Milanich (1971a:120) proposed that the Stalling's Island and Bilbo Phases be signaled out and placed together under the ruberic, "Savannah River Tradition", while the Sapelo and St. Simons phases are described by Milanich (1971a:123) as cultural expressions of a Coastal Tradition. Milanich clearly states his position in the following quote:

> "... by about 3000 B.C. the Savannah River Tradition was flourishing in the river valleys of eastern Georgia and in South Carolina, especially near the Fall Line ecotone. The contemporary Coastal Tradition is unknown at this time. About 2500 B.C. fiber-tempered pottery appeared in the Savannah River Tradition. Shortly after this time plain pottery diffused down the Savannah and other rivers to the coast where it was adopted by the Coastal Tradition peoples. The appearance of shell-ring middens and the perhaps coincidental appearance of fiber-tempered pottery marked the beginning of the Sapelo Phase. The earliest pottery in both the Savannah River and the Coastal Tradition was undecorated" Milanich (1971a:126).

Stoltman (1972:42:55), favored assigning all indigenous fiber-tempered pottery of the Savannah River Region to the Stalling's Island ceramic series. Thus, his interpretation of the Stalling's Island period offered two models for Stalling's Island cultural development, each based primarily upon ceramic criteria. The first model is tripartite -- Stalling's Island I (preceramic), Stalling's Island II (plain fiber-tempered pottery), and Stalling's Island III (plain and decorated fiber-tempered pottery). The second model is dichotomous -- Stalling's Island I (pre-ceramic), Stalling's Island II both plain and decorated fiber-tempered pottery).

A significant contribution to the study of fiber-tempered pottery occurred when Stoltman (1974) published a monograph titled, "Groton Plantation: an Archaeological Study of a South Carolina Locality." In that work, he described and analyzed Formative material culture collected from twenty-one sites on Groton Plantation during the summer of 1964. There his tripartite model of Stalling's Island development was employed. All three Stalling's Island phases appeared in sequence between 3000 and 1000 B.C. The basic assemblage associated with Stalling's Island pottery consists of the following: large, stemmed, projectile points/knives (Savannah River Stemmed); cruciform drills; unifacially retouched flakes; large preforms; hammerstones; chipped and polished axes; adzes; anvils; polished atlatl weights; steatite vessels; steatite net sinkers; antler and bone pins; antler projectile points; bone awls; and grinding stones (Stoltman 1972,1974). According to Stoltman (1974:18-19,234), during the Stallings II and III phases, shellfish exploitation reached its peak along the lower Savannah River and then suffered a marked decline. As the Stalling's Island economy declined, fiber-tempered ware was replaced by the introduction of Thom's Creek and other sand tempered types.

To conclude, current interpretation holds that Stalling's Island people with an Archaic hunting/gathering economy supported themselves in large part by the intensive gathering of shellfish. Carbon dates from the Savannah River Basin suggests fiber-tempered pottery has an antiquity on the order of 4,500 years. It is unlikely the Stalling's Island lifeway persisted much past 1000 B.C. The full range of Stalling's Island radiometric determinations may be found in: Bullen (1961:104), Walthall (1980:68), Crane and Griffin (1958b: 1122), Bullen (1972:19), Crusoe (1972:37), Crane (1956:665), and Greene (1964).

Unfortunately, we control very little distributional evidence in regard to Stalling's Island non-ceramic artifacts. Similarly, we know very little of Stalling's Island settlement, community, subsistence, and ceremonial patterning.

Conclusions

In the preceding pages, four discrete SFT cultural interpretations, each based upon the spatial and temporal distributions of certain fiber-tempered ceramic types, have been presented. Traditionally, each ceramic series has been presented as an independent contributor to the overall development of the tradition. But do these four Formative "cultures" defined exclusively or nearly so on the basis of ceramics constitute a tradition by which cultural events may be ordered? Obviously before one may genuinely establish the cultural dimensions of southeastern United States during the Formative period, fiber-tempered pottery must first be viewed in proper perspective -- within the context of a total cultural system.

In the following pages, we will inspect all the material evidence for southeastern Formative cultural development and try to determine where, when, and why those developments took place. The archaeological research reported here was conducted in three broad stages. Chapter 2 deals with the creation of a data base. Chapter 3 deals with a search for spatial and temporal regularities within the data, and, examines why those regularities occur the way they do. In the final chapter, some conclusions are drawn about the usefulness of the current four-fold cultural interpretation of southeastern Formative life-ways, in light of the findings of this study.

CHAPTER 2: DATA BASE DESCRIPTION

Introduction

The preceding chapter dealt with SFT cultural inferences drawn primarily from ceramics. The present study accepts none of the above inferences as conclusive. The purpose of the present study is to provide a synthetic, objective analysis of SFT artifacts (ceramic and non-ceramic) on a pan-southeastern scale. It should be possible to derive greater explanatory power from a holistic analysis than from previous analyses based upon ceramic criteria alone. At this point, the methods employed to create a data base are considered.

Nature of the SFT Site Sample

The site sample enumerated within this analysis is derived from SFT sites distributed within the region outlined in Figure 1. The method of site selection was carried out in a non-statistical, non-random fashion as published SFT site documentary sources were searched (Appendix A provides a numerical listing and brief description of 698 SFT sites reported in the literature). Once selected, each Formative site containing fiber-tempered pottery was examined to determine if it contained either a "Pure" or "Mixed" Formative component as defined or indicated by the excavator. For example, a "Pure" Orange component may contain any combination of Orange Plain, Orange Incised, Orange Punctated, or Tick Island Incised specimens, whereas a "Mixed" Norwood/Orange component contains a mixture of Norwood and Orange types. Fiber-tempered types from "Mixed" sites are usually found within the same component. Rarely, types come from two components separated stratigraphically.

All of the SFT sites examined were placed into one of nine ceramic categories (Figures 4, 5, 6, 7, 8, 9, and 10). Each category along with its member types is listed below: [1] *"Pure" Norwood sites* (with any combination of Norwood: Plain, Simple Stamped, Punctated, or Incised; Semi-fiber-tempered: Plain and Simple Stamped; Semi-chalky, Semi-fiber-tempered types; Semi-fiber-tempered, Semi-Pasco: Plain and Punctated; or Suwannee Plain types). [2] *"Pure" Orange sites* (with any combination of Midden Ware; Untempered Muck Ware; or Orange: Plain, Incised, and Punctated, or Tick Island Incised types). [3] *"Mixed" Norwood /Orange sites* (with any mixture of Norwood and Orange types as listed above). [4] *" Pure" Wheeler sites* (with any combination of Wheeler Plain, Pickwick Simple Stamped, Bluff Creek Punctated, or Alexander Dentate-Stamped; Wheeler: Simple Stamped, Punctated, or Dentate-Stamped types; Wheeler Plain var. Noxubee, Wheeler Plain var. Wheeler, Wheeler Simple Stamped var. Owl Creek, Wheeler Punctated var. Dancy, Wheeler Punctated var. Panola, or Wheeler Dentate Stamped var. Warsaw), also included here are *"Pure" Wheeler (Nebo Hill) sites* (a suspected unnamed plain variant of Wheeler ware). [5] *"Mixed" Norwood/ Wheeler sites* (with Wheeler types found in association with either semi-fiber-tempered types, Norwood sherds, or fiber-tempered sherds with very sandy paste). [6] *"Pure" Stalling's Island sites* (with any combination of Delta Ware; Vermiculated Ware; Theta Grass Extruded; Bilbo: Plain or Decorated; Griffin Impressed; Saint Simon's: Plain, Incised, or Punctated; Stalling's Island: Plain, Punctate, Incised, or Simple Stamped; Stallings Plain var. Stallings; or Cargile

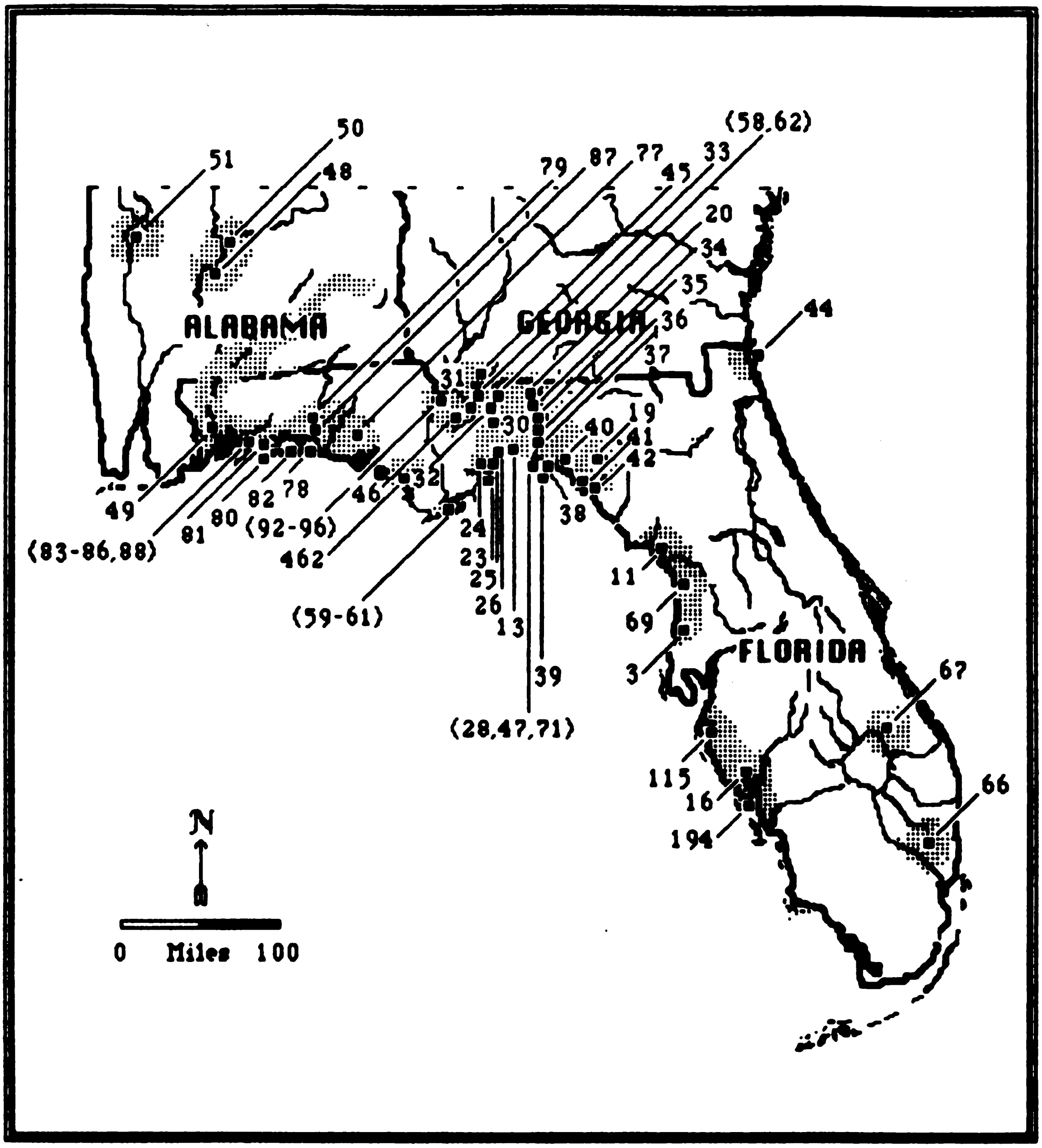


Figure 4. Spatial distribution of "Pure" Norwood pottery components.

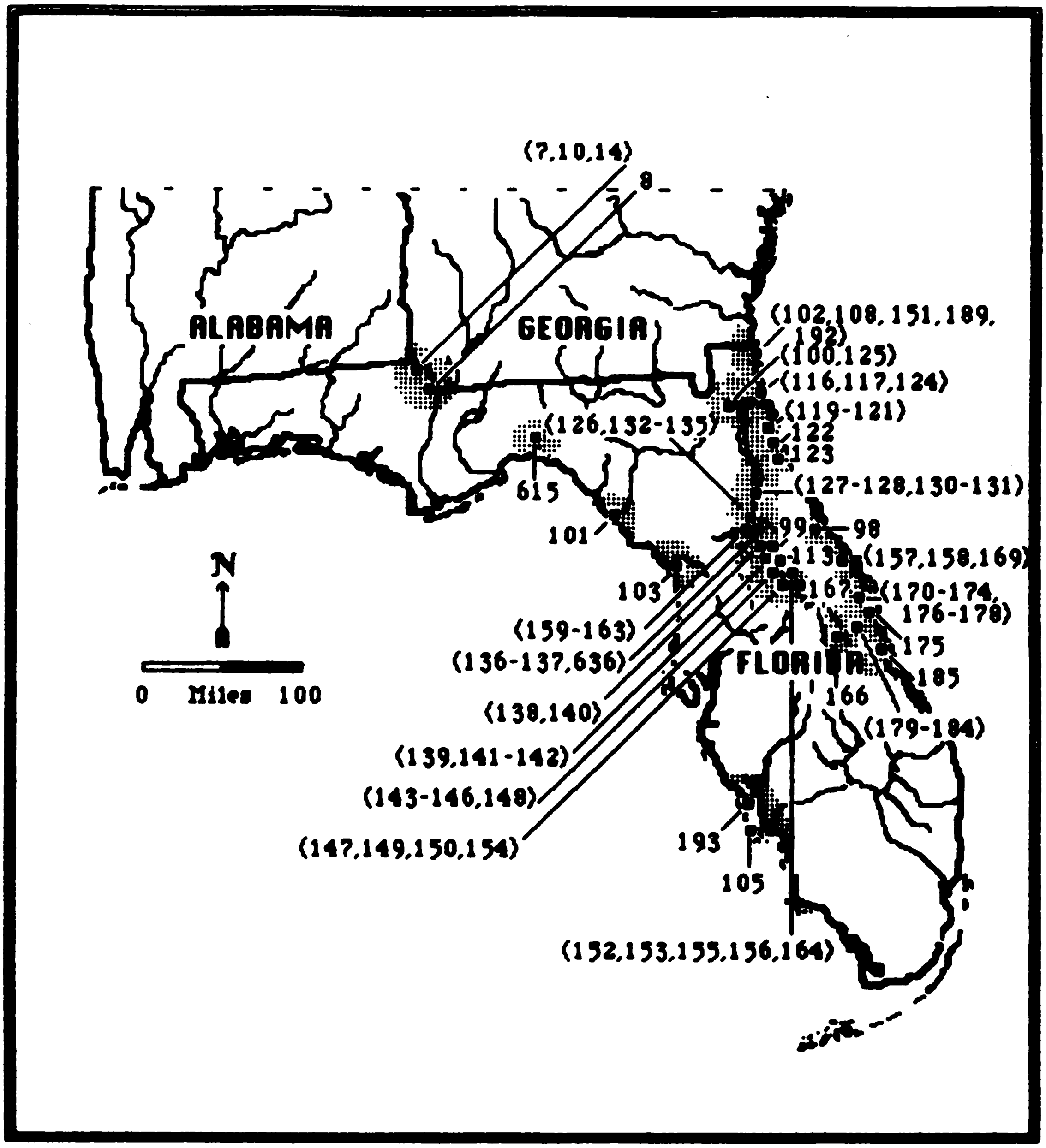


Figure 5. Spatial distribution of "Pure" Orange pottery components.

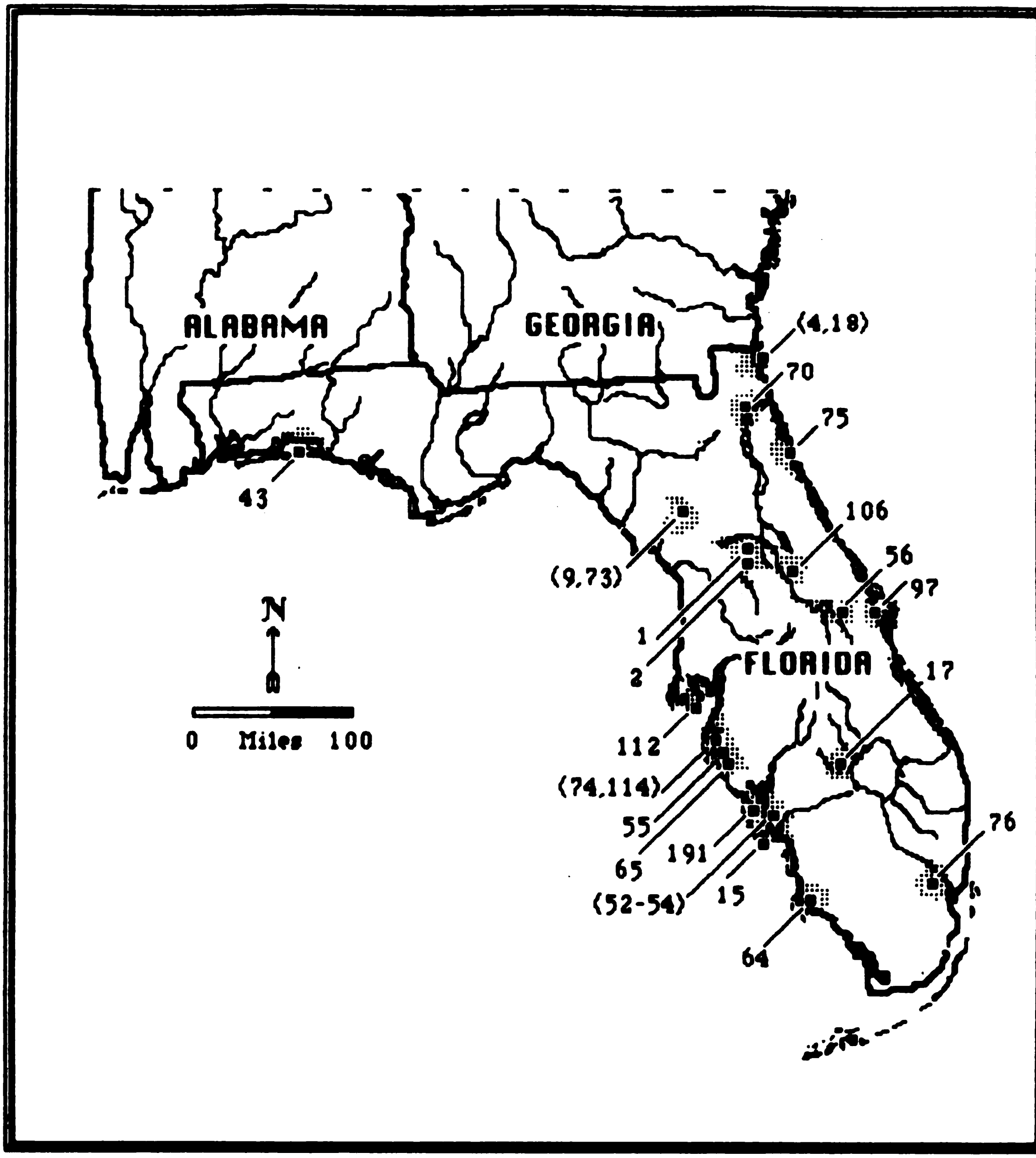


Figure 6. Spatial distribution of "Mixed" Norwood/Orange pottery components.

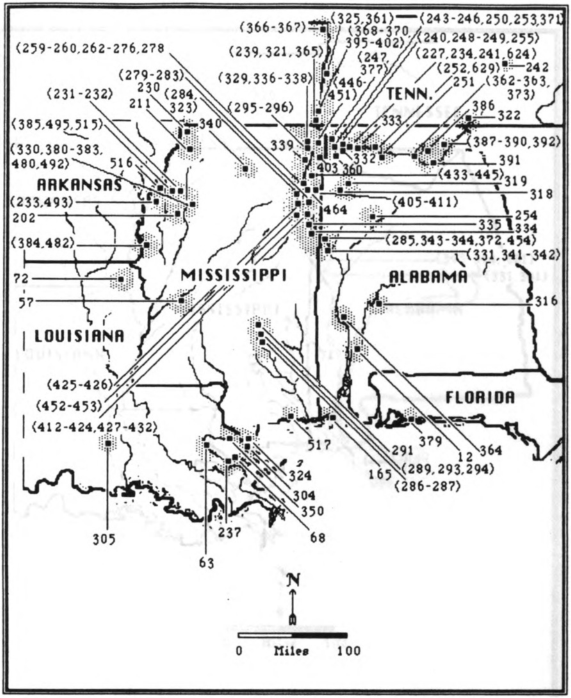


Figure 7. Spatial distribution of "Pure" Wheeler pottery components.

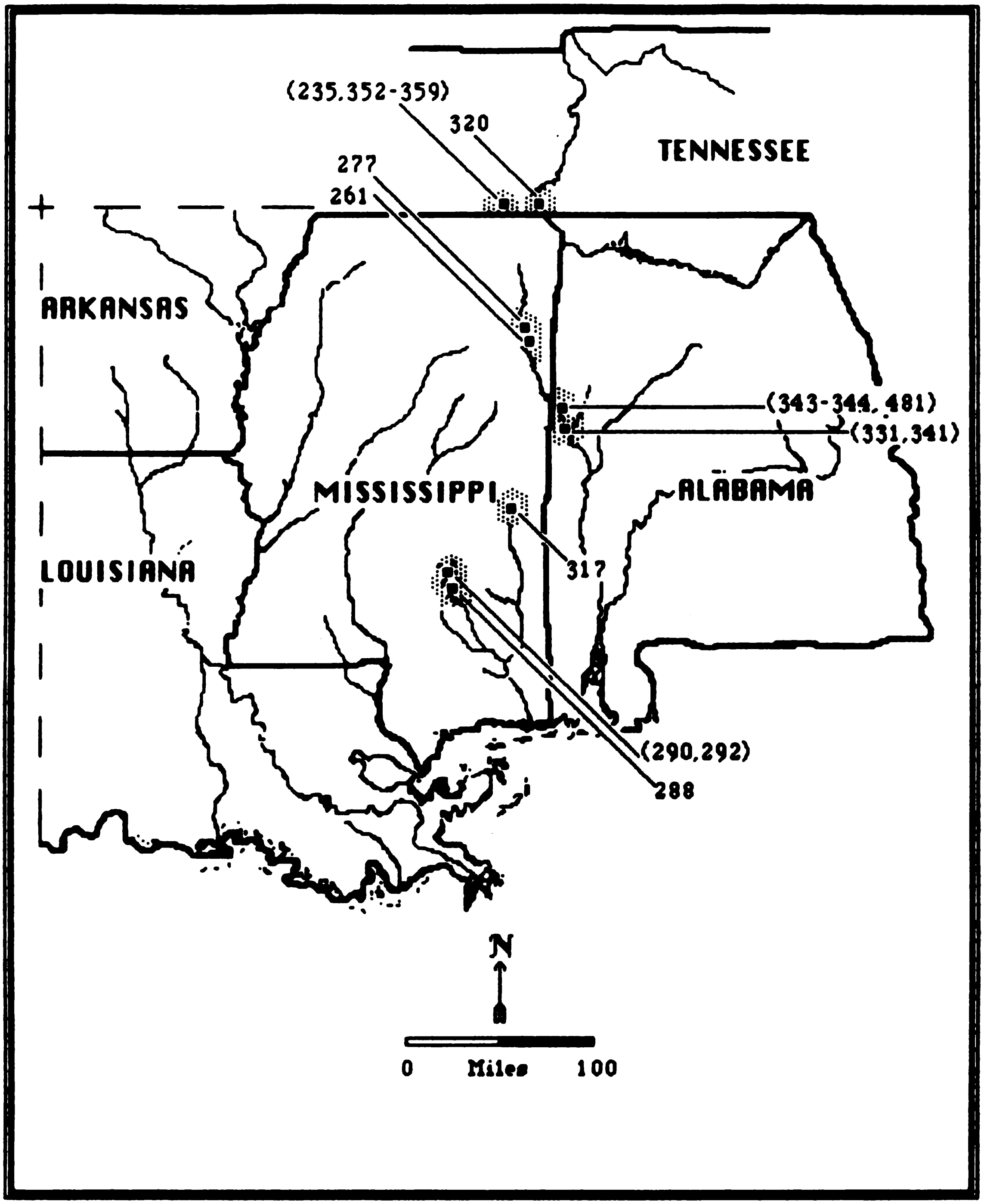


Figure 8. Spatial distribution of "Mixed" Norwood/Wheeler pottery components.

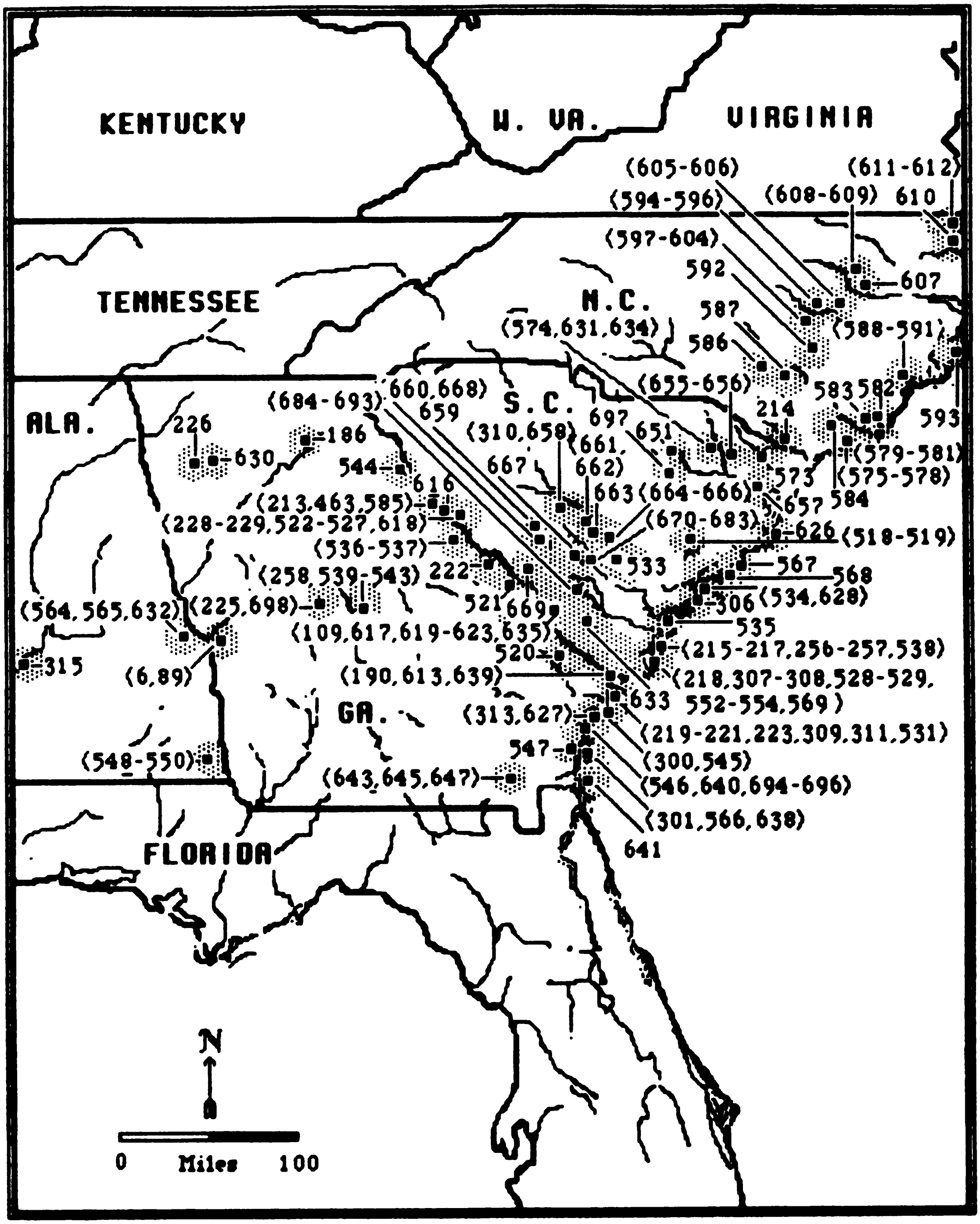


Figure 9. Spatial distribution of "Pure" Stalling's Island pottery components.

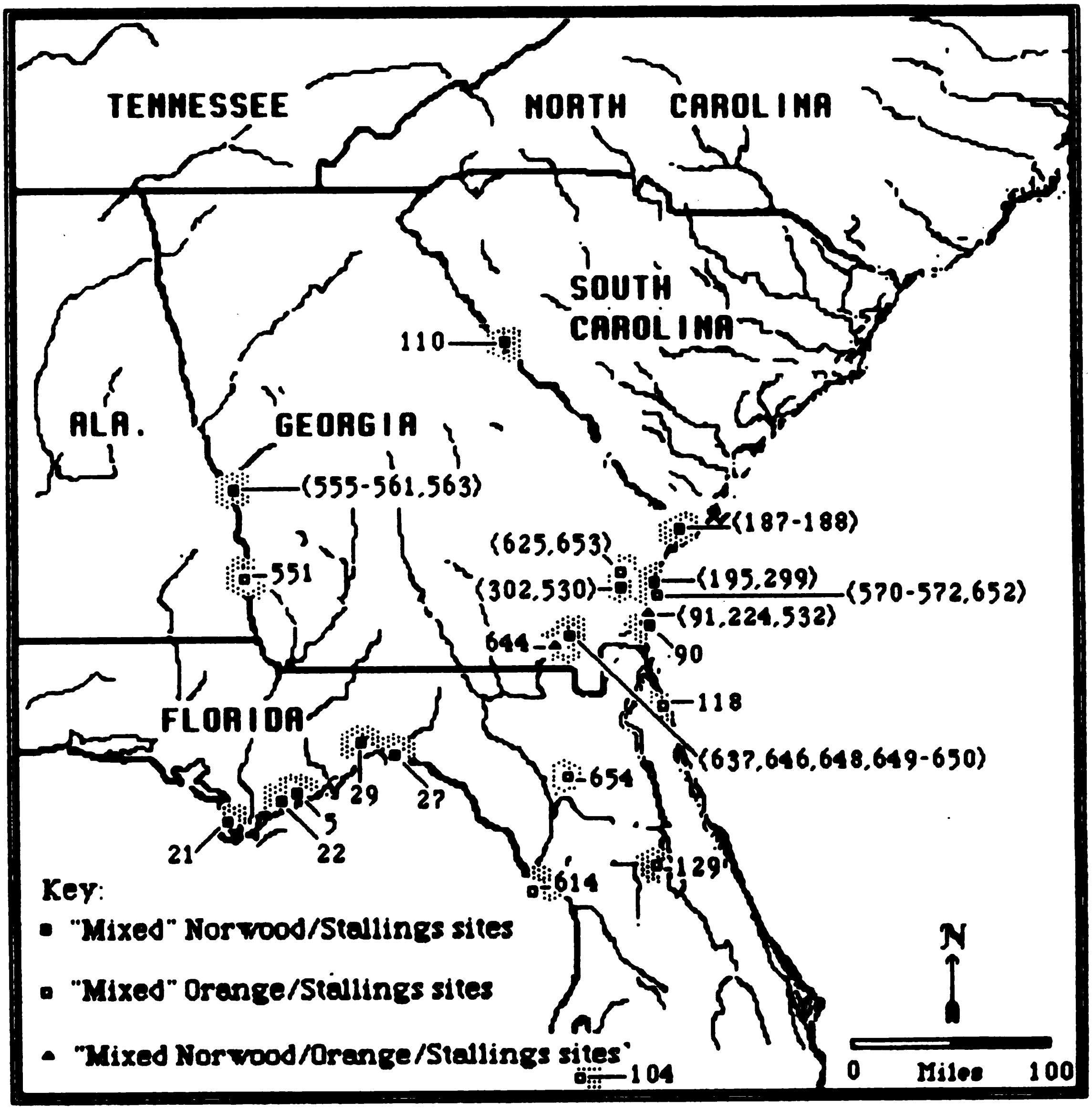


Figure 10. Spatial distribution of "Mixed" Norwood/Stallings; Orange/Stallings; and Norwood/Orange/Stallings pottery components.

Plain types). [7] *"Mixed" Norwood/Stalling's Island sites* (with any combination of Norwood and Stalling's Island types listed above). [8] *"Mixed" Orange/Stalling's Island sites* (with any combination of Orange and Stalling's Island types listed above). [9] *"Mixed" Norwood/Orange/Stalling's Island sites* (with any combination of Norwood, Orange, and Stalling's Island types listed above).

Among the 698 Formative sites investigated (Appendix A), only 179 sites yielded both ceramic and non-ceramic data (Appendix B). Fifty five of the sites studied appeared to be suitable for inclusion in a group of sites to be used to make inter-site comparisons. Those sites deemed suitable contain fiber-tempered pottery plus a minimum of five other Formative artiacts, found in association. Non-ceramic artifacts are considered in association with fiber-tempered ware when found within the same site: level, zone, stratum, or component. Existing bias in the data, plus any bias introduced into the analysis from raw data selection and coding is discussed in Chapter 3.

Nature of the SFT Artifact Sample

Having described the SFT site sample, the nature of the SFT ceramic and non-ceramic data base will now be briefly described. A total of 34 of the artifacts listed in Appendix B were chosen for study. These are as follows: plain fiber-tempered pottery, incised fiber-tempered pottery, punctated fiber-tempered pottery, dentate-stamped fiber-tempered pottery, simple stamped fiber-tempered pottery, stone vessels, shell vessels, baked clay objects, grindstones, nutstones, choppers, basally-notched projectile points, corner-notched projectile points, side-notched projectile points, stemmed projectile points, bone points, antler wrenches, atlatl weights, atlatl hooks, hoes, net sinkers, fishhooks, hollow bone tubes, polished and faceted pebbles, microliths, whetstones, sandstone abraders, pumice polishers, gravers, reamers, wedges, adzes, gouges, axes, celts, drills, spokeshaves, denticulates, shell hammers, shell picks, chisels, gorgets, incised imitation mammal mandibles, incised mammal mandibles, plummets, pendants, shell discs, bone pins, incised fish bone, incised turtle carapace, incised otter and raccoon bacculum, tubular pipes, and figurines.

SFT Ceramic Data

A comprehensive search of the literature produced a fiber-tempered ceramic sample of 45,159 potsherds; only four restorable vessels are reported. Generally, plain fiber- and semi-fiber-tempered potsherds predominate throughout all areas of SFT occupation. However, early potters experimented with a variety of decorative techniques applied to vessel lips and exteriors. Five pottery classes are represented in the sample by plain, incised, punctated, dentate-stamped, and simple stamped types. The distribution of these pottery classes among the classifactory units at the core of the SFT will be examined in the following pages.

- Norwood Ware -

Norwood ware are examined first. The preponderance of Norwood sherds are undecorated (Appendices G, H, K, L, P, Q, U, V, A1, and B1), nevertheless, four types of ware (Figure 11) are recognized as integral constituents of the Norwood series.

Before the introduction of the Norwood nomen, this ware was described by various terms including: *"semi-fiber-tempered"* (Goggin 1940; 1947; Bullen and Griffin 1952; and, Bullen and Bullen 1953); *St. Simon's* (Willey 1949:359); *Suwannee Plain* (Goggin 1950a:47); *Orange* (Bullen 1950:122); and, *"unclassified fiber-tempered"* (Sears 1963:27). Phelps' (1965) initial description of

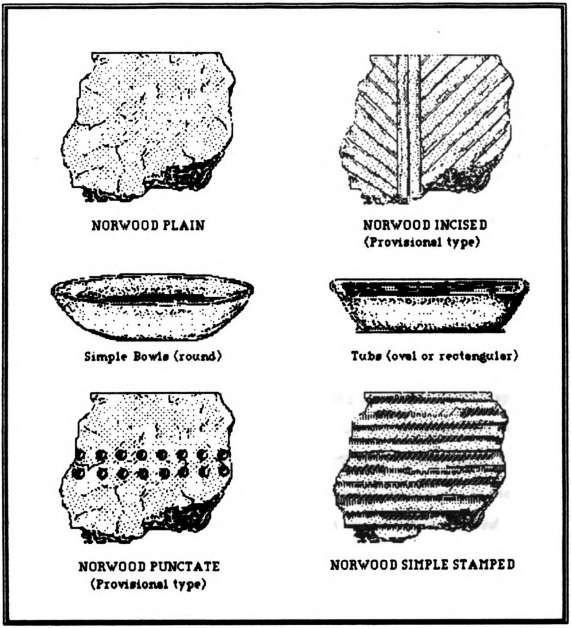


Figure 11. Norwood Series of fiber-tempered pottery.

the Norwood series included definitions for two types: *Norwood Plain* and *Norwood Simple Stamped*. According to Phelps (1966a:22-23), the twin trademarks of the Norwood nomen are its characteristic double temper comprised of a mixture of sand and fiber and its regionally distinctive simple stamped decorative technique. Norwood Plain varies widely in wall, lip, and base thickness and in the amount of clastic tempering material with the fiber. Norwood Simple Stamped (the phase distinctive type), while possessing the same paste characteristics, is decorated with the impression of a simple tool (a single dowel). Dowel impressions are usually applied in a parallel fashion. However, some may exhibit a second set of dowel impressions applied over the first at slightly acute to right angles or in a random fashion (Phelps 1965:Fig. 3 g,j). More rarely, "cross-stamped" specimens, often with a final application more lightly impressed and made with a smaller tool (Phelps 1969:4) are found. Rarer still are Norwood specimens that appear "brushed". Their exterior surfaces cast a "Mossy Oak-like" simple stamped impression. Wheeler Simple Stamped specimens bearing a similar treatment appear indistinguishable from this variation of Norwood pottery (Shannon 1979: 44 and see Wheeler Simple Stamped specimens 7043 and 7097 from Alabama sites Lu ^{0} 59 and Lu ^{0} 86 housed in the University of Michigan, Ceramic Repository). In the late sixties, Phelps (1969:13) recognized a third variant, *Norwood Punctated*, as a provisional type of the series. Nearly a decade later, Jahn and Bullen (1978:Figs. j and m) indicated the existence of a fourth provisional type for the series, *Norwood Incised*. Currently, neither provisional type has been formally defined.

Regardless of decoration, the dominant Norwood vessel shape is a modeled, simple round bowl with either a round or flat base. However, evidence also exists for long oval or rectangular "tubs" with flat bases. It is estimated that Norwood vessel diameters range to at least 30 cm and may have reached an estimated height of 25 cm (Phelps 1965).

- Orange Ware -

Like Norwood ware, the preponderance of Orange potsherds are undecorated (Appendices I, J, K, M, X, Y, A1, and C1). Orange ware is distinguished from Norwood ware by its palmetto fiber-tempered, (sometimes chalky, usually sandless) paste and its geometrically incised decorative designs. The earliest recognition of Orange ware occurred in 1860 and again in 1867 when Wyman (1868b:450-452) investigated and described its presence within shell middens of the St. Johns River, Florida. Other earlier contributors whose pioneering studies laid the foundation for a recognition of the cultural importance of Orange fiber-tempered ware include: Moore (1894d:211), Holmes (1894:106,113-114,128), Blatchley (1902), Hitchcock (1902), and Stirling (1935). That recognition came when James B. Griffin (1945a:218) noted the significance of the fiber-tempered pottery of the St. Johns River, Florida. He formally described ware found along the St. Johns as belonging to the Orange series. The series is composed of three types; *Orange Plain*, *Orange Incised*, and one apparent early variant of the Orange Incised form, a type known as *Tick Island Incised* (Ford 1966:786;1969:171). Griffin (1945a:218) discussed the relationship of Orange ware with other fiber-tempered ware of the Southeast, and discussed the implication of designs found on Orange Incised.

Together, Sears and Griffin (1950) restated Griffin's earlier definition of the Orange series with some revisions. However, the three Orange types named as of 1950 did not include all those potentially eligible for definition. Thus, two decades later, Bullen (1972:Fig.9,1) introduced a fourth type, *Orange Punctated* and gave it provisional status within the Orange series (Figure 12). Goggin described Orange Plain as the basic fiber-tempered ware of the St. Johns

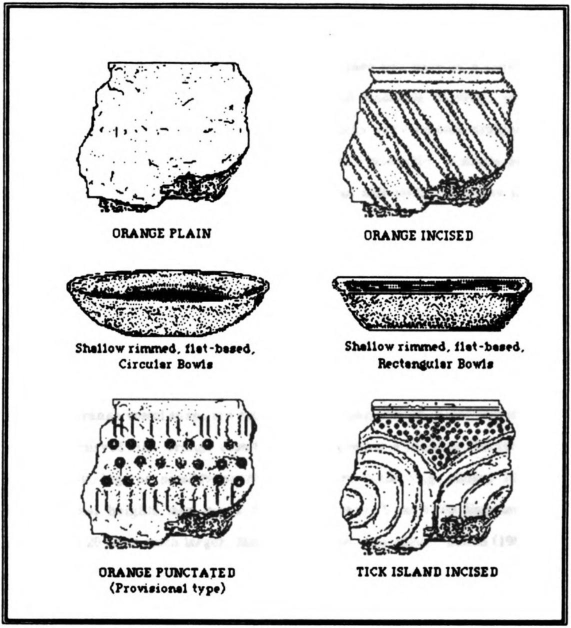


Figure 12. Orange Series of fiber-tempered pottery.

region, and stated that:

> "In its typical form fiber was the only tempering material, which on firing burnt out leaving a characteristic honey combed appearance. However, the later forms of the ware often have quartz sand as an added aplastic, and some examples tend towards chalky ware (St. Johns series) in texture" (Goggin 1952:97).

Orange Incised decoration is typically fine-lined and made in a concentric geometric fashion. Design elements include nested: diamonds, chevrons, squares, and rectangles; zoned hatchuring; running frets; ticks; and composite straight lines (Griffin and Smith 1954:33-43 and Bullen and Bullen 1961a:5-10). A single-pointed stylus-like tool was employed when the clay was still tacky, to create incised designs (Bullen 1955:Fig. 2 , E-G;1972:10). Classic Tick Island Incised sherds exhibit incised curvilinear scroll designs with backgrounds filled with punctations and two incised lines parallel to lips (Bullen 1955:Fig. A-B). Individual Orange punctates were made with hollow reeds, pointed sticks, and fingernails. Lip decorations are fine tooled and carefully applied.

Orange vessels were modeled from a single lump of clay. Apparently, the dominant Orange vessel shape is a rather shallow rimmed bowl or pan possessing a slightly incurved rim. Orange vessel lips take on either a round or flat form and occasionally, lugs or possibly pouring spouts are found (e.g., Bullen 1972:10). Orange vessel heights may range from 6 cm to over 15 cm, while diameters may range from 20 cm to much larger. Miniature vessels also occur. Bullen (1960:364) concluded that the earliest Orange vessel shape was a rectangular, flat-based tub shape, similar in form to the shape of Middle Atlantic steatite vessel forms, and that it was later in time, before the Orange culture demonstrated a preference for the circular flat-based bowl form. Benson (1959) reported an unique feature, the impression of basketry on an Orange vessel base; thus demonstrating that twilled baskets and woven-fiber mats were present during the late Orange period.

- Wheeler Ware -

The first significant step in the study of Wheeler fiber-tempered ware was taken when Haag (1939:2-5) presented original type descriptions for ware found in the Pickwick Basin of northern Alabama. Haag defined the types he found as; *Wheeler Plain, Pickwick Simple Stamped, Bluff Creek Punctated, and Alexander Dentate-Stamped.* The type descriptions presented by Haag were incorporated into the Wheeler Series by Sears and Griffin (1950). After some major nomenclature revisions they refined Haag's previous types to create the nomens: *Wheeler Plain, Wheeler Simple Stamped, Wheeler Punctated, and Wheeler Dentate-Stamped.*

Jenkins (1981:164-171) applied Phillips' (1970:82) "type-variety system" of nomenclature to 1,135 fiber-tempered sherds recovered from the Gainesville Lake Area of the Tennessee-Tombigbee Waterway in an attempt to differentiate pure fiber-tempered Wheeler sherds from those containing fiber and up to 5 to 15 percent sand within their paste. As a result, several varieties of Wheeler ware, including: *Wheeler Plain* *var. Wheeler*; *Wheeler Plain* *var. Noxubee*; *Wheeler Dentate Stamped* *var. Warsaw*; *Wheeler Punctated* *var. Dancy*; *Wheeler Punctated* *var. Panola*; *and, Wheeler Simple Stamped* *var. Owl Creek* were introduced. At that time he discussed the distribution of plain and decorated Wheeler pottery (Jenkins 1981:166). Plain and decorated forms are found on the Tombigbee River as far south as Choctaw County, Alabama. Wheeler Plain without decorated types in association occurs along the Lower Tombigbee and at Mobile Bay and throughout most of Mississippi and along the eastern margin of the Lower Mississippi River Valley. Wheeler Plain is also found in central Alabama below the Fall Line.

Wheeler ware is unique (Figure 13), because it is the only SFT ceramic constituent with grass tempering and dentate-stamp decoration. Occasionally, Stalling's Island Punctate sherds are found which look very similar to Wheeler Dentate-Stamped types; however, the Stalling's Island Punctate type achieves a similar decorative effect through the use of a different "stab-and-drag" punctation technique. Characteristically, the entire exterior surface of Wheeler wares, except for the base, are covered with impressions of a dentate-stamp. According to Sears and Griffin (1950) the tool employed had blunt-ended rectangular teeth which varied considerably in their spacing from hairline separation to separations slightly wider than tooth diameter. Most commonly, dentate-stamped application is done haphazardly and impressed at an oblique angle to the lip. In addition, two interesting decorative variations, Wheeler finger fluted and fabric impressed, have been reported by Webb (1977:32-33, Fig. 16).

One interesting Wheeler vessel shape appears to be a large cup (a medium sized beaker) with walls straight or slightly convex. Evidence of simple bowl forms with either flattened, circular, or crudely shaped annular bases have been found (Webb 1977:31). Vessel walls may range in thickness from 6 to 12 mm, while lips and bases range up to 20 mm in thickness. Wheeler vessels may range from 22-25 cm in diameter and have an interior depth from 10-30 cm. One whole flat based Wheeler bowl from a shell midden (site 361) in Perry County, Tennessee, is available for study. In addition, Jenkins (1972:162-166) published some facts and comments concerning a partially restorable Wheeler Plain beaker found at site 1 Gr 2 (site 331) in the Central Tombigbee Basin. Jenkin's vessel, a cup with straight to slightly flaring walls, has a circular, flattened to slightly concave base.

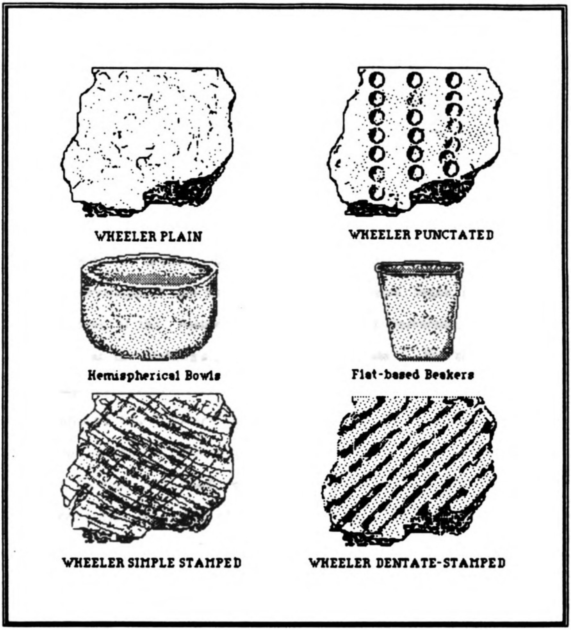


Figure 13. Wheeler Series of fiber-tempered pottery.

- Stalling's Island Ware -

Currently, three nomens; *Stalling's Island*, *St. Simon's*, and *Bilbo* are used interchangeably to refer to fiber-tempered ware found to the north and east of Florida. The nomen Stalling's Island was formalized by J. B. Griffin (1943). Recently, an attempt to formally define the constituent types of the St. Simon's series has been made (DePratter 1979:113-114). While Bilbo ware has been described in some detail, it has never been formally defined (Waring in Williams 1977). Archaeologists have argued for several decades just what the differences are between these ware, how they developed and why, and how they relate to one another. Disagreement still exists.

The development and use of the Stallings nomen began in 1929 when the Cosgroves, of the Peabody Museum, Harvard University, began their excavation at the Stalling's Island shell mound site -- the classic site for fiber-tempered pottery. Current use of the terms "Stalling's Island culture" and "Stalling's Island pottery" is derived from William Claflin's (1931) initial description of their excavations there. Preston Holder (1938) investigated the coast of Georgia, particularly on and near Saint Simon's Island where he discovered a high percentage of crude, vermiculated, vegetal-tempered pottery, originally referred to as *Kelly's delta ware* (Holder 1935;1938:8). Later, Holder changed his terminology, and called this ware, *Saint Simon's Fiber Tempered* ware after the island where he first discovered it. In the meanwhile, field operations at Macon, Georgia directed by A. R. Kelly were underway. The preliminary report on archaeological explorations there mentioned the existence of fiber-tempered sherds at several sites in the Macon area (Kelly 1938:30, 32, 36, 40, 47, 60, 66, and Plate 10). Kelly used a plethora of generic terms when he referred to this ware. Generic terms like; *Delta* *ware, Vermiculated ware, Fiber-tempered ware, Grass-tempered ware,* and *Theta grass extruded,* were used, before he settled on *St. Simon's fiber-tempered ware.* Following the early observations of Kelly, Fewkes (1938) produced a report on his pottery finds from the excavations at the Irene Mound site located near Savannah, Georgia. Fewkes' study is important because he was first to suggest Spanish moss as a possible temper agent used in the manufacture of fiber-tempered ware.

The following year, Waring (1939:7-8) published a short distributional study of coastal Georgia fiber-tempered ware in a newsletter of the Southeastern Archaeological Conference. Waring outlined coastal Georgia archaeology in terms of pottery evolution and compared St. Simon's fiber-tempered ware found on the coast of Georgia with that of the Stalling's Island type site. Waring (in Williams 1977:249) recognized: Stalling's Island; Plain, Punctated, Incised, and Simple Stamped as chief types of the inland Savannah River Complex. But Waring decided to retain Holder's St. Simon's designation to describe ware encountered along the Georgia-Carolina coasts. Early coastal finds led Caldwell and Waring (1939) to provide a provisional temporal framework for pottery complexes found in Chatham County, Georgia. Thus, Caldwell and Waring (1939:Table 4) perpetuated the use of Holder's St. Simon's nomen by incorporating the *St. Simons: Plain; Incised; and Punctated* types into their chronological sequence for the Georgia coast.

Apparently, Caldwell and Waring adopted Holder's St. Simon's nomenclature to describe coastal ware because of perceived consequential type differences existing between (inland) Stalling's Island and (coastal) St. Simon's ware (Waring in Williams 1977:160). This perception is interesting because a few years earlier, Waring (1939:7) examined nine hundred sherds collected from the Stalling's Island type site, and concluded that Coastal Georgia St. Simon's and inland Stalling's Island ware are almost identical. Notwithstanding his previous judgment, Waring changed his mind and suggested a more distant relationship between these two ceramic entities several years later. Further complicating matters, Waring would eventually replace his St. Simon's ware designation with the nomen *Bilbo* to describe fiber-tempered ware found in the entire Savannah locality. In fact, Waring (in Williams 1977:100) proposed a bipartite Bilbo nomen: Bilbo I and II, for ceramic and cultural developments of the fiber-tempered pottery on the Georgia coast. He based this division on stratified deposits confirmed at the Bilbo site and upon a date of 3700 B.P. (1750 B.C.) for an early fiber-tempered pottery period on Sapelo Island, Georgia (Crane 1956). The stratigraphic sequence at the Bilbo site confirmed that the popularity of incised and punctated, decorated fiber-tempered ware increased during Bilbo I times, at the expense of plain ware (Waring in Williams 1977:180-181).

Eventually, Waring (in Williams 1977:100,220) would propose that both the (coastal) Bilbo and (inland) Stalling's Island periods had been roughly contemporaneous. He gave four reasons for distinguishing Bilbo ware from Griffin's (1943) Stalling's Island type description. He suggested that Bilbo and other coastal wares have thinner and more uniform vessel walls; smaller, neater and more varied forms of punctation; and the presence of a crude form of simple stamping on the bases of many of the vessels. Also, he pointed to the presence of the flanged, carinated bowl present up stream and noted this form did not appear on the coast.

Waring (in Williams 1977:216) tentatively named one plain Bilbo I pottery type, *Griffin Impressed* a form of pottery thought to be made by modeling clay inside large baskets and then fired. Apparently, James B. Griffin took one look at Waring's rough, basket-formed ware and was very impressed by its crude appearance, hence Waring's inspiration for the type's jovial name (William H. Sears, personal communication).

Several archaeologists have offered opinions on the coastal St. Simon's versus inland Stalling's Island division. One opinion, presented by Charles Fairbanks (1942:223-231), was formulated in 1940 after he conducted additional work at the inland Stalling's Island shell mound. Fairbanks did not employ Holder's (1938) St. Simon's terminology there. Instead, he recognized the utility of Claflin's (1931) nomen and called the ware he excavated from the site *Stalling's Island*. However, despite Fairbank's precedent, Caldwell and M^cCann (1941:51,Fig. 23) further popularized Holder's St. Simon's terminology by providing a brief description and illustration of St. Simon's Plain ware at the Irene Mound in Georgia. Thus, Caldwell and M^cCann (1941:51) helped to perpetuate the practice of referring to coastal Georgia ware as St. Simon's ware.

James B. Griffin (1943), and Regina Flannery (1943) provided an analysis and interpretation of fiber-tempered material excavated by Moorehead in 1933 at several shell middens near Beaufort, South Carolina. James B. Griffin, (1943) attempted to resolve the preceived terminological difficulty when he analyzed and described sherds from the Chester Field site. From his analysis, Griffin (1943: 159-160, 165) concluded that; "The pottery from the Chester Field site identifies it as a component of the same cultural division as the Stalling's Island complex." Thus, based upon 158 fiber-tempered sherds from the Chester Field shell ring and comparable data from Lake Plantation, Bilbo, and the Stalling's Island sites, Griffin formally defined the types; *Stalling's Plain* and *Stalling's Punctate*. However, unlike Antonio J. Waring, or Caldwell and M^cCann, Griffin concluded significant differences did not exist between coastal and inland varieties of Georgia ware. Thus, J. B. Griffin (1943:159) chose the prefix Stalling's Island over St. Simon's; he found both so similar, a single taxon was warranted. Griffin thought Claflin's original work at the type site should carry precedence over Holder's, Waring's, Kelly's, and Caldwell and M^cCann's later designations. Thus, Griffin's (1943) across the board Stalling's Island classification represents a milepost in the study of fiber-tempered ware as it was the first formal naming and description of Atlantic Coast ware.

In 1950 the Stalling's Island ware collection housed in Michigan's Ceramic Repository was subjected to even closer scrutiny (Sears and Griffin 1950). That analysis led to an update of previous type descriptions and to the formal incorporation all previous St. Simon's types into the Stalling's series designation. Today, most archaeologists researching the coastal plain of Georgia and the Carolinas follow Griffin's lead, classifying the ware found on a region-wide basis as Stalling's Island. One exception occurs in central Alabama where David Chase (1968:11) has indicated the presence of two plain types of fiber-tempered ware: Stalling's Island Plain and *Cargile Plain*. Cargile Plain, a hard thin variety of fiber-tempered ware is equated with Tchefuncte Plain (Ford and Quimby 1945). Though this nomen never gained wide acceptance, its recognition has extended the western boundary of Stalling's Island influence.

In 1968, Stephen Williams (1977:105) suggested applying Philip Phillips' (1958;1970) type-variety terminology to fiber-tempered ceramics from Georgia and the Carolinas. Williams proposed the creation of three major varieties Stalling's Island, St. Simon's, and Bilbo within the single type Stalling's Island Plain. More recently, Anderson, Cantley, Novick, et al. (1982:247) employed Williams' terminological suggestion, classifying plain pottery recovered at

Mattassee Lake as: Stallings Plain, *var. Stallings*.

James B. Stoltman (1972:41,63) added two provisional types to the Stalling's Island series; *Stalling's Incised* (usually rectilinear) and *Stalling's Simple Stamped* (Figure 14). Even though these types have never been formally described, they have long been recognized as integral constituents of some Stalling's ceramic assemblages (Fairbanks 1942; Huscher 1959; Jenkins 1978; M[c-] Michael and Kellar 1960; Phelps 1964; Stoltman 1972; Sears and Griffin 1950). However, when present they occur in the minority at most sites (Appendices S, T, U, W, X, Z, A1, and D1).

By definition (Sears and Griffin 1950), the Stalling's Island series is tempered predominantly with Spanish moss fiber; yet, many Stalling's Island sherds contain an appreciable amount of sand and other included aplastics (Shannon 1986: 69-70, Table 18). In fact, a small percentage of Stalling's Island specimens in the Ceramic Repository at the University of Michigan contain particles of rock within their paste.

A plain to decorated ceramic continuum is indicated at most sites, where characteristically Stalling's Island Plain types are followed in frequency by Stalling's Island Punctate. Typically, stab-and-drag punctations are applied around vessel exteriors. This application produces parallel rows of "linear punctations" unique to the Stalling's Island series. Most commonly, punctations are arranged in panels. Occasionally, individual punctates made with fingernails, hollow reeds, and sharp sticks are present. These are impressed into the clay vertically. Incised designs are most commonly concentric horizontal rings or cross hatched lines (Stoltman 1972:41,Figs.c,d). Simple Stamping was performed by impressing the edge of a blunt tool onto a vessel's exterior over and over again. Fabric impressed Stalling's Island sherds also are reported (Willey 1966:257).

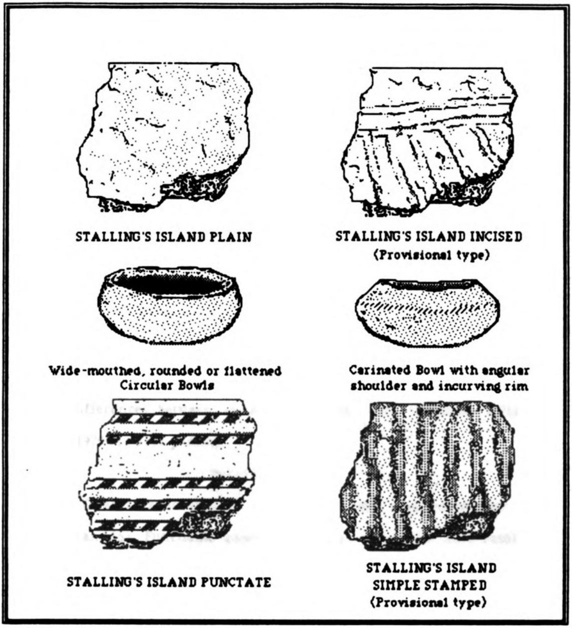


Figure 14. Stalling's Island Series of fiber-tempered pottery.

Simple wide-mouth bowl forms represent the predominate vessel shape of the Stalling's Island series. Interestingly, some carinated (casuela-like) bowl forms characterized by a straight rim attached to the vessel wall at an angle exists. The evidence for carinated vessels is restricted, however, to the immediate vicinity of the Stalling's Island type site. Most Stallings vessels range from 15 to 30 cm in diameter and have rounded to somewhat flattened bases. Bases appear flattened as a result of the modeling technique used to construct these vessels out of a single mass of clay.

Today, many researchers expect a range of ceramic variation to be present within the Stalling's Island type. As a result, many recognize Stalling's Island, St. Simon's, and Bilbo as identical ware. Thus, the need for the St. Simon's and Bilbo nomens continues to be questioned (Griffin 1943,1945; Williams 1977: 103-105; Stoltman 1974:19-20; Anderson et al. 1982:246-247; Shannon 1986:73). Nevertheless, some retention of the St. Simon's and Bilbo nomens by those insisting on citing regional differences between inland and coastal ware (Milanich 1971a, and DePratter 1979:113-114) persists.

- Baked Clay Objects -

One final ceramic artifact considered is the solid baked clay object (Figures 15 and 16). Functional analyses of baked clay objects have resulted in various interpretations suggesting their use as: "pot supports", "sling stones", "bolas weights", "net sinkers", "gaming stones", and "artificial cooking stones" (Hunter 1975:61). However, their association with hearths led Ford and Webb (1956) to interpret these objects as earth oven liners. This interpretation seems most plausible, as today we know of fourteen localities where they have been found in situ within prepared earth ovens.

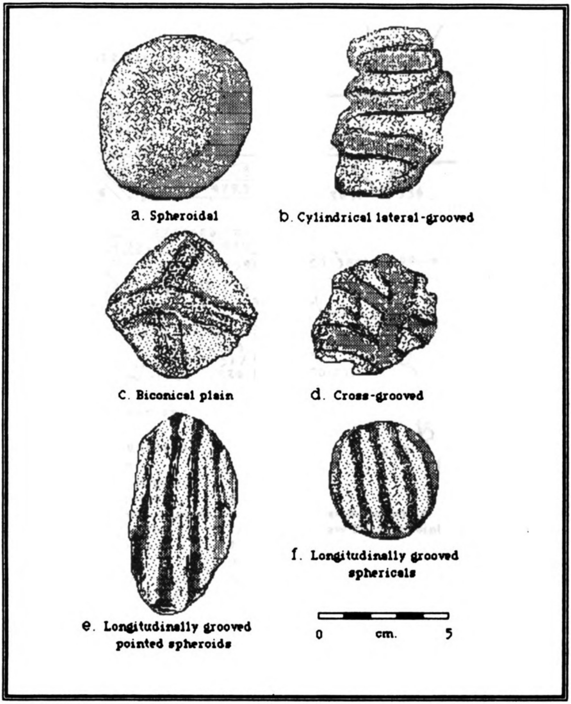


Figure 15. Common types of Poverty Point (a-d) and Elliott's Point (e-f) baked clay objects.

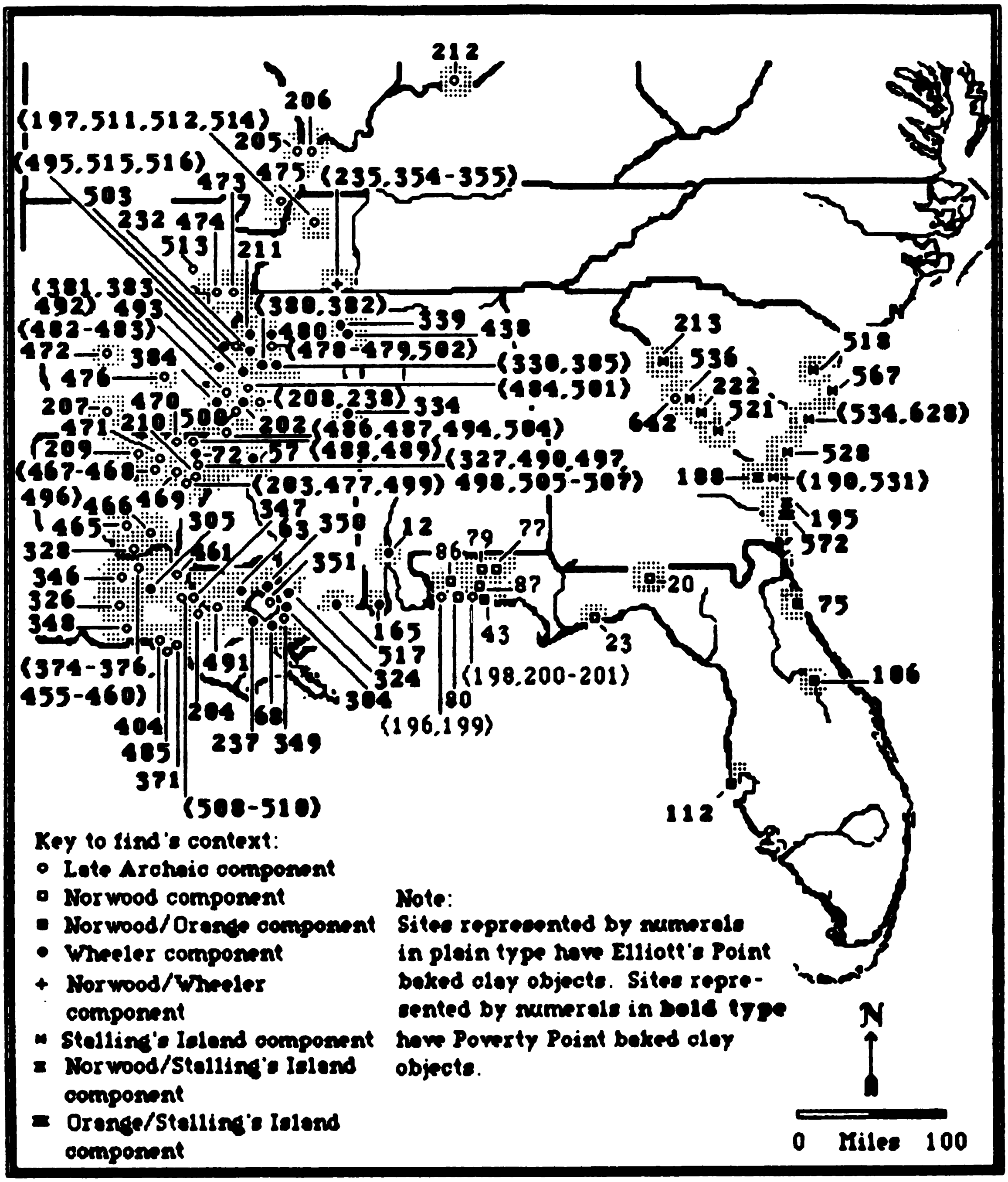


Figure 16. Spatial distribution of Poverty Point and Elliott's Point Baked Clay Objects among southeastern Late Archaic and Formative sites.

Characteristically, baked clay objects are made of diatomaceous, slightly sandy clay, or fiber-tempered clay. A variety of shapes and decorations are known. The most common shapes are; biconical plain and grooved, cylindrical grooved, cross grooved, melon shaped, ellipsoidal, biscuit-shaped, and spheroidal forms (Webb 1977:Fig.15). Typically, baked clay objects are rarely larger than three inches in diameter. Even smaller, minature forms are also known. Objects were either hand and finger molded or shaped between the palms (Webb 1977:28). Most commonly, they are left undecorated. When decorated; fingertips, fingernails, hollow canes, and other punctating and incising tools were used to produce a variety of artistic designs.

Though found within several southeastern Late Archaic and SFT contexts (Figure 16), it appears most probable that the advent of baked clay objects took place within the alluvial valley of the lower Mississippi River. Bullen (1969b) and Webb (1968:300) have suggested that lower valley coastal peoples spread this technology to the east, across Florida, and as far north as coastal South Carolina.

SFT Non-Ceramic Data

At this point we turn our attention to a description of the non-ceramic artifacts found in association with fiber-tempered pottery. The vast majority of the non-ceramic SFT artifacts discussed here have received little attention during previous research. Therefore, reasonably comprehensive descriptions of SFT artifacts are not available for the majority of Formative sites investigated.

- Vessels and Utensils -

We begin this discussion with an examination of the non-ceramic Formative vessels and utensils recovered in addition to fiber-tempered pottery. These artifacts include such permanent containers for cooking or storing food as: carved steatite, sandstone, and limestone vessels, pecked and pitted sandstone disks and slabs, and cut marine shell vessels and utensils. In addition, milling and nutting stones for processing food have been recovered.

Steatite vessels are found throughout all eastern United States (Griffin 1964: 231; Ritchie 1965; Webb 1977). Most finds have been made in the context of general midden fill, but occasionally, large steatite caches, with several hundred vessels represented, are reported (Webb 1977:36). The source of the steatite found within the Southeast appears to be the major outcroppings mined within the river valleys of the southern Appalachians, specifically northeastern Alabama and northwestern Georgia. Its introduction into northwest and peninsular Florida is suggestive of extra-areal connections with either the people to the northwest or those living in the country to the east of the Appalachians. Looking at the Southeast from the north, these Archaic stone vessels appear to be logical prototypes for fiber-tempered ware. However the steatite vessels made in Alabama during the Late Archaic do not appear in peninsular Florida until circa 1300 B.C. Like fiber-tempered ware, most steatite sherd fragments represent either straight sided tubs with flattened bottoms or shallow flat-based bowl forms. In addition, oval or circular bowls, shallow platters, and rare tecomate steatite forms have been reported (Webb 1977:36). Steatite vessel interiors and exteriors are usually left plain,but may exhibit gouge marks, a telltale sign of manufacturing technique. More often, however, surfaces were smoothed or polished. Frequently, lugs are present on the outer rim. Vessel lips may occasionally be adorned with incised decoration similar to those found on some Orange vessels (Rouse 1951:223,Pl.3,m-n; Bullen 1972:17; and Shannon 1979: 26).

Carved sandstone bowls with either round or flat bases are present during the Formative period. Sandstone vessels, however, appear less numerous than steatite wares. Finds of pecked sandstone disks and pitted sandstone slabs are occasionally reported as well.

Two limestone vessels have been reported. One comes from the west coast of Florida, at (site 69) the Wash Island site. This small, low, marsh-surrounded island is found on the north side of Crystal River about a mile from the Gulf. There, Bullen and Bullen (1961b:71-72) found a shallow limestone cup made by pecking and grinding. The second specimen, a limestone dish, comes from the Florida east coast at (site 173) the Palmer-Taylor/Shapfeld Mounds (Rouse 1951: 116-123).

The typical marine shell cut into the form of a vessel was the *Busycon* welk from the Florida Gulf Coast. Often times, shell vessels with fire blackened bottoms appear in the same midden with shell tools that do not show any evidence of fire damage. This observation led Webster (1970:1-5) to the contention that shell bowls represent preceramic cooking vessels. The Tick Island site produced numerous shell cups, vessels, and utensils (Jahn and Bullen 1978:12) which were confined primarily to the earlier (preceramic) parts of the site, however, there was some carry over of the use of these vessels into the Orange/Norwood periods as demonstrated in Table 1 of Jahn and Bullen's report.

Many of the non-ceramic SFT cooking vessels may have been used to prepare various ground nut and seed oils and meals (Ford 1969:98). The processing of oil and meal from wild seeds, acorns, and nuts would have involved various techniques including; washing, leaching, and grinding. For heavy duty grinding large grinding mills were necessary. These stone implements were manufactured by pecking and hammering, and then further modified through years of abrasive use. With the exception of the bell-shaped pestle, elaborate grinding implements, as known from later context, did not occur during the Formative period. The majority of Formative pestles are flattened river cobbles which were milled in a circular grinding motion against a variety of grinding stones. Typically, milling stones were large, abrasive, circular stones with concave, cupped centers worn and pitted from use. These mills may have been used to process seeds, nuts, acorns, roots, bark, and other plant fibers; perhaps including those added to SFT pottery.

Nutting stones, useful for crushing, cracking, and grinding: nuts, paint pigments, and other objects have been reported from several SFT context. These pitted "nut" stones attest to the Formative gathering activity.

To summarize, because few data exist, it remains uncertain whether stone or shell vessels served as precursors for clay cooking vessels along the southeastern coastal plain (Appendices E1 and F1). The source of the steatite industry appears to be the contemporaneous but aceramic Late Archaic complexes found within the Piedmont province. There steatite ware may have served as the functional and chronological equivalent to fiber-tempered ware. It remains open to question as to whether the significant general similarity of steatite ware throughout the Southeast below the Fall Line represents a stimulus diffusion of ideas, patterns of exchange, the migration of people, or all three. Since steatite vessels do not occur in Florida until after the introduction of pottery, Bullen (1972:10,24,26) suggested that they may represent one aspect of a systematic long-distance trade in exotic materials established during the Formative period. The evidence for the spread of this trait from its southern Appalachian source during Formative times is well known (Appendix E1). The distributions of sandstone, limestone, and shell vessels and utensils appear more localized. The Formative sandstone industry, found within the western area of the Southeast is distributed along the Mississippi-Alabama border, but principally within the Tombigbee drainage. Both steatite and sandstone vessels were utilized in this area. Given the natural underlying limestone deposits present in central Florida is not surprising that finds of limestone vessels have been made there. Marine shell vessels and utensils found within SFT components have localized distributions among coastal Florida sites. Shell vessels do not appear in the Southeastern archaeological record in notable amounts beyond the immediate confines of their source area until the advent of post-Formative lifeways. In the case of these three rather restricted distributions, it is apparent that Formative peoples were choosing to exploit the resources of certain environments which contain a relative abundance of these available raw materials. Interestingly, very few of the grinding tools distributed among inland SFT sites are known from coastal sites. This inland distribution may be due to the limited availability of stone on the coast or because different adaptive economic strategies were practiced in these two regions. The intensive exploitation of nut laden hardwoods possible on the Piedmont during the late fall, may not have been a viable option for coastal inhabitants.

- Atlatls -

A SFT dart thrower consisted of four major components; a wooden stave, a handle serving as a grip, a weight for balance and to enhance propulsion, and an antler hook to attach and hold the dart to the stave during use. Bone and antler atlatl handles were utilized during this period but appear rare. Most atlatl weights were made of stone, although there are a few shell and antler examples. Groundstone atlatl weights took on a variety of styles and forms including; bannerstones, boatstones, bars, and tablets which were either; winged, cylindrical, sub-rectanglar, or prismatic in shape. Atlatl hooks, made of antler are known primarily from Wheeler and Stalling's Island contexts. Among some Wheeler components there exists evidence for antler shaft straighteners (wrenches) useful for straightening the wooden shafts of atlatl darts. This functional interpretation for such objects, however, is conjectural.

The atlatl was widely distributed throughout eastern United States as early as 3000 B.C. The spatial distribution of the Formative material culture associated with the atlatl within southeastern United States is illustrated in Appendix G1. Together, these artifacts reflect an Archaic heritage as they represent an accumulation of innovations from over three millennia of southeastern Archaic culture.

It is presumed that sharp-ended bone or antler atlatl projectiles were used in a fashion similar to stone projectiles. Both bi-pointed and socketed points made of bone and antler vary from two to six or more inches in length. Socketed points, usually left undecorated, were cut, and conically drilled for attachment to a wooden dart shaft. Blunt-ended bone and antler points may have served many purposes. They may have functioned as projectile points, gouges (Claflin 1931:25), and chisels (Waring in Williams 1977:169). Or, perhaps, as Stoltman (1974: 133) noted, once hafted, such tools would be used during gathering activities. They do appear particularly well suited for digging shellfish or tubers.

Apparently all southeastern Formative peoples used the atlatl, because a significant general similarity is seen in the geographical distributions of bone and antler atlatl dart points and lithic atlatl weights. Wooden staves equipped with a handle, weighted at mid length, and tipped with a cut antler hook made an efficient device for propelling darts. Thus, the atlatl served to aid Formative adaptation as it enhanced a hunter's success.

- Projectile Points -

A rich stone industry enhanced southeastern Formative lifeways. Tools made of stone were manufactured by a variety of techniques including: chipping, grinding, pecking, polishing, whetting, sawing, perforating, drilling, and reaming. Cores, preforms, blanks, and flakes were chipped by various percussion and pressure flaking methods into conchoidally flaked forms with hammerstones; bone and antler hammers; bone flakers or deads; and antler tines, drifts, and faceted tips. The distributions of these flaking tools are not traced here, as they are known to be consistent throughout all areas and cultures of the prehistoric Southeast.

Unfortunately, most past descriptions of SFT lithic artifacts have placed emphasis solely upon the identity of projectile point types. Thus, the data for bifacial and unifacial flaked stone tools other than projectile points is often incomplete, or lacking. As a result, we rely heavily upon typed, chipped stone projectile points for our interpretations. For the purposes of this analysis southeastern Formative projectile point types were ascribed to four broad classes: basally-notched, corner-notched, side-notched, and stemmed forms. Despite considerable variation in detail (e.g., either serrated or non-serrated blades, narrow or wide notches, etcetra.) there is a general consistency in form among the types of each class.

Stone suitable for tool production is rare in the coastal plain region. Igneous and metamorphic rocks from the highlands (e.g., slate, flint, chert, aplite, rhyolite, andesite, quartz, and quartzite) constitute the preferred materials used in the manufacture of these points. The presence of these materials on the Gulf and Atlantic coasts suggest widespread connections with groups in the Piedmont.

Basally-notched, corner-notched, and side-notched points are more securely aligned with Middle Archaic phases; nonetheless, a small percentage of these points have been recognized as minority types within SFT components. Basally-notched point types include: Marshall; Citrus; Eva; and Hernando, as well as a few unspecified types showing typological similarity (Appendix H1). Corner-notched types include: Clay; Lafayette; Motley; Marcos; Epps; and Cypress Creek types, as well as a few unspecified types showing typological similarity (Appendix I1). Side-notched points include: Big Sandy I and Trinity types, as well as several unspecified types (Appendix J1).

Various stemmed projectile point types with round, straight, or concave bases appear as a consistent majority in association with fiber-tempered pottery. Stemmed points recognized from stratified sequences are perhaps as important as fiber-tempered pottery for interpreting Formative cultural development in the southeastern United States. Unfortunately only a small percentage of our data is from stratified contexts.

These points have been sub-divided into a variety of types on the basis of limited variation noted among shoulders, stems and bases. Stemmed projectile points characteristic of the southeastern Formative period are the: Gary; Morrow Mountain I; Mulberry Creek; Delhi; Ellis Stemmed; Savannah River Stemmed; Florida Archaic Stemmed, Marion; Florida Archaic Stemmed, Levy; Florida Archaic Stemmed, Alachua; Groton Stemmed; Benton Stemmed; Flint Creek; M^{c}Intire; Abbey; Cotaco Creek; Newnan; Culbreath; Adena; Ledbetter; Mud Creek; Kays Stemmed; Limestone; Elora; Little Bear Creek; Wells; Desmuke; Pontchartrain;

Kent; Carrollton; Macon; Putnam; and Pickwick forms (Appendices K1, L1, M1, and N1).

The known distribution of Formative stemmed projectile points is concentrated within the western area of the Southeast, principally within Mississippi and Alabama. Each stemmed projectile point type has usually been regarded as peculiar to a specific area. Though stemmed points make their strongest showing in the west (as Gary, Cotaco Creek, Little Bear Creek, and Flint Creek points), they do appear in the minority in Florida (as Gary and Florida Archaic Stemmed point varieties) and up the Atlantic Seaboard in Georgia and South Carolina (as Morrow Mountain I, Savannah River, and Groton Stemmed). Spatially and probably, temporally, many of these stemmed projectile point types overlap.

The development of the round based Gary stemmed point is of particular interest here. The Gary point has been found in both preceramic and ceramic contexts in the Lower Mississippi Valley region. The Gary type is found in most Poverty Point levels among sites in the Lower Valley (Webb 1977: 37). From there they are thought to have spread to the east across the Gulf coastal circuit. Gary points dominate the coastal region both west and east of the Mississippi River at this point in time. There and along the Northwest Gulf Coast of Florida Gary points are known to occur earlier than along the South Atlantic Coast. Thus, one scholar contends that the distribution of stemmed points in general, and the Gary point in particular, demarcates the limits of a continuous network of communications located in coastal plain environments streching from eastern Mexico to southeastern United States around 3000 - 2000 B.C. (Phelps 1964:115). The extreme similarity of the Gary, Wells, Desmuke, Adena, Morrow Mountain I, Morhiss, Gypsum Cave, and Putnam stemmed point types does suggests the possibility of inter-regional communications throughout the coastal plain during the Formative period.

- Microlithic Core and Blade Industry -

One unique and interesting technological advancement found in a small percentage of SFT sites is represented by the development of a highly specialized microlithic core and blade industry (Figure 17). This microblade assemblage may have developed in order to maximize the utilization of available stone, since vast stretches of the coastal plain are devoid of this resource. The microlithic blade assemblage is distinctive. Lamellar microlithic blades were derived from egg-shaped, pebble cores, with angled platforms. Cores are seldom larger than 8 cm in dimension. The parallel-sided, prismatic microlithic blades derived from these cores were in turn modified into a variety of multipurpose tools including: end-scrapers, side-scrapers, perforators, drills, needles, rods, notched blades, denticulate saws, and gravers. Microlithic tools represent the most abundant artifacts of the Poverty Point culture of the Lower Mississippi Valley (Ford and Webb 1956, Ford 1969:47-48, and Webb 1977:40-43). There the industry is dated to the 1200 to 400 B.C. period (Ford 1969:48). When James A. Ford outlined the geographical significance of the Formative microlithic core and blade industry, the distribution of this tool-making technique up into Mississippi and Alabama and across Florida was not known (Ford 1969:Chart 3). The presence of microlithic artifacts on Formative sites in the east suggests the possibility of inter-regional communications with Formative peoples in the west (Milanich and Fairbanks 1980:62). However not all of the microflints manufactured outside of the Lower Valley are derived from the characteristic core and blade extraction technique practiced at Poverty Point and other large centers of Formative activity.

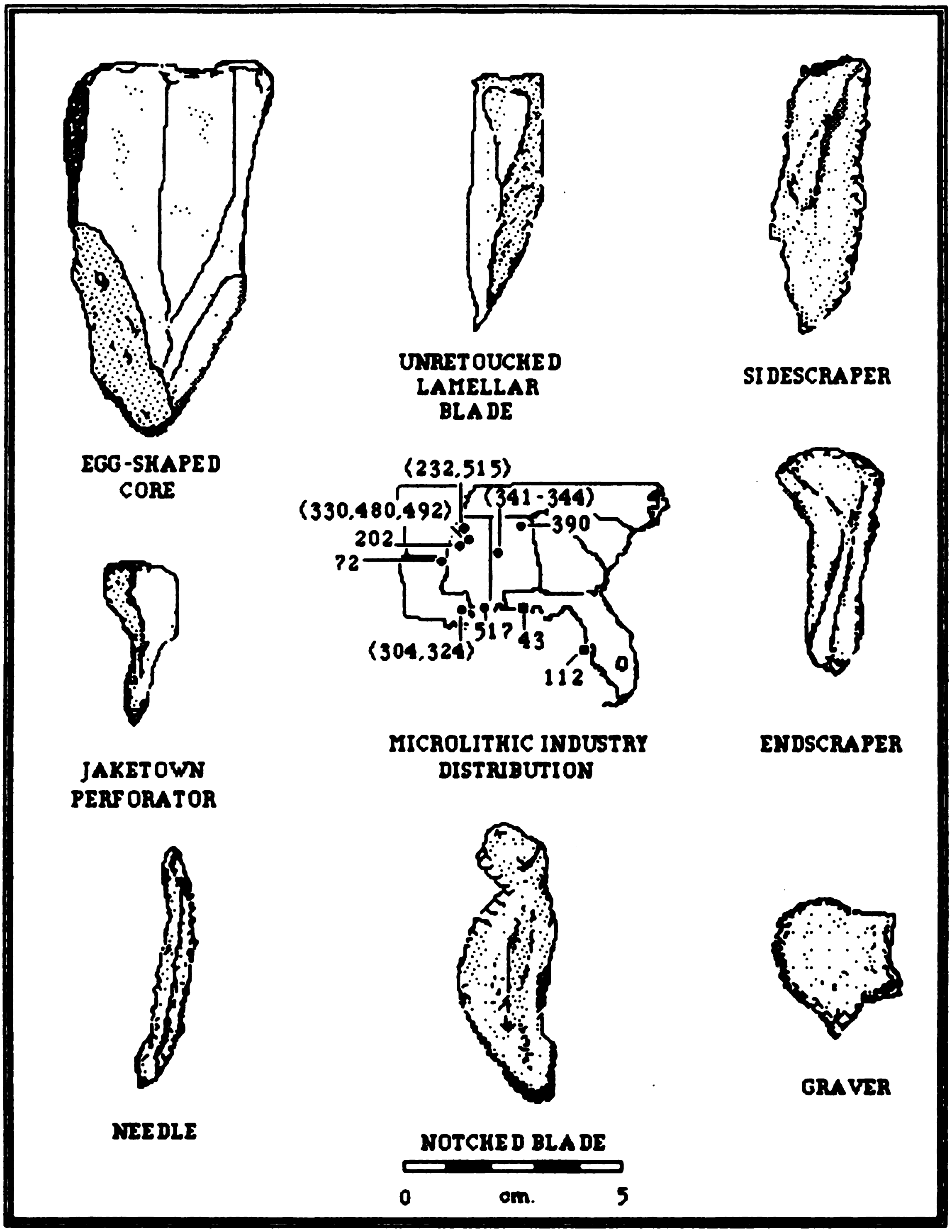


Figure 17. The Southeastern Formative Microlithic Industry.

- Tools of Stone, Shell, Bone, Wood, and Hide -

The southeastern Formative people residing within temperate, interior riverine forests as well as those found within the sub-tropical, coastal maritime forests gained the knowledge necessary for an efficient hunting/ gathering economy from their respective Late Archaic predecessors. Along with the productive harvesting activities undertaken at shell-gathering stations a great variety of other aquatic and terrestrial flora and fauna were utilized. However, since few organic materials remain for consideration, we may reconstruct only the general parameters of the economic-technomic subsystem of Formative culture from the available artifactual evidence.

Lithic and shell hoes may have been useful for harvesting mussels and aquatic gastropods. Current evidence suggests that the spatial distribution of hoes is restricted to the interior riverine environments located along the northern fringes of the coastal plain (Appendix O1). Lithic and shell net sinkers, bone and shell fish hooks, and antler harpoons; indicative of fishing with nets, lines, and spears are found within both riverine and coastal environmental settings.

Bone tools found among Formative sites include a diverse array of cylindrical awls, split awls, cannon bone awls, deer ulna awls, bird and fish bone awls, eyed needles, bodkins, longitudinally split deer phalange fish hooks, spatulate splinters, deer ulnae spatulae, spatulate fleshers, perforators, daggers, bird bone hair pins, and projectile points. The spatial distribution of tools used to manufacture SFT bone implements is shown in Appendices P1 and Q1. The alteration of bone was performed with whetstones, grooved shale and sandstone abraders. There were sandstone saws for sawing bone, pumice polishers for polishing bone, and various lithic gravers for engraving decorative designs. Tools described as reamers, usually lithic (sandstone) or antler, were used in a rotary motion to ream out cavities and make perforations in stone, bone, and shell objects. Lithic and antler wedges were driven into bone so that it could be split and worked.

Wood was used for a variety of task-specific activities during the southeastern Formative period. From wood, many items were manufactured, i.e. basketry, wooden trays, bark fabrics, hafts, canoes, and shelters. A variety of woodworking tools were employed to create these artifacts. The outstanding craftsmanship displayed by their form suggests that the rudimentary specialization in craftsmanship which began during the Middle Archaic was well on its way to being fully developed by the end of the Formative period. Woodworking involved a large array of lithic, bone, and shell implements. Most outstanding; however, are large, lithic adze-like gouges (Bullen and Bullen 1950:36-37). The distribution of Formative material culture associated with woodworking is illustrated in Appendices R1, S1, and T1. The distribution of knives, a multipurpose cutting implement, proved to be universal and thus was not mapped. Other woodworking tools include: chipped and polished adzes made from stone and shell for dressing wood; small gouges made from stone, shell, and bone for scooping out wood; chipped stone axes and celts as well as pecked, ground, and polished stone and shell celts for chopping wood; chipped stone drills and bow drill sockets for perforating wood; stone spokeshaves for planing wood; stone denticulates for sawing wood; shell hammers and picks for pounding wood; and shell, bone, and antler chisel/punches to trim and shape wood.

Since no published SFT sites have produced direct evidence of artifacts made of animal hide it can be no more than an educated guess as to what types of utensils, containers, clothing, and shelters of hide were employed. The void left by this deficiency in the archaeological record has invited much speculation.

Although direct evidence for artifacts made of hide has not stood the test of time, we may infer their presence during the SFT by the kind and number of skinning, fleshing, and sewing tools found. Indeed, a variety of tools required to create hide implements are reported from Formative contexts. Considered are several large, hide working tools including; a variety of knives for skinning, chipped stone scrapers of the end, side, oval, fingernail, and bunt types, and bone scrapers/ spatulate fleshers for fleshing, and awls made of white-tailed deer ulnae, turkey metatarsals, bone splinters, bird bills, and fish spines for piercing. In addition, small bone and copper sewing needles are known from a few SFT sites. The majority of these tools retained their traditional Archaic form throughout the Formative period.

- Decorative Paraphernalia -

An unusual lapidary industry served to enrich an otherwise rather ordinary, secular expression of Late Archaic cultural development, typical of much of the Formative Southeast (Appendices U1 and V1). Many of the lithic raw materials used within this industry (e.g., red jasper, quartz crystal, banded slate, talc, steatite, limonite, greenstone, fluorite, pumice, mica, galena, native copper, magnetite, and hematite), are classified as exotics by Webb (1968:315). As such, they may represent major imports in some areas. The lapidary industry is characterized by a variety of excellently worked stone ornaments including: gorgets, beads, imitation mammal mandibles, plummets, pendants, and rings. The standard manufacturing process employed to produce lapidary ornaments involved roughing stone preforms out with either wood or sandstone saws, drilling and, then finishing with abrasive polishing stones. Completed lapidary ornaments include both non-perforated and perforated forms. Both solid stone drills and hollow tubular drills (i.e., cut cane or tubular bird bones used in conjunction with a sand abrasive) were employed to perforate ornaments.

In addition, decorative bone, antler, shell, tooth, and baked clay artifacts are associated with the lapidary industry. Such artifacts include: shell, bone, and baked clay gorgets; shell, bone, copper, and pearl beads; drilled deer toe bones; drilled fish, mammal, and reptile teeth; decorated mammal mandibles; shell, baked clay, and copper plummets; shell and bone pendants; shell discs; bone rings; bone combs; incised fish bone; incised turtle/terrapin carapace; and, decorated otter and raccoon bacculum.

Significant amounts of bone pins, also known as bone "daggers or bodkins," have been reported from several southeastern Formative sites. The placement of Formative sites yielding plain, engraved, and polished bone pins in the Southeast is illustrated in Figure 18. Usually these delicate bone pins are made from worked rods of deer long bone 1 to 2 cm in diameter and 10 to 15 cm in length. Unlike bone awls, a piercing tool characterized by its more robust form, slender bone pins may have been worn in one's hair for adornment, or on one's clothing to keep it in place, or perhaps used as bodkins during weaving activities (Stoltman 1974:132-133; Jahn and Bullen 1978: Figs. 29-32; and, Waring in Williams 1977:168-172).

Carved, incised, and engraved bone pins are often elaborately ornamented. At the top of Figure 18 some of the more common types of decoration found on these pins are illustrated. Usually the design is restricted to either the head or upper portion of the pin's shaft. Parallel lines, zigzag lines, the interlocking fret, and chevron and diamond patterns are common decorations (Waring in Williams 1977:169).

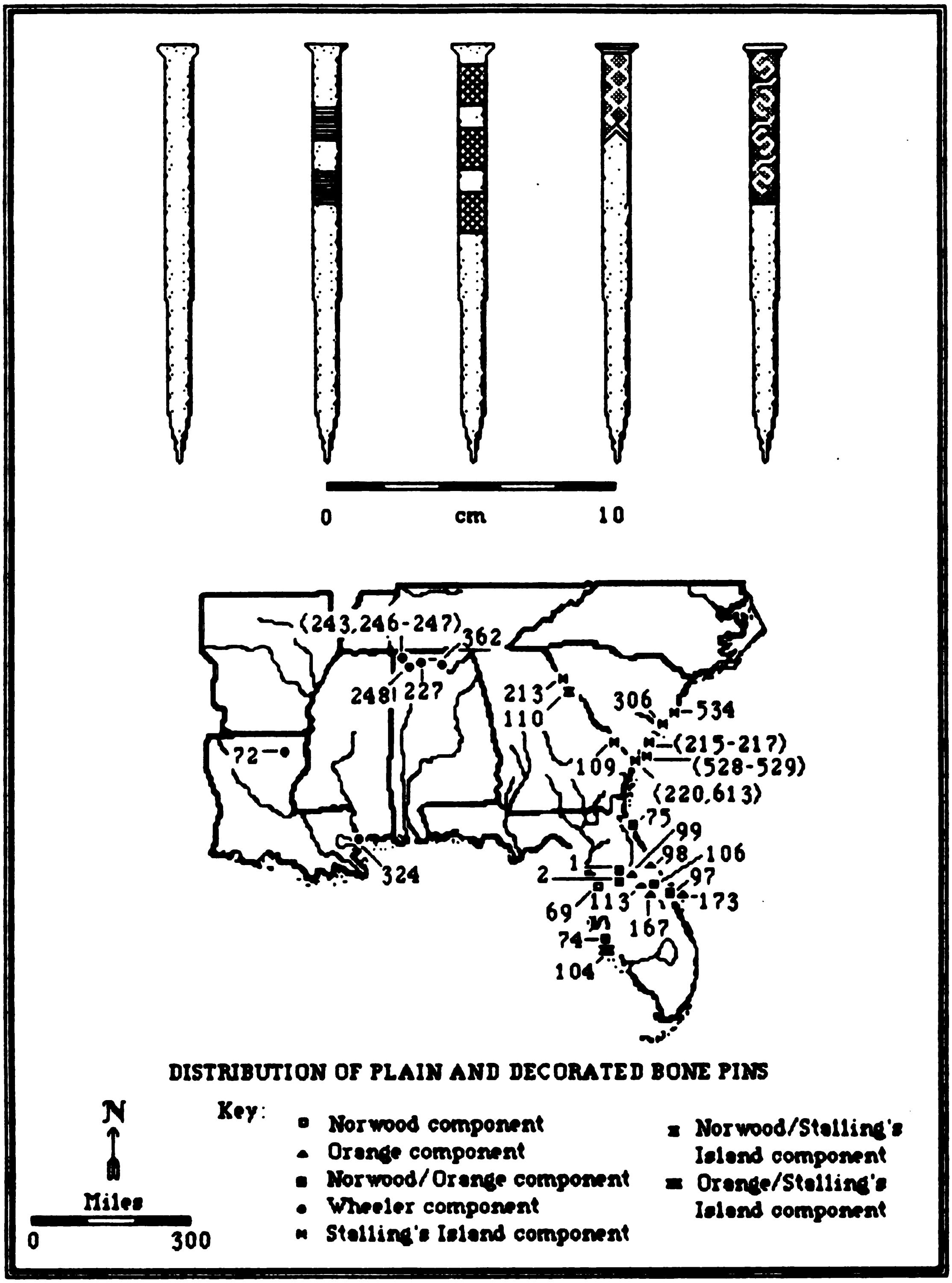


Figure 18. Common types of bone pins ("daggers" and "bodkins") found among southeastern Formative sites.

- Ceremonial Paraphernalia -

Two distinctive artifacts; tubular pipes and baked clay figurines may have served as ceremonial paraphernalia among southeastern Formative sites (Figure 19). Simple tubular "self pipes" made of baked clay, polished stone, and bone are found among Wheeler, Orange, and Norwood/Orange components. Clay pipes may vary from 8 to 15 cm in length and have bowls 3 cm wide. Stone pipes, most commonly made of steatite or sandstone, tend to be shorter and thicker. Rotary scars on the interiors of pipe bowls suggests that they were bored with the cane and sand technique (Webb 1977:50). Most pipes are left plain. Though rare, decorated pipes are incised in a simple linear fashion. It is likely that these pipes were used by shamans as "medicine tubes" for sucking out evil spirits in curing ceremonies, or perhaps smoked by shamans to effect a cure. It seems reasonable to conclude that the baked clay figurines found among Wheeler components also represent evidence of religious or medical ritual. Three to 6 cm high and 2 to 5 cm in torso width, these human effigies are solid, always female, and sometimes pregnant. Typically, they possess modeled faces with either central or transverse clefts across the forehead, modeled torsos, and only mere suggestions of extremities (Webb 1968:310). Often, these figurines are found in situ decapitated.

Aside from pipes and figurines, other evidence of ceremonial paraphernalia exists. Artifacts made of copper, mica, and quartz crystal may have been used as religious or ceremonial paraphernalia on those Formative sites where they have been reported. Additionally, in some areas of the Southeast, galena and hematite pigments may have been ground on red jasper paint tablets and then utilized as paint to adorn bodies prior to engaging in certain kinds of ritualistic behavior.

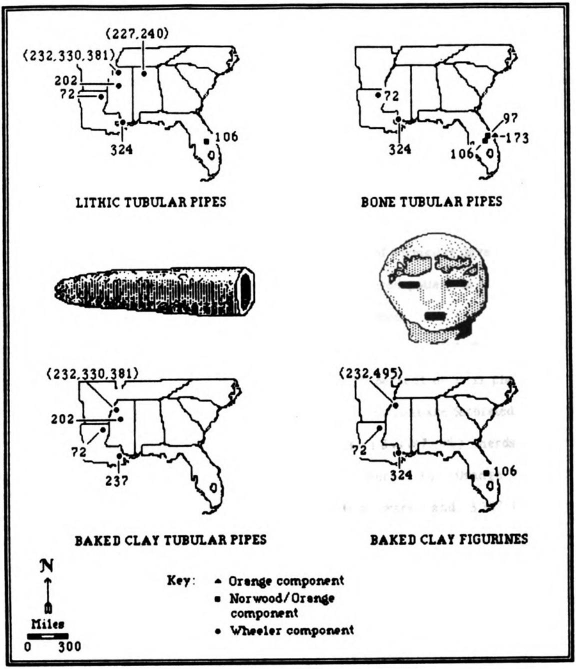


Figure 19. Common types of Tubular Pipes and Figurines found among southeastern Formative sites.

The wide distribution of the presumed ornamental, ceremonial, and exotic paraphernalia associated with the lapidary industry is evidence of the farreaching cultural interaction which took place during the southeastern Formative period. This concludes discussion of the ceramic and non-ceramic artifacts found among southeastern Formative sites.

The Cultural Importance of Plain Fiber-tempered Pottery

At the outset it is important to recognize that stylistic variation among pottery is the cornerstone upon which Formative cultural complexes are built. As valuable as decorative differences may be in the classification of Formative developments, it is important to remember that decorated fiber-tempered pottery is only a minor strain in a ceramic tradition that is otherwise undecorated.

From the sample of 45,159 fiber-tempered sherds reported from 698 SFT sites within the literature, 38,479 sherds or 85.20 percent of it is plain ware. The remainder of the sample 6,680 sherds or 14.80 percent are decorated. Within this sample, the Norwood Series is represented by 1,039 (87.60%) sherds of plain ware, and 147 (12.39%) sherds of decorated ware. The Orange Series is represented by 15,439 (82.35%) sherds of plain ware, and 3,307 (17.64%) sherds of decorated ware. The Wheeler Series is represented by 12,414 (94.77%) sherds of plain ware, and 685 (5.22%) sherds of decorated ware. The Stalling's Island Series is represented by 9,618 (79.30%) sherds of plain ware, and 2,510 (20.69%) sherds of decorated ware. Examined in this light, decorative variations take on a less emphatic cultural meaning.

Moreover, current evidence suggests that North America's earliest pottery tradition is characterized by a remarkably homogeneous foundation consisting of nearly identical plain types (Shannon 1986). Indeed, plain fiber-tempered sherds are so much alike that in general they are viewed as non-diagnostic

(Phelps 1965). Therefore, since decorated types are made on the same vessel forms and paste as plain types, differences among fiber-tempered types may be reduced to their lowest common denominator -- variation among design application method. The cultural importance attached to decoration is discussed in the following chapter.

CHAPTER 3: ANALYSIS

Introduction

The regional space-time systematics currently used to partition four perceived cultural expressions of the Southeastern Fiber-tempered Tradition will now be evaluated. The goal of the analysis undertaken is to isolate significant ceramic and non-ceramic artifact classes in such a way that the current four-fold cultural classification of this tradition might be either replicated or revised.

The focus of this study is to investigate the relationship between SFT artifact class behavior and cultural complexity. To answer this basic research question three specific analytical problems are addressed: the problem of defining relationships among variables (artifact classes), the problem of defining relationships among cases (sites), and the development of a classification of SFT sites that will group those exhibiting similar artifact assemblages. It is assumed that if coherent groupings of Formative artifact classes exist, then they may be shown to have some cultural implications. The discussion to follow will concentrate on the spatial distribution of SFT artifact classes and sites. Their temporal variability is addressed in the closing section of this chapter.

Hypotheses To Be Tested

The primary purpose of this study is to evaluate the current four phase SFT classification through the use of numerical taxonomic methods. The goal of this study is to identify and define the cultural entities that co-existed in the Southeast during the Formative period. Toward this end, the data in this study were collected and analyzed to test three related hypotheses.

The first general hypothesis proposed states that Southeastern Formative artifacts are the products of four discrete groups of people. Historically, it has been assumed that the mutually exclusive popularity of particular ceramic exterior surface decorative treatments sets apart four regions of the Southeast as the loci for four distinct Formative socio-cultural developments (Phelps 1965:65). Cultural significance has been attached to the distribution of: the simple stamped ware of the Big Bend region of Florida; the incised ware of the St. Johns River valley; the dentate-stamped ware of the Tennessee River; and, the linear drag-and-jab punctated ware of the Savannah River drainage. Through the years, these four decorative variations have gained wide acceptance as having cultural importance.

The second general hypothesis proposed states that SFT artifacts are the products of one group of people. As such, they represent the material products of a lifeway that lasted more than two millennia, and which eventually diffused to all areas of the Coastal South. Accepting this hypothesis would imply that the traditional practice of recognizing distinctive decorative treatments on a region by region basis has obscured the apparent regional overlap in ceramic manufacturing and finishing techniques, which results from a common, traditional origin.

A third general hypothesis proposed states that SFT artifacts are the products of two discrete groups of people: an eastern group living along the south Atlantic

Seaboard and Florida's pan handle, and, a western group living within Tennessee, Mississippi, and Alabama.

The research strategy employs several inductive pattern recognition procedures as a basis upon which to examine the existing classification and test these hypotheses.

Coding of SFT Sites and Artifact Classes

Very few of the 698 SFT sites reported within the literature have produced evidence of intensive occupation by makers of fiber-tempered ware, moreover, among those with intensive occupations, only a small percentage have been scientifically evaluated. Therefore, those sites with missing artifactual information were eliminated from detailed analysis.

Two data sets were created from sites deemed suitable for analysis. Data Set 1 (Table 1), includes all Formative sites where fiber- and semi-fiber-tempered pottery have been reported by both sherd frequencies and percentages. A total of 52 sites and five artifact classes are contained within Table 1, which is employed in the search for patterning among fiber-tempered pottery. A second data set (Table 7), was created to examine the patterning among both ceramic and non-ceramic forms of Formative material culture. Table 7 is presented and discussed in the appropriate section, below.

Before proceeding with the analysis it is necessary to discuss any existing bias in the data as well as any bias introduced into the analysis from raw data selection and coding. The problem of existing bias in the data is a dual one with both spatial and temporal consequences. The sites employed within Data Sets 1 and 2 were selected in regard to the completeness of the data, therefore, the possibility of sampling bias may exist because the sites are not evenly distributed within the study area. Given that this tradition lasted more than two millennia, the temporal

Table 1. Data Set 1: Nominal Scale Ceramic Class Tabulations by Site.

Site No.	Latitude (N)	Long. (W)	Plain	Incised	Punctated	Dentate	Simple
23	29.83	84.83	1	0	0	0	1
47	30.10	84.16	1	0	0	0	1
8	30.50	85.00	1	1	0	0	0
98	29.33	81.16	1	1	0	0	0
99	29.16	81.33	1	1	0	0	0
167	28.66	81.25	1	1	0	0	0
173	28.50	80.83	1	1	0	0	0
177	28.50	80.83	1	1	0	0	0
183	28.16	80.66	1	1	0	0	0
184	28.16	80.66	1	1	0	0	0
185	28.00	80.40	1	1	0	0	0
1	29.33	81.83	1	1	1	0	0
2	29.16	81.83	1	1	0	0	0
4	30.50	81.33	1	0	0	0	1
18	30.50	81.33	1	1	0	0	0
43	30.25	86.33	1	0	0	0	0
56	28.41	81.00	1	1	0	0	0
75	29.83	81.16	1	1	1	0	0
97	28.33	80.83	1	1	0	0	1
112	27.83	82.66	1	1	1	0	0
72	32.66	91.33	1	0	1	0	1
243	34.83	88.00	1	0	1	1	1
246	34.83	87.83	0	0	0	0	1
247	35.00	88.00	1	0	0	0	0
248	34.83	87.66	1	0	0	0	0
252	34.66	86.83	1	0	1	1	1
253	34.83	88.00	1	0	1	1	1
318	34.00	87.83	1	0	1	1	0
324	30.16	89.83	1	0	1	0	0
362	34.50	86.50	1	0	0	1	1
378	38.83	94.33	1	0	0	0	0
235	35.16	88.66	1	1	1	0	1
277	34.16	88.16	1	0	0	0	0
290	31.50	89.33	1	0	0	0	0
317	32.16	88.50	1	0	1	0	1
331	33.00	88.16	1	1	1	1	1
341	33.00	88.16	1	0	0	0	0
344	33.16	88.16	1	0	1	1	0
358	35.16	88.66	1	0	1	0	0
109	32.83	81.16	1	1	1	0	1
190	32.00	81.00	1	1	1	0	0
216	32.33	80.83	1	1	1	0	0
300	31.83	81.00	1	1	1	0	0
315	32.25	86.16	1	0	0	0	0
521	33.00	81.66	1	1	1	0	0
613	32.00	81.00	1	0	1	0	0
617	32.83	81.16	1	1	1	0	1
110	33.00	82.00	1	1	1	0	1
188	32.00	81.00	1	1	1	0	0
195	31.33	81.00	1	1	1	0	0
299	31.33	81.00	1	1	1	0	1
91	31.00	81.16	1	1	0	0	1

Note: spatial coordinates entered in decimal form; ceramic data: (1) presence or (0) absence.

ordering of sites is of equal concern.

Raw data selection bias was controlled by having all data coded by one investigator. Additionally, the considerable variability, both in quantity and reliability of the data reported from SFT sites, has been controlled for by converting artifact types to broader artifact classes. These classes serve two major functions: (1) they provide units susceptible to statistical handling, and, (2) they provide a body of data which describes what was actually found for use by other archaeologists. Combining the data in this fashion deletes many of the zero values inherent in individual artifact counts; in essence, it allows for precision without violating the assumptions of the statistical procedures performed below.

Two scales of measurement (interval and nominal) were used to code the variables employed in this study. Since comparable artifact frequencies were not available from most of the Formative sites studied, the use of continuous data in this study is limited. It was possible, however, to employ latitudinal and longitudinal measurements from each site as quantitative, interval scale variables to ascertain the geographic locations of certain artifacts and sites.

The data on Formative artifacts and sites were subjected to basic descriptive statistics, the generation of scatter plots, cluster analyses, and principal components analysis. The statistical procedures performed were computed with an Apple Macintosh Plus computer used in conjunction with SYSTAT (Wilkinson 1986) and STATWORKS (Rafferty et al. 1985) statistical packages. The results of the analyses are described and discussed in the two subsequent sections.

Formative Site Locations and Ceramic Patterns

One method by which the Formative ceramic connections of the Southeast can be understood is by a study of the geographical distributions of fiber- and semi-fiber-tempered; plain, incised, punctated, dentate-stamped, and simple stamped ware. Toward this end, Table 1 data were collected and analyzed to research geographic variation among SFT sites and to test the behavior of one class of fiber-tempered pottery relative to that of another, across space. Three research questions are addressed at the initial stage of analysis. They are:

(1) How do the sites of Table 1 group in space by their latitudinal and longitudinal coordinates?

(2) How do these sites group based on similarities among pottery classes?

(3) Are these sites grouping the same by their geographic coordinates as they are on pottery classes?

The answers to these questions are derived through an examination of the data presented in various tables, graphs, and maps below, and, through the implementation of agglomerative hierarchical cluster and chi square analyses.

Spatial Patterning Among SFT Sites

To investigate how SFT sites group in space, all 32 sites on Table 1 were clustered by their latitudinal and longitudinal coordinates (Figure 20). Raw data on each of the geographic variables for each of the 32 SFT sites were standardized in their z score form prior to calculating distances, so as to rule out spurious effects due to unequal variances of the respective empirical variables (Kachigan 1982:263). Normalized Euclidean distances (root mean squared distances) were chosen as the measure for determining the relationship between any two sites upon which partition is to occur. An average linkage algorithm was chosen to measure the similarity of a specific site relative to existing groups of sites. This algorithm

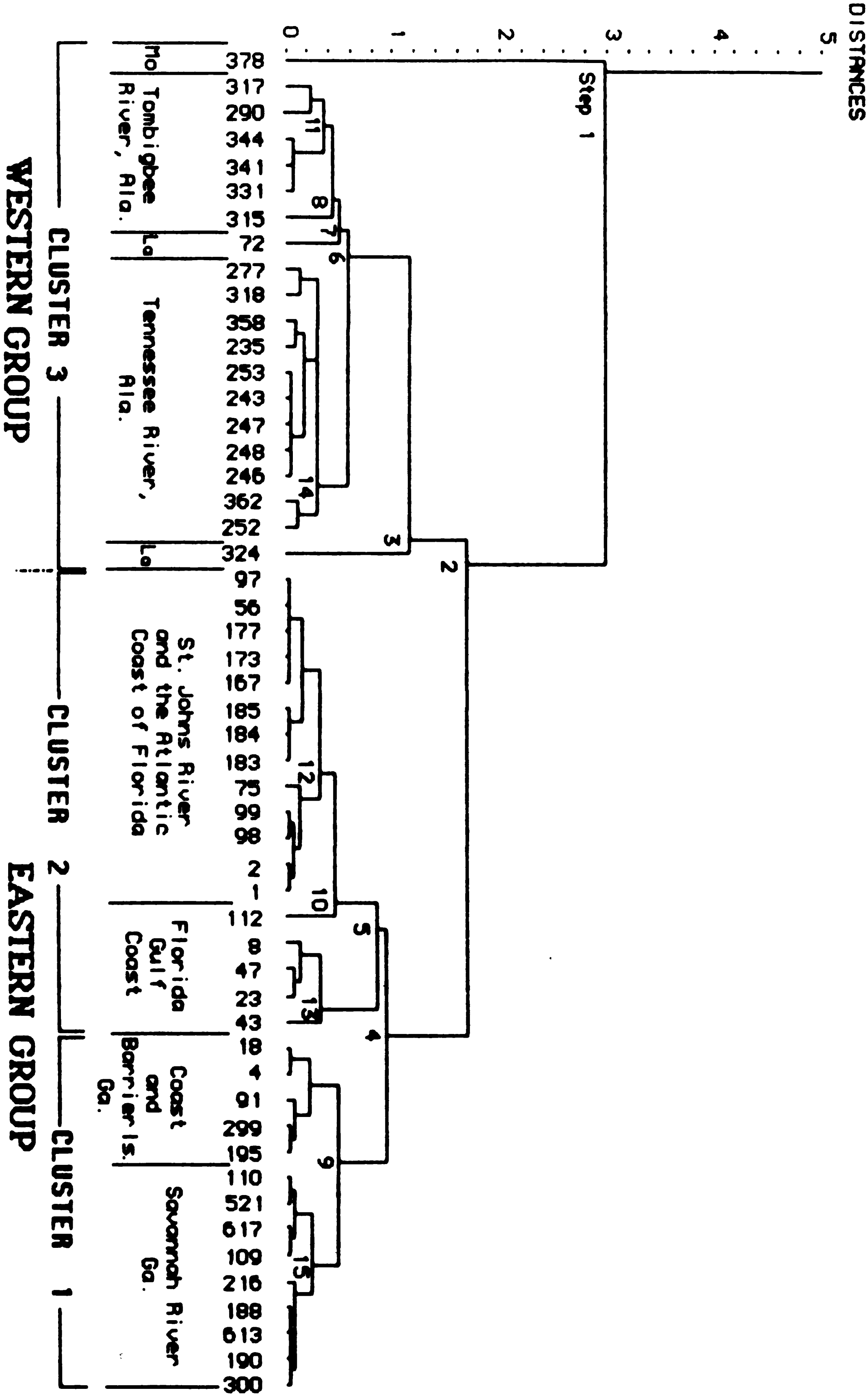


Figure 20. Average linkage dendrogram showing the spatial relationships among sites based on their geographic coordinates.

averages all distances between pairs of sites in different clusters to decide how far apart they are. It was chosen over single or complete linkage because the result desired is to determine how sites group, not how they are contiguous. It is well suited for this purpose because it is not additive, thus, it does not produce the individual chaining effect obtained from single or complete linkage analysis. The geographic linkages among these SFT sites are presented in Figure 20. The dendrogram created shows the linkage of each site or group of sites as a joining of branches in a tree. The trunk of the tree represents the linkage of all clusters into one set, and the ends of the tree's branches lead to each separate site. Emphasis is placed on the interpretability rather than the statistical significance of the clusters created.

It is suggested that three clusters, formed at a distance level of .89 or lower are an optimal number for interpretation (Figure 20). The two geographic groups formed at this specific point correspond with the eastern and western subregions of the southern Coastal Plain previously defined for the Gulf Formational Stage (Walthall 1980:78). The sites within clusters 1 and 2 occur within the eastern region extending from eastern Alabama to the Atlantic coast. Cluster 3 sites occur within the western region encompassing the area between the Tombigbee drainage of western Alabama and the lower Mississippi Valley.

The values of the distance coefficients for the final fifteen clustering steps of Figure 20 are shown in Table 2 and graphed in Figure 21. The first major discontinuity between clustering steps is between steps 3 and 2 where the coefficient value jumps from 1.17 to 1.73. The second discontinuity between clustering steps is between steps 5 and 4 where the coefficient value varies from .89 to .96. The clustering was stopped between steps 5 and 4 since the coefficient values appear to level off after this point. Prior to .89, linkage is occuring within,

Table 2. Distance Coefficients at the Final Fifteen Clustering Steps in Figure 20.

Site No.	Latitude (N)	Longitude (W)	Distance Coefficient	Cluster Step
378	38.83	94.33	2.99	1
317	32.16	88.50	.24	
290	31.50	89.33	.39	11
344	33.16	88.16	.04	
341	33.00	88.16	.00	
331	33.00	88.16	.49	8
315	32.25	86.16	.67	7
72	32.66	91.33	.73	6
277	34.16	88.16	.07	
318	34.00	87.83	.26	
358	35.16	88.66	.00	
235	35.16	88.66	.17	
253	34.83	88.00	.00	
243	34.83	88.00	.04	
247	35.00	88.00	.05	
248	34.83	87.66	.03	
246	34.83	87.83	.30	14
362	34.50	86.50	.07	
252	34.66	86.83	1.17	3
324	30.16	89.83	1.73	2
97	28.33	80.83	.04	
96	28.41	81.00	.04	
177	28.50	80.83	.00	
173	28.50	80.83	.10	
167	28.66	81.25	.13	
185	28.00	80.40	.06	
184	28.16	80.66	.00	
183	28.16	80.66	.33	12
75	29.83	81.16	.19	
99	29.16	81.33	.05	
98	29.33	81.16	.11	
2	29.16	81.83	.04	
1	29.33	81.83	.43	10
112	27.83	82.66	.89	5
8	30.50	85.00	.19	
47	30.10	84.16	.14	
23	29.83	84.83	.33	13
43	30.25	86.33	.96	4
18	30.50	81.33	.00	
4	30.50	81.33	.21	
91	31.00	81.16	.09	
299	31.33	81.00	.00	
195	31.33	81.00	.46	9
110	33.00	82.00	.06	
521	33.00	81.66	.14	
617	32.83	81.16	.00	
109	32.83	81.16	.28	15
216	32.33	80.83	.11	
188	32.00	81.00	.00	
613	32.00	81.00	.00	
190	32.00	81.00	.04	
300	31.83	81.00	.04	

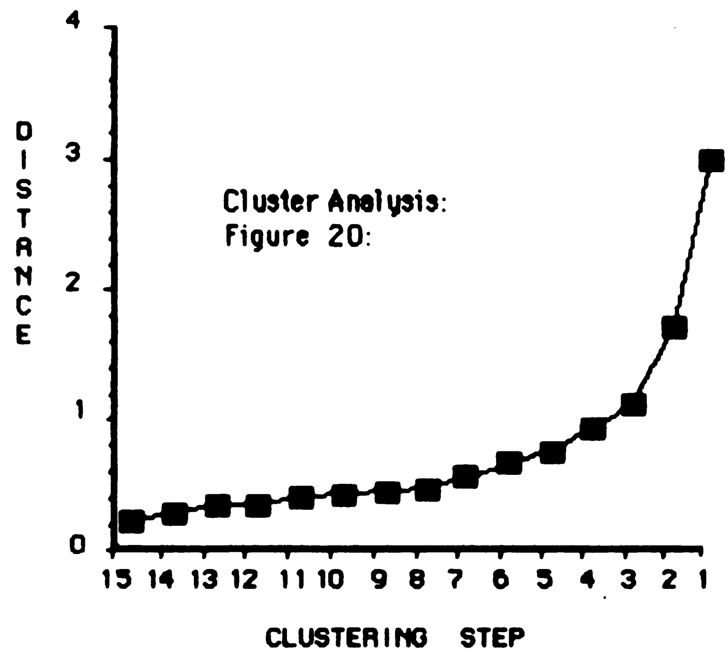


Figure 21. Graph of the Distance Coefficient Values at the Final Fifteen Clustering Steps in Figure 20.

but not between, clusters. Therefore, it is suggested that three major site clusters (representing two geographic groupings) formed at a distance level of .89 or lower are an optimal number for interpretation.

Ceramic Patterning Among SFT Sites

To determine how sites group based on similarities among pottery classes, an "omnibus" analysis of the pooled ceramic sample was performed. This analysis served to clarify between-ware relationships across space. A matching-type measure of inter-object similarity was employed as the input statistic (Kachigan 1982:265). This simple matching coefficient is described as the ratio of matches, either positive (1,1) or negative (0,0), that two sites exhibit with respect to the total number of pottery classes being considered.

The resulting dendrogram (Figure 22) clusters all 32 SFT sites based on the observed similarities or dissimilarities (distances) between their pooled presence/absence pottery classes. The distance coefficient values determined at each step of clustering in Figure 22 were used to interpret the optimal point for stopping the clustering. The values of the distance coefficients for all 26 clustering steps are presented in Table 3 and graphed in Figure 23. The first major discontinuity between clustering steps is between steps 3 and 2 where the coefficient value jumps from .27 to .39. The second discontinuity between clustering steps is between steps 5 and 4 where the coefficient value varies from .20 to .23. The clustering was stopped between steps 5 and 4 since the coefficient value levels off after this point. Prior to .23, linkage is occurring within, but not between, clusters. Thus, it is suggested that three major clusters, (three pottery groupings), formed at a distance level of .23 or lower are an optimal number for interpretation.

A comparison of Figure 20 with Figure 22 shows that sites group based upon geography as well as pottery into three broad clusters. Given these tests

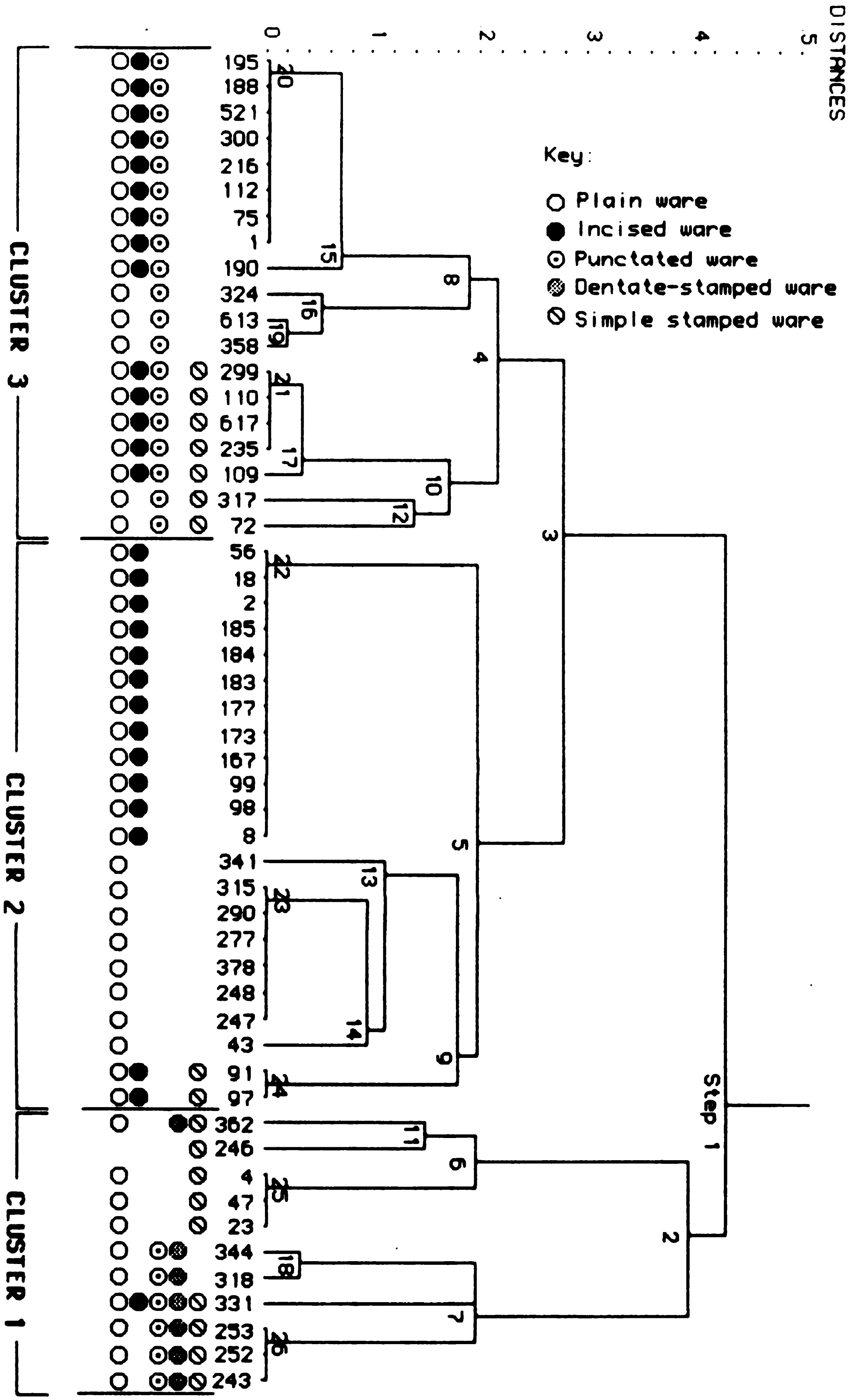


Figure 22. Average linkage cluster analysis of the pooled ceramic data on Table 1, showing between-ware relationships among sites.

Table 3. Distance Coefficients at each Clustering Step in Figure 22.

Site No.	Plain	Incised	Punctated	Dentate	Simple	Distance Coefficient	Cluster Step
195	1	1	1	0	0	.00	
188	1	1	1	0	0	.00	
521	1	1	1	0	0	.00	
300	1	1	1	0	0	.00	
216	1	1	1	0	0	.00	
112	1	1	1	0	0	.00	
75	1	1	1	0	0	.00	
1	1	1	1	0	0	.00	20
190	1	1	1	0	0	.07	15
324	1	0	1	0	0	.19	8
613	1	0	1	0	0	.05	16
358	1	0	1	0	0	.03	19
299	1	1	1	0	1	.23	4
110	1	1	1	0	1	.00	
617	1	1	1	0	1	.00	
235	1	1	1	0	1	.00	21
109	1	1	1	0	1	.04	17
317	1	0	1	0	1	.17	10
72	1	0	1	0	1	.14	12
56	1	1	0	0	0	.27	3
18	1	1	0	0	0	.00	
2	1	1	0	0	0	.00	
185	1	1	0	0	0	.00	
184	1	1	0	0	0	.00	
183	1	1	0	0	0	.00	
177	1	1	0	0	0	.00	
173	1	1	0	0	0	.00	
167	1	1	0	0	0	.00	
99	1	1	0	0	0	.00	
98	1	1	0	0	0	.00	
8	1	1	0	0	0	.00	22
341	1	0	0	0	0	.20	5
315	1	0	0	0	0	.12	13
290	1	0	0	0	0	.00	
277	1	0	0	0	0	.00	
378	1	0	0	0	0	.00	
248	1	0	0	0	0	.00	
247	1	0	0	0	0	.00	23
43	1	0	0	0	0	.10	14
91	1	1	0	0	1	.17	9
97	1	1	0	0	1	.00	24
362	1	0	0	1	1	.43	1
246	0	0	0	0	1	.15	11
4	1	0	0	0	1	.20	6
47	1	0	0	0	1	.00	
23	1	0	0	0	1	.00	25
344	1	0	1	1	0	.39	2
318	1	0	1	1	0	.03	18
331	1	1	1	1	1	.19	
253	1	0	1	1	1	.20	7
252	1	0	1	1	1	.00	
243	1	0	1	1	1	.00	26

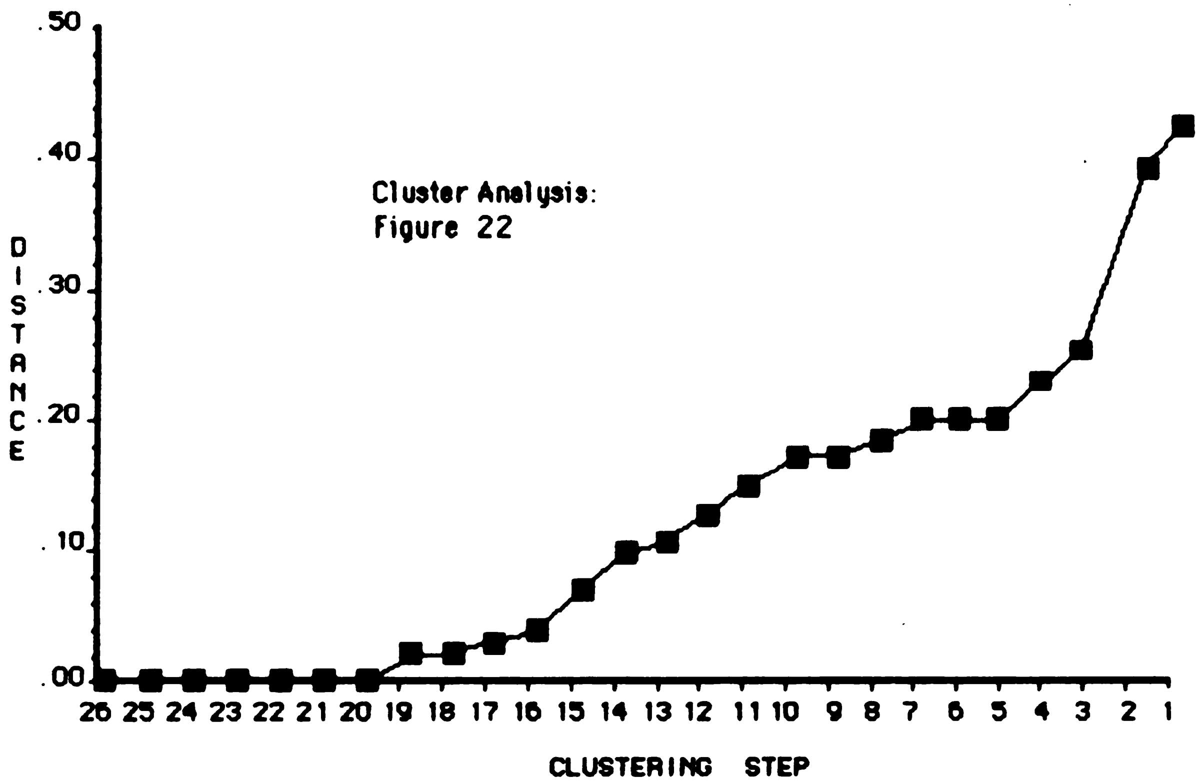


Figure 23. Graph of the Distance Coefficient Values at each Clustering Step in Figure 22.

results, a direct answer to the third research question asked at the beginning of this section can now be offered. *Are these sites grouping the same by their geographic coordinates as they are on pottery classes?* The answer to this question is yes. The geographic linkages established in Figure 20 correlate very well with the ceramic linkages established in Figure 22. The three geographic clusters shown in Figure 20 group sites located within the states of Georgia (Cluster 1), Florida (Cluster 2), and Alabama (Cluster 3). The three ceramic clusters shown in Figure 22 indicate that plain, incised, and punctated ware occur together among Georgia sites (Cluster 3), that plain and incised ware tend to occur together among Florida sites (Cluster 2); and, that plain, punctated, dentate-stamped, and simple stamped ware tend to occur together among Alabama sites (Cluster 1).

Figure 24, a visual display of between-ware relationships among Table 1 sites, illustrates how Formative ceramic assemblages group, across space. Note how the spatial distinctiveness of incised and dentate-stamped ware is brought out by an inspection of Figure 25. Incised ware occur with plain, punctated, and simple stamped ware in the east, where they are distributed in a south to north pattern, which parallels the south Atlantic Seaboard. Dentate-stamped ware group with plain, punctated, and simple stamped ware among sites located within the Tennessee and Tombigbee River drainages in the west. The three remaining pottery classes; plain, punctated, and simple stamped all have amorphous distributions as shown in Figure 25. Plain ware is the only class of fiber-tempered pottery which is uniformly distributed throughout the entire research area.

From an inspection of the individual pottery class distributions shown in Figure 25 it is proposed that only the incised and dentate stamped pottery classes are related or dependent on location with respect to the eastern and western portions of the research area, respectively. To test this proposition empirically, the incised

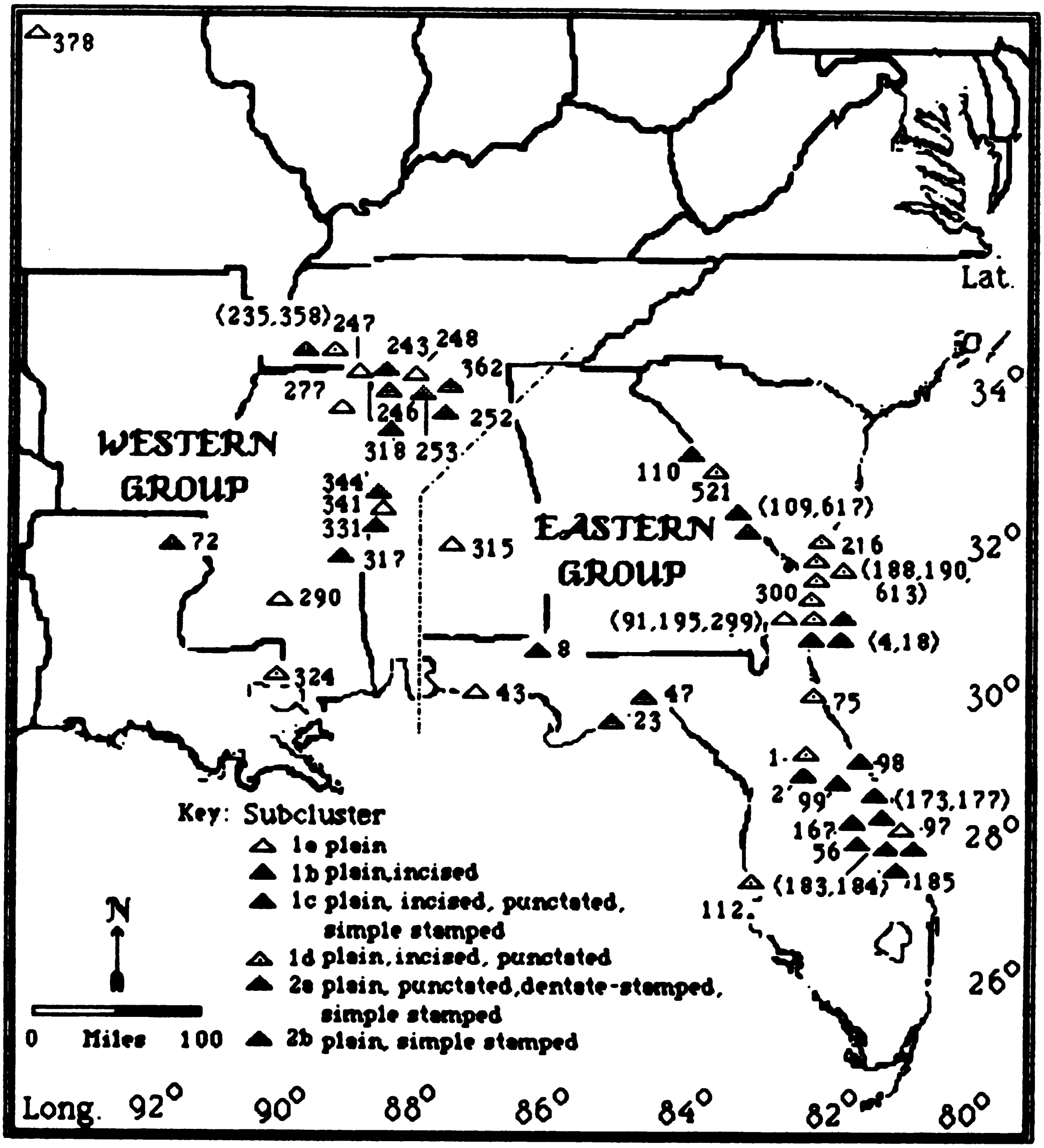


Figure 24. A geographical display of between-ware relationships among Table 1 sites.

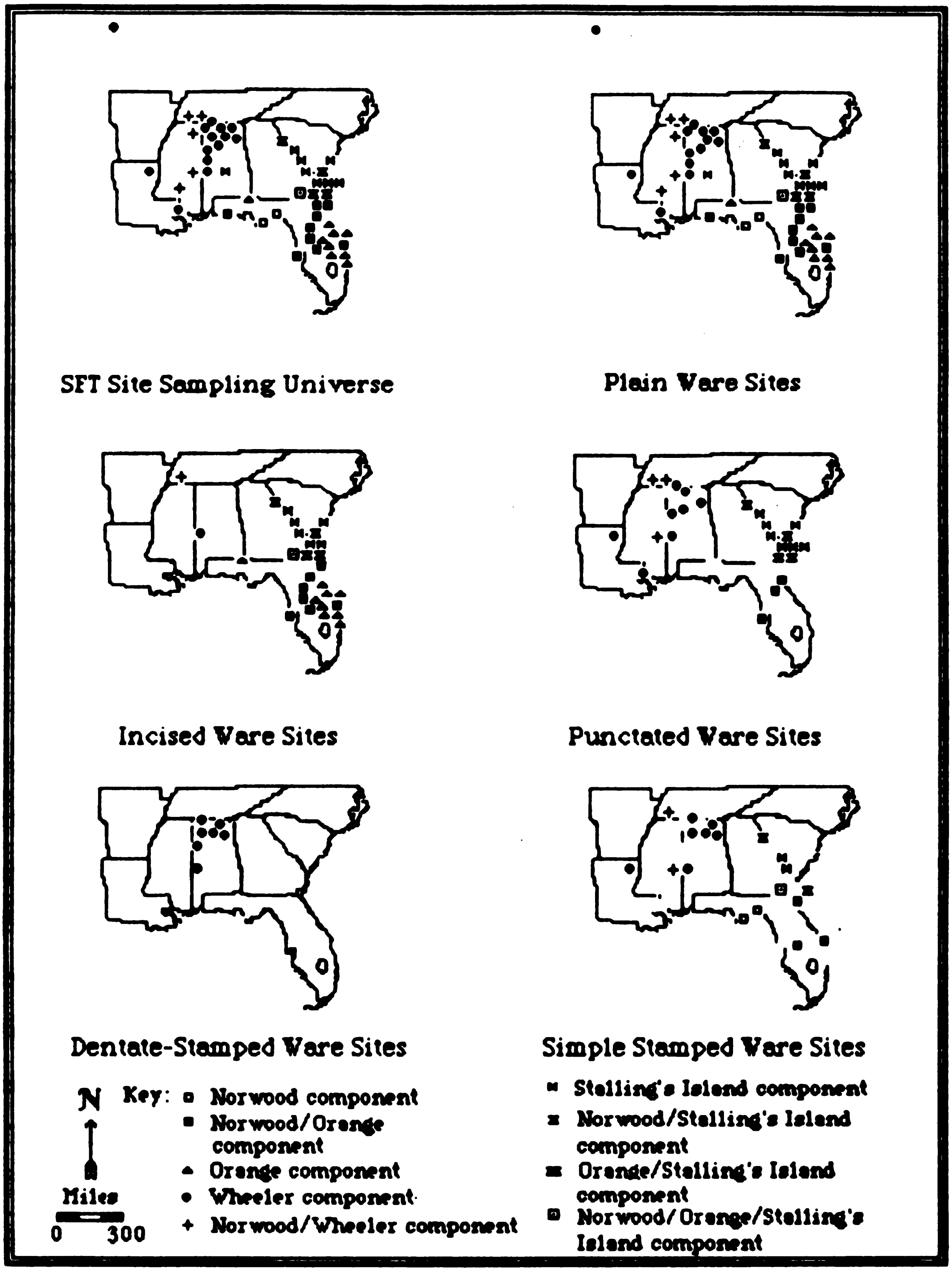


Figure 25. A geographical display of individual design application methods among Table 1 sites.

and dentate-stamped pottery classes of Table 1 were assigned to one of two geographic groups depending on their placement within Figure 24 (refer to Brashler 1981:238 for a similar test of spatial variation among pottery). Then, a two-by-two contingency table analysis was performed (Tables 4 and 5). The statistical model of chi square was implemented to test the significance of the relationship between sites based upon ceramic decoration and region. The null hypothesis is stated in terms of the independence of the two variables, ceramic decoration and geographic region. Thus: (Ho:) states that decorative modes are distributed independent of location. Meaning that there are no significant differences between decorative modes, and their distribution within the research area. The alternate hypothesis (H1:) states that decorative modes in the research area are dependent with respect to location.

The chi square statistic with one degree of freedom and an alpha level set at 0.001 was employed. An observed chi-square value greater than or equal to 10.83 would cause the null hypothesis of independence of ceramic decoration and geographic region to be rejected. Caution should be exercised in the interpretation of this table because more than 20 percent of the expected values are under 5. However, notwithstanding this problem, the results are so obvious that this measure of statistical independence may be unnecessary. The test results presented on Table 5 indicate that the null hypothesis should be rejected. Therefore, it is concluded that the variable of decorative mode is dependent on location with respect to western and eastern portions of the study area.

The information obtained from the analysis of Formative site locations and ceramic patterns should prove useful for the delineation of cultural patterning during the Formative Period. Thus, the next section of the analysis asks the question: Do the two geographic/ceramic site groupings which result from the

Table 4. Cross-tabulation of ceramic decoration against region.

Ceramic Class		N		(SFT) Region	
				West	East
	Incised	31	observed	5	26
			expected	9.21	21.78
	Dentate Stamped	6	observed	6	0
			expected	1.78	4.21
			Total	11	26

N = 37

Table 5. Chi square value calculated for Table 4 data.

fo	fe	fo - fe	$(fo-fe)^2$	$\frac{(fo-fe)^2}{fe}$
5	9.21	-4.21	17.72	1.92
26	21.78	4.22	17.80	.81
6	1.78	4.22	17.80	10.00
0	4.21	-4.21	17.72	4.20
				$X^2 = 16.93$

df = 1; alpha set at 0.001; $X^2 = 10.83$

analysis above correlate with the traditional SFT phase classifications?

In the literature, a specific cultural phase has been assigned to each site listed on Table 6 based upon differences in ceramic decorative style, vessel shape, and temper. Aside from differences among decorative modes discussed above, a second ceramic distinction stressed by the current fiber-tempered ware typology is vessel form. The physical characteristics of large rim, body, and base sherds provide ample evidence of the variation that exists among Formative pots. Upon their observation and measurement it has been proposed that fiber-tempered vessels vary in form from region to region (Sears and Griffin 1950; Phelps 1965). Moreover, variations among form are thought to have cultural meaning. For example, among Norwood ware: shallow, simple round bowls are the mode, however, some evidence of the long oval, or rectangular flat-base pan has been noted (Phelps 1965:67), as well. Orange ware are either shallow, round-mouthed, straight-sided, and flat-based bowls or shallow, straight-sided and flat-based "tub-like" rectangular containers, some with lug-like appendages (Bullen 1972). Both the simple open bowl and the flat based beaker form characterize the Wheeler vessel shape (Walthall 1980:87-88). Stalling's Island ware are represented by the wide-mouthed simple bowl form with bases that are typically rounded or flattened. In addition, site (110),the Stalling's Island site has produced unique cazuela-like bowls (Stoltman 1972:41). Despite the emphasis placed on vessel form differences in the past, the uniform distribution of the shallow, flat-based pan, circular to rectangular in shape, throughout the research area is clear. A third ceramic distinction emphasized as critical for distinguishing between Formative ceramic series is temper. Norwood ware is described as a double tempered ware containing sand and either cylindrical (*Spanish moss*) or flat (*sabal palmetto*) fiber. Orange ware is described as tempered with *sabal palmetto* fiber. Wheeler ware with

Table 6. The Current (SFT) Phase Classification of Table 1 Sites Compared to the (SFT) Ceramic Types Identified at each Site.

Site No.	Phase Classification	(SFT) Ceramic Types Identified at Site
195	STALLINGS	NORWOOD & STALLINGS
188	STALLINGS	NORWOOD & STALLINGS
521	STALLINGS	STALLINGS
300	STALLINGS	STALLINGS
216	STALLINGS	STALLINGS
112	ORANGE	NORWOOD & ORANGE
75	ORANGE	NORWOOD & ORANGE
1	ORANGE	NORWOOD & ORANGE
190	STALLINGS	STALLINGS
324	WHEELER	WHEELER
613	STALLINGS	STALLINGS
358	WHEELER	NORWOOD & WHEELER
299	STALLINGS	NORWOOD & STALLINGS
110	STALLINGS	NORWOOD & STALLINGS
617	STALLINGS	STALLINGS
235	WHEELER	NORWOOD & WHEELER
109	STALLINGS	STALLINGS
317	WHEELER	NORWOOD & WHEELER
72	WHEELER	WHEELER
56	ORANGE	NORWOOD & ORANGE
18	ORANGE	NORWOOD & ORANGE
2	ORANGE	NORWOOD & ORANGE
185	ORANGE	ORANGE
184	ORANGE	ORANGE
183	ORANGE	ORANGE
177	ORANGE	ORANGE
173	ORANGE	ORANGE
167	ORANGE	ORANGE
99	ORANGE	ORANGE
98	ORANGE	ORANGE
8	ORANGE	ORANGE
341	WHEELER	WHEELER
315	STALLINGS	STALLINGS
290	WHEELER	NORWOOD & WHEELER
277	WHEELER	NORWOOD & WHEELER
378	WHEELER (NEBO HILL)	WHEELER (NEBO HILL)
248	WHEELER	WHEELER
247	WHEELER	WHEELER
43	ORANGE	NORWOOD & ORANGE
91	STALLINGS	NORWOOD & ORANGE & STALLINGS
97	ORANGE	NORWOOD & ORANGE
362	WHEELER	WHEELER
246	WHEELER	WHEELER
4	ORANGE	NORWOOD & ORANGE
47	NORWOOD	NORWOOD
23	NORWOOD	NORWOOD
344	WHEELER	NORWOOD & WHEELER
318	WHEELER	WHEELER
331	WHEELER	NORWOOD & WHEELER
253	WHEELER	WHEELER
252	WHEELER	WHEELER
243	WHEELER	WHEELER

grass fibers and occasionally some sand, and Stalling's Island ware is thought to be tempered with dried *Spanish moss*. However, despite formalized distinctions, it simply is not known whether differences in tempering agents over space and time prevailed during the tradition. The considerable overlap among the spatial patterning of *Spanish moss* and *sabal palmetto* plant distributions has been apparent for the past seventeen years (Brain and Peterson 1970; Peterson 1972; Simpkins and Allard 1986). Examined in this light, subjectively derived temper differences take on little cultural meaning.

With these inconsistencies in mind, the current SFT phase classification of Table 1 sites should be compared to the SFT ceramic types identified at each site, below. Site numbers 195 through 72 group within Cluster 3 of Figure 22. Sites 56 through 97 group within Cluster 2 of Figure 22. Together, these two site clusters comprise the eastern site group. Sites 195 through 72 are characterized by the presence of both incised and punctated ware, while site numbers 56 through 97 group within Cluster 2 of Figure 22. Cluster 2 sites tend to be demarcated by the presence of incised ware. In the past, Stallings, Orange, and Wheeler phase classifications have been assigned to certain sites within the eastern grouping. Of the three, however, the Stallings and Orange designations are most prominent. Note the presence of Norwood types (semi-fiber-tempered types) among the sites of the eastern group. It is suggested hat the use of the poorly defined Norwood taxon has brought about a great deal of confusion over Formative phase classification and ceramic type.

Site numbers 362 through 243 group within Cluster 1 of Figure 22. Cluster 1 sites comprise the western site group. Sites within this grouping tend to hold stamped ware (both dentate and simple) in common. In the past, Wheeler, Orange, and Norwood phase classifications have been assigned to certain sites within the western grouping. Of the three, however, the Wheeler designation is most prominent. However, here again, the use of the Norwood nomen has resulted in the development of some terminological difficulties.

Conclusions

Three preliminary conclusions are drawn from this examination of Formative site locations and pottery. First, if differences among the geographic distributions of decorated fiber-tempered pottery are to be used as critical defining variables for separating one Formative culture from another, then only two decorative classes; incised and dentate-stamped ware, appear analytically useful for this purpose. The implication of the first conclusion is clear. Since a statistically significant difference has been demonstrated between ceramics from the eastern and western portions of the study area, two coherent ceramic developments can be defined. One is bounded by the spatial distributions of incised ware and punctated ware. The other is bounded by the spatial distribution of stamped ware. Second, the current view of four SFT ceramic series does not correspond to the two ceramic/ geographical developments identified, above. The second finding is not surprising, because the cultural classification of the SFT based upon ceramics has long been problematical. Much of the difficulty inherent in the fourfold classification may be attributed to the fact that the critical attributes historically used in delineating the variability among types and for sorting these four series are imprecisely described (Shannon 1986:71). This conclusion makes apparent the need for an integrative synthesis of all forms of material culture within the SFT. Finally, since the spatial distribution of many fiber-tempered types can now be shown to overlap (refer to Figures 4-10, above), the discreteness of many types is open to some question. Thus, it seems clear that ceramic variability should no longer serve as the sole criteria for defining Formative cultural developments. This third conclusion warrants further explanation. Given the spatial overlap demonstrated for plain, punctated, and simple stamped ware, it is appropriate to briefly discuss the utility of the current four-fold typological construct. It seems counter-productive to pursue the current typology further, because, its usage actually inhibits our ability to synthesize information about the tradition. Indeed, the fact that all of these fiber-tempered types are clearly variants of a single theme is, "something that appears almost lost in the literature" (Anderson et al. 1982:244). The separation of these ware into four discrete ceramic series does not appear defensible given the results of the pilot study (Shannon 1986) and the findings of this analysis.

The results obtained from the above scatter plots, chi square, and cluster analyses served the heuristic function of generating a hypothesis for further research. A statistically significant difference has been demonstrated between ceramics from the West and East. Thus, incised and dentate-stamped ware appear to be differentially distributed with respect to geography.

It is proposed that the distributions of incised and dentate-stamped ware demarcate the boundaries of two discrete technological adaptations that vary with the structure of the natural environment. To test this hypothesis the emphasis of the analysis will now shift to an examination of patterning among both Formative ceramic and non-ceramic artifact classes. Thus, the focus of the following section will be to examine the proposed hypothesis in light of the patterning among all forms of Formative material culture.

Patterning Among All Forms of Formative Material Culture

A common assumption made by many archaeologists involved with the analysis of Formative artifacts is that a recognition of either the presence or absence of certain distinguishing artifact "types" is critical for differentiating one SFT cultural development from another (Phelps 1969:13; Goggin 1947:123, 1952; Bullen 1972; Walthall 1980:89-90; and, Stoltman 1972, 1974). The Norwood inventory includes; Norwood Plain and Simple Stamped pottery, stemmed and basally notched projectile points, Elliott's Point baked clay objects, and steatite vessels (Phelps 1969:13). The Orange inventory includes: Orange Plain and Incised pottery, stemmed projectile points, steatite vessels, *Busycon* gouges, shell disc, *Strombus* celts, pins made of bone or antler, *Columella* chisels, shell picks, grinding stones, bone awls, points made of bone and antler, and incised turtle bone (Goggin 1947:123, 1952; and Bullen 1972). The Wheeler inventory includes: Wheeler Plain and Dentate-Stamped pottery, stemmed projectile points, steatite vessels, pins made of bone and antler, bone awls, points made of bone and antler, sandstone vessels, expanded-base drills, choppers, microliths, tubular pipes, plummets, pendants, fish hooks, and bar gorgets (Walthall 1980:89-90). The Stalling's Island inventory includes: Stallings Plain and Punctated pottery, stemmed projectile points, steatite vessels, pins made of antler and bone, grinding stones, bone awls, points made of bone and antler, expanded-base drills, choppers, axes, adzes, anvils, atlatl weights, and steatite net sinkers (Stoltman 1972, 1974). Although "type" differences have been defined among these artifacts, the general overlap among artifact "classes" found among three of the four SFT groups is rather apparent; consider the formal similarity noted among Norwood, Wheeler, and Stalling's Island. The presence of so many marine-shell tools within the Orange inventory appears to be the only exception.

Data set 2 (Table 7) serves as the basis for an R-mode analysis of the spatial patterning among all forms of Formative material culture. The geographic distribution of Table 7 sites is displayed in Figure 26. Data set 2 contains those Formative sites studied with fiber-tempered pottery plus a minimum of five non-ceramic artifact classes found in association. A total of 55 sites and twelve artifact classes are contained within this data set. The ceramic artifact classes to be analyzed include; (A) plain, (B) incised, (C) punctated, (D) dentate-stamped, and (E) simple stamped fiber-tempered pottery as well as (F) baked clay objects. A vast array of non-ceramic artifacts are found among Formative sites. They include such objects as: grindstones, nutstones, choppers, basally-notched projectile points, corner-notched projectile points, side-notched projectile points, stemmed projectile points, bone points, antler wrenches, atlatl weights, atlatl hooks, hoes, net sinkers, fishhooks, hollow bone tubes, polished and faceted pebbles, microliths, whetstones, sandstone abraders, sandstone saws, pumice hones, gravers, reamers, wedges, adzes, shell gouges, axes, celts, chipped stone drills, spokeshaves, denticulates, shell hammers, shell picks, shell chisels, gorgets, decorated imitation canine mandibles, decorated mammal mandibles, plummets, pendants, shell discs, incised bone pins, incised fish bone, incised turtle carapace, incised bacculum, tubular pipes, and figurines. These non-ceramic artifacts were combined into six artifact classes as shown on Table 7. The classes include; (G) microliths, (H) marine-shell implements, (I) bone and antler implements, (J) ground stone implements, (K) chipped stone implements, and (L) lapidary ornaments.

Following Mainfort's (1979:298-313) experiments, the search for patterning among Formative artifacts was facilitated by the implementation of two multivariate statistical procedures; principal components analysis and agglomerative hierarchical clustering. Principal components analysis was applied to a matrix of

Table 7. Data Set 2: Nominal Scale Ceramic and Non-Ceramic Class Tabulations by Site.

			CERAMIC CLASSES						NON-CERAMIC CLASSES					
Site No.	Latitude (N)	Long. (W)	A	B	C	D	E	F	G	H	I	J	K	L
3	28.16	82.50	1	0	0	0	1	0	0	1	0	1	1	1
7	30.55	85.00	1	0	0	0	0	0	0	0	0	1	1	1
98	29.33	81.16	1	1	0	0	0	1	0	1	1	1	0	1
1	29.33	81.83	1	1	1	0	0	0	0	1	1	1	1	1
43	30.25	86.33	1	1	0	0	0	1	1	0	0	1	1	1
75	29.83	81.16	1	1	1	0	0	1	0	1	1	1	0	1
97	28.33	80.83	1	1	0	0	0	0	0	1	1	1	1	1
106	29.00	81.28	1	1	1	0	1	1	0	1	1	1	1	1
112	27.83	82.66	1	1	1	0	0	1	1	1	1	1	1	1
72	32.66	91.33	1	0	1	0	1	1	1	1	1	1	1	1
202	33.50	90.16	1	0	1	0	1	1	1	0	0	1	1	1
227	34.80	87.83	1	0	1	1	1	0	0	0	1	1	1	1
232	34.00	90.16	0	0	1	0	0	1	1	0	0	1	0	1
240	34.80	88.00	1	0	0	0	0	0	0	1	0	1	0	1
324	30.16	89.83	1	0	1	0	0	1	1	1	1	1	1	1
330	33.83	90.00	1	0	1	0	0	1	1	0	0	1	1	1
341	33.00	88.16	1	0	0	0	0	0	1	0	1	1	1	1
342	33.00	88.10	1	0	0	0	0	0	1	0	0	1	1	0
362	34.50	86.50	1	0	0	1	1	0	0	0	1	1	1	1
382	33.83	90.02	1	0	0	0	0	1	0	0	0	1	1	1
490	33.83	90.04	1	0	0	0	0	1	1	0	0	1	1	1
492	33.83	90.06	1	0	0	0	0	1	1	0	0	1	1	1
493	34.00	90.83	1	0	0	0	0	1	0	0	0	1	1	1
495	34.08	90.40	1	0	0	0	0	1	0	0	0	1	1	1
213	34.00	82.33	1	1	1	0	0	1	0	0	1	1	1	1
315	32.25	86.16	1	0	0	0	0	0	0	0	0	1	1	0
533	32.90	80.66	1	0	0	0	0	0	0	0	0	1	1	0
536	33.70	82.10	1	0	1	0	0	1	0	0	0	1	1	0
617	32.83	81.16	1	1	1	0	1	0	0	0	0	1	1	1
555	32.16	84.83	1	0	1	0	0	0	0	1	0	1	1	1
243	34.83	88.00	1	0	1	1	1	0	0	0	1	1	1	1
244	34.83	88.00	1	0	1	1	0	0	0	0	1	1	1	1
331	33.00	88.16	1	1	0	1	1	0	1	0	1	1	1	1
277	34.16	88.16	1	0	0	0	0	0	0	0	0	1	1	0
317	32.16	88.50	1	0	1	0	1	0	0	0	0	1	1	0
173	28.50	80.83	1	1	0	0	0	0	0	1	1	1	1	1
66	26.16	80.30	1	0	0	0	0	0	0	1	1	0	0	0
237	30.00	89.90	1	0	0	0	0	1	0	1	1	1	1	1
517	30.30	88.50	1	0	0	0	0	1	1	0	0	1	0	1
521	33.00	81.66	1	1	1	0	0	1	0	0	0	1	1	0
246	34.83	87.83	0	0	0	0	1	0	0	1	1	1	1	1
249	34.83	87.60	1	0	0	0	0	0	0	0	1	1	1	1
344	33.16	88.16	1	0	1	1	0	0	1	1	1	1	1	1
109	32.83	81.16	1	1	1	0	1	0	0	1	1	1	1	1
110	33.00	82.00	1	1	1	0	1	0	0	1	1	1	1	1
259	34.50	88.33	1	0	0	0	0	0	0	0	0	1	1	0
2	29.16	81.83	1	1	0	0	0	0	0	0	1	0	1	0
247	35.00	88.00	1	0	0	0	0	0	0	0	1	1	1	1
318	34.00	87.83	1	0	1	1	0	0	0	0	0	0	1	0
343	33.16	88.08	1	0	0	0	0	0	1	1	1	0	1	1
366	36.50	88.10	1	0	0	0	0	0	0	1	1	0	1	0

Table 7 (cont'd.).

Site No.	Latitude (N)	Long. (W)	CERAMIC CLASSES A	B	C	D	E	F	NON-CERAMIC CLASSES G	H	I	J	K	L
74	27.30	82.33	1	1	0	0	0	0	0	1	1	1	0	1
248	34.83	87.66	1	0	0	0	0	0	0	0	1	0	1	1
23	29.83	84.83	1	0	0	0	1	1	0	1	0	1	1	0
99	29.16	81.33	1	1	0	0	0	0	0	1	1	1	1	1

Note: spatial coordinates entered in decimal form; ceramic and non-ceramic data: (1) presence or (0) absence. Artifact key: (A) Plain ware, (B) Incised ware, (C) Punctated ware, (D) Dentate-stamped ware, (E) Simple Stamped ware, (F) Baked clay objects, (G) Microliths, (H) Marine shell implements, (I) Bone and antler implements, (J) Ground stone implements, (K) Chipped stone implements, (L) Lapidary ornaments

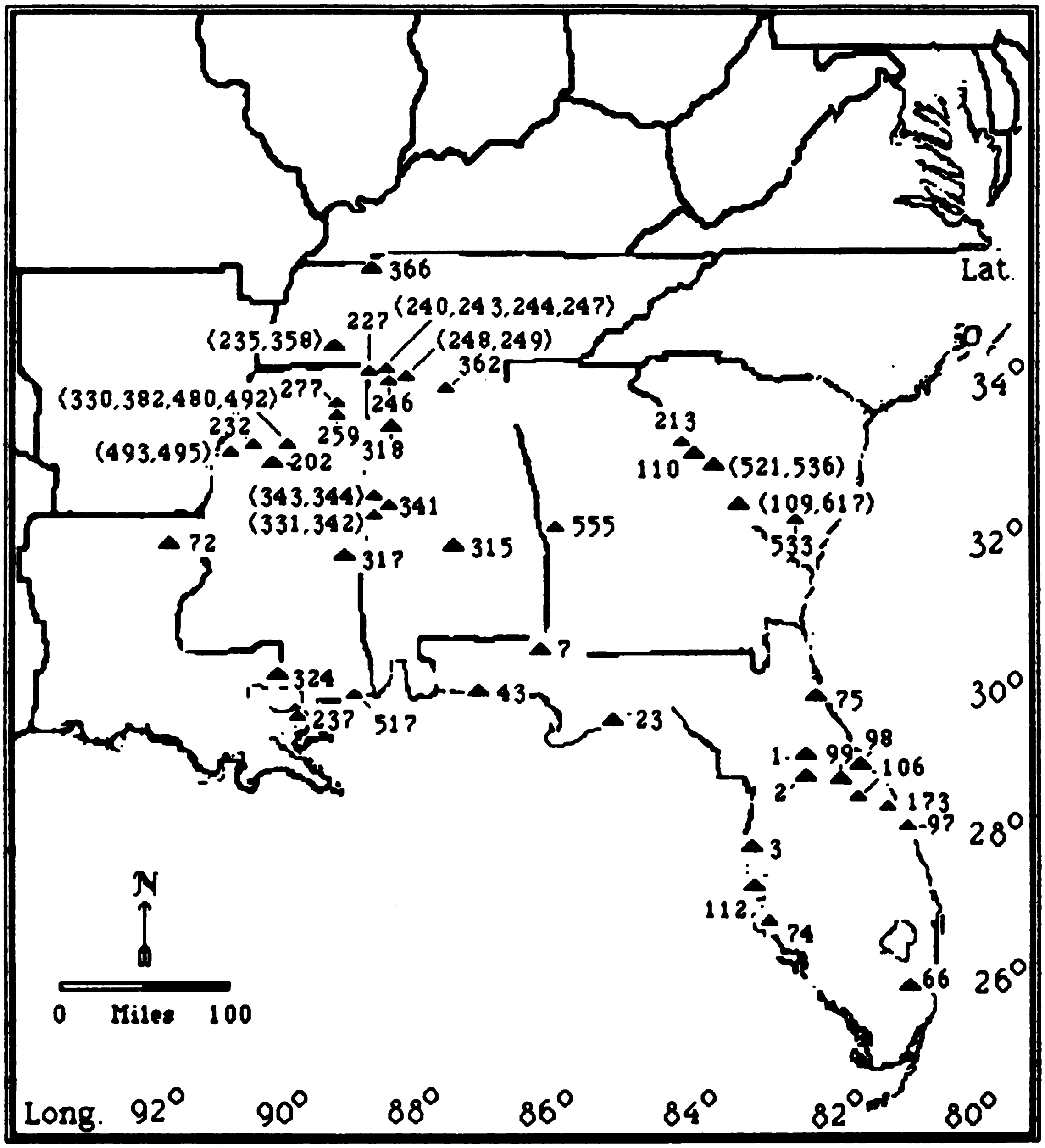


Figure 26. The location of Data Set 2 sites employed in the search for patterning among ceramic and non-ceramic artifact classes.

nonparametric (phi) correlation coefficients to test the behavior among these variables (Wilkinson 1986:Factor 1-12). Through the use of phi, it is possible to linearly transform the data. Phi is a chi square based statistic which behaves the same way as a Pearson's *r*. Because the relation between two variables employed in the factor analysis should be linear, the appropriateness of applying nominal scale, binary data as an initial input to a factor analysis has been questioned by some multivariate statisticians, refer to Doran and Hodson (1975:104). In defense of the present application of multivariate analysis to nominal scale data, "it is argued that binary variables can be linearly transformed and are, thus, mathematically suitable for use in any analysis technique that is invariant under linear transformation" (Mainfort 1979:301).

Through a principal components analysis with varimax rotation of the principal components a final relationship was sought between factors and artifact classes, whereby artifact classes fall into distinct groups with loadings that are high on some factors, moderate to low on others, and negligible on others. The presentation of results includes the varimax rotated loadings listed in Table 8, and the factor score coefficients listed in Table 9.

Three factors with eigenvalues greater than 1 were extracted and interpreted. These factors collectively account for .48 of the rotated variance present. All three factors are labeled and discussed below. The labels applied to each factor were derived from an inspection of the data on Appendices E1 through V1, and from factor loadings.

FACTOR 1: Incised fiber-tempered ware, Marine shell tools, Bone and antler tools

Factor 1 accounts for .17 of the variance. Incised ware and marine shell tools are interpreted as of eastern origin. Incised ware, shell tools, and bone tools all

Table 8. Varimax Rotated Factor Loadings.

Artifact Class	Factor: I	II	III
Marine shell implements	0.78	-0.04	-0.17
Bone and antler implements	0.77	-0.26	0.22
Incised ware	0.66	0.06	-0.01
Baked clay objects	-0.09	0.76	-0.24
Ground stone implements	0.00	0.64	0.24
Microliths	-0.16	0.57	-0.00
Lapidary ornaments	0.49	0.50	0.21
Dentate-stamped ware	-0.06	-0.21	0.72
Simple stamped ware	0.14	0.07	0.69
Chipped stone implements	-0.30	-0.17	0.52
Punctated ware	0.15	0.33	0.52
Plain ware	-0.04	-0.28	0.06
% variance	17.74	16.04	14.54
Cumulative % variance	17.74	33.78	48.32

Table 9. Varimax Rotated Factor Score Coefficients.

Artifact Class:	Factor: I	II	III
Marine shell implements	0.38	-0.03	-0.12
Bone and antler implements	0.37	-0.14	0.09
Incised ware	0.32	0.02	-0.03
Baked clay objects	-0.04	0.39	-0.13
Ground stone implements	-0.01	0.33	0.13
Microliths	-0.08	0.29	0.00
Lapidary ornaments	0.22	0.26	0.10
Dentate-stamped ware	-0.05	-0.10	0.40
Simple stamped ware	0.04	0.04	0.38
Chipped stone implements	-0.16	-0.08	0.30
Punctated ware	0.05	0.17	0.28
Plain ware	-0.02	-0.14	0.03

have loadings of .66 or greater on this factor and tend to occur together in the east. The spatial distribution of incised fiber-tempered pottery is restricted primarily to Formative sites found within the coastal flatwoods, swamps, and lowlands of the south Atlantic Seaboard (Appendices J, L, M, Q, T, V, W, Y, Z, C1, and D1).

The eastern meaning of this factor is perhaps best expressed by the presence of shell tools. Among them are shell vessels (Appendix E1), which are viewed as preceramic cooking vessels (Webster 1970). This group of artifacts also represents a variety of pounding implements made of marine shell, a raw material to which there was differential access. The utilitarian use of marine shell during the Formative period is restricted to the littoral environs of Florida and Georgia. Various marine shells were utilized as raw material, including: *Fasciolaria*, *Busycon (carica)*, and *Strombus (gigas)*. Shell gouges are often mistaken for adzes in the literature. However, both tool types suggest woodworking, perhaps the making of dugout canoes and wooden containers, or, possibly, the digging of edible roots (Bullen 1972:11). Bone and stone adzes (Appendices R1 and T1) have a riverine distribution, while Formative gouges made of *Strombus gigas* shell and stone adze-like gouges are found among coastal sites (Appendices R1 and T1). Distinctive shell celts made of *Strombus gigas* are found primarily among sites within Florida's glades and lowlands (Appendix T1).

Antler wrenches (Appendix G1), also known as antler shaft straighteners, are described as an antler section with a traverse hole. They are reported primarily from the Tennessee River basin (Webb and DeJarnette 1948b). Presumably these artifacts were useful for straightening atlatl dart shafts made of rivercane. A few have been noted among Formative settlements in the East.

The distribution of plain and decorated bone pins is concentrated among sites found within maritime settings (Figure 18). The decoration on bone pins indicate a range in style and artistic abilities. Many were delicately incised or carved. Often incised bone pin designs mirror those incised designs on fiber-tempered pottery found in association. Bi-points and socketed points made of bone or antler appear to have a general distribution as they are found in appreciable numbers among both inland and coastal sites, (Appendix G1). The number of stone points found on inland Formative sites is often equaled by the number of socketed or double pointed points made of bone or antler. These general purpose tools may have been used as tips on hunting and fishing spears as well as for extracting snails and shellfish from their shells (Milanich and Fairbanks 1980:151). Most of the data on bone fishhooks comes from Alabama sites located within the Tennessee and Tombigbee River drainages (Appendix 01). The bone tubes which appear concentrated among coastal sites, may have served as bone beads, as a stylus for punctating pottery, or as self-tubular pipes (Figure 19; Appendix U1). The distribution of atlatl hooks, most commonly made of deer antler, is also concentrated inland among river sites (Appendix G1).

FACTOR 2: Lapidary ornaments, Baked Clay objects, Ground and polished stone implements, Microliths

The finding of this set of highly intercorrelated variables is regarded as very significant. Factor 2 is interpreted as an interregional exchange factor. The items within this factor do not readily lend themselves to either an eastern or western interpretation. Ten Factor 2 artifacts: plummets, pendants, baked clay objects, microflints, steatite vessels, atlatl weights, gorgets, figurines, tubular pipes, and ground and polished stone celts have been cited as primary traits critical to the development and spread of Poverty Point culture (Ford and Webb 1956; Ford 1969;

Webb 1977:58, Table 15). The remainder of the Factor 2 items qualify as either secondary or tertiary Poverty Point diagnostics. The Poverty Point site, site (72), serves as a good example of a Formative locality heavily involved with the vast Formative Interregional Exchange network. Several exotic ornaments are found there (Webb 1977:46-48). Distinctive teardrop shaped plummets may have served either a utilitarian or ornamental purpose among Formative peoples. Heavy hematite-magnetite plummets may have been bolas weights for fishing, or as ornaments for personal adornment. The distribution of teardrop, pear shaped, and egg shaped plummets made on exotic lithic resources such as red jasper, hematite, galena, and banded slates appears concentrated within the states of Louisiana, Mississippi, and Alabama. Such exotic plummets are rare among eastern Formative sites. They do occur there, however. It appears that the presence of exotic pendants and plummets on the Gulf and Atlantic coasts (Appendix V1), is best explained by exchange, because the raw material needed to manufacture these objects does not occur there naturally. Drilled plain or decorated raccoon and otter penis bones (Appendix V1), which served as pendants are known primarily from eastern sites (Jahn and Bullen 1978:Figure 37).

Incised turtle carapace ornaments are very interesting because they exhibit some of the same zig-zag and chevron designs found on bone pins and fiber-tempered pottery found in association (Jahn and Bullen 1978:17, Fig 34, k and l; Appendix V1). Several turtle carapace marginal bones with incised complicated interlocking T designs have been found at the (97) South Indian Field and (98) Cotton sites (Griffin and Smith 1954:Pl. II,6-7).

Solid clay figurines may have been a valued exchange object, however, the current distributional evidence for figurines outside of the states of Louisiana, Mississippi, and Alabama is weak (Figure 19). The tubular pipe, used principally for ritual and medicinal purposes among Formative Southeastern Indians (Figure 19) may also have been exchanged. Imitation mammal mandibles may represent an exchange item (Appendix U1). These unique artifacts come from (106) the Tick Island site and (112) the Canton Street site in Florida. Cut and decorated mammal (often canine) mandible ornaments, are found within both western and eastern settings (Appendix V1). Several of the cut and decorated canine and fish mandibles known from eastern sites are embellished with extremely well executed incised decoration (Jahn and Bullen 1978:Fig. 38).

The distribution of solid baked clay objects (Figure 16), in particular, is highly suggestive of interaction between western and eastern Formative people. The manufacture of baked clay objects (Figure 16) was well established up and down the Lower Mississippi River valley during the Late Archaic period, just prior to the introduction of fiber-tempered pottery (Phillips, Ford, and Griffin 1951:273_281). Several lines of formal, geographical, and chronological evidence suggests that; with the advent of fiber-tempered ware, baked clay objects diffused to the East as, pottery was introduced to the river people located in Mississippi and Alabama (Hunter 1975; Ford and Webb 1956; Bullen 1969b; C.H. Webb 1968,1977).

The distribution of ground and polished stone implements may be traced over an extremely wide area. The use of steatite vessels (Appendix E1), is clearly ascribed to the preceramic Late Archaic and Formative components among the river sites of northeast Alabama and northwest Georgia. Steatite outcrops occur there as lenses within metamorphic rocks. However, the presence of steatite ware among Florida sites is thought to represent an importation from the north. These wares were brought to Florida at a late Formative date, as steatite vessels are not found in early plain fiber-tempered or temporally equivalent deposits in Florida (Bullen 1958c: 352; 1972: 10). Currently, however, there is insufficient provenience data to authenticate the total temporal range of steatite in Florida. The fact that the incised lips on some steatite vessels have identical decorative treatments to the lips of some Florida fiber-tempered vessels would appear very significant (Ford 1969:98). The fact that the notched lips on some steatite vessels have identical decorative treatments to the notched lips on some Poverty Point steatite vessels and to some of the florida fiber-tempered vessels found near Melbourne, would appear equally significant (Bullen et al. 1978; Rouse 1951:223). Perhaps, the western people who quarried and traded steatite received marine shell ornaments and beads in return for their effort (Bullen 1978:96). Atlatl weights, which are frequently made of steatite, group among Factor 2 items. Gorgets made of stone, clay, bone, and shell (Appendix U1) often show evidence of hard use, and thus, are more likely to be atlatl weights than ornaments. Ground and polished stone celts and adzes, and adze-like gouges (Appendix R1), appear distributed equally among western and eastern sites. The distribution of fully grooved and 3/4 grooved polished stone axes is concentrated among sites of the interior coastal plain (Appendix R1). Hoes made of stone are found primarily among western, riverine sites (Appendix 01). Saws made of sandstone (Appendix P1), and pitted nutstones and are known primarily from Formative riverine sites of the western interior coastal plain. Nut stones have a spatial distribution which appears to be restricted to the western sites (Appendix F1). There they were used to process various plant foods, primarily nuts and oily plant seeds. Grindstones have a distribution which appears to be concentrated among western sites (Appendix F1). Several Formative grinding/whetting implements served as polishers or sharpeners for tools made of wood, shell, antler, stone, and bone. The inclusion of sandstone and pumice within this factor indicates the use of raw materials to which there was differential access. Within the Southeastern United States, Ferruginous and Catahoula sandstone outcrops occur in the southwestern region within the states of Louisiana and Mississippi. Elsewhere sandstone is scarce. Pumice a porous, lightweight volcanic rock periodically floats up from the south and onto Gulf coastal beaches. Pumice may be used in solid form as an abrasive or in powdered form as a polish. A consistent occurrence of pumice hones is noted among the Formative inventories of coastal sites located in Louisiana and northwest Florida (Webb 1977: Figure 28, 27, 44,53; Appendix P1).

Some Formative people developed of a microlithic technology. The microflint blade assemblage (Figure 17), a distinctive class of Formative artifacts, is distributed throughout riverine settings across the states of Louisiana, Mississippi, and Alabama. Microflints are a hallmark of Poverty Point culture. Classic Poverty Point microflints are characteristically made on local tan, buff, red brown, and banded pebble cherts (Webb 1977:42, Table 7). The distribution of microflints mirror the availability of this local resource. A different microflint technology, where microflints are made on flakes not derived from a core and blade technique, has been reported among a few sites located in Mississippi and Alabama.

FACTOR 3: Dentate-stamped fiber-tempered ware, Simple Stamped fiber-tempered ware, Punctated fiber-tempered ware, Plain fiber-tempered ware, Chipped stone implements

Factor 3 items are viewed as western group artifacts. The acceptance of pottery within the West signals the advent of Formative lifeways. The chipped stone artifacts utilized appear to have been carried over from the Late Archaic complex normal in the West. The total distribution of dentate-stamped ware (Appendices O and R), is restricted to the Tennessee/Tombigbee drainage. The largest find of fiber-tempered dentate-stamped wares comes from site (243), the Bluff Creek site, located on the Tennessee River in northwestern Alabama. Fiber-tempered simple stamped ware occur within both western and eastern settings (compare Appendices; H, L, O, Q, T, W, Z, B1, and D1). Fiber-tempered punctated ware occur within both western and eastern settings (compare Appendices; H, L,O, Q, R, T W, Z, and D1). The distribution of fiber-tempered plain ware among SFT sites appears universal.

An expanded inventory of chipped stone tool forms and styles are found among western sites. The variability of western tool form seems to parallel tool function. It is apparent that a wide array of tools types were needed to carry out the adaptation of western peoples. Chipped stone axes appear to be concentrated among western sites (Appendix B). Various forms of spokeshaves and denticulates are concentrated among western sites (Appendix S1). The general distribution of stone gravers, wedges and reamers made of chipped stone or antler appear found among Alabama inland sites, especially within the Tombigbee drainage (Appendix Q1). The spatial distribution of large lithic choppers is found among both western and eastern sites (Appendix F1). The distributions of blanks, cores, and drills appear so general as to be of little use in the analysis.

Basally-notched projectile points have a western and Gulf Coastal distribution (Appendix H1). Side-notched projectile points (Appendix J1) and stemmed projectile points (Appendix S1) have very general distributions, as such their presence within Formative assemblages may reflect influences stemming from the antecedent, indigenous Late Archaic base found in the western interior forest. Corner-notched projectile points are found among both western and eastern sites (Appendix I1), but their distribution is concentrated within the interior riverine setting of the west.

In summary, the principal components analysis resulted in the identification of three groupings of highly intercorrelated variables. All three groups appear to have interpretable cultural significance. The results of the factor analysis lend additional support to the proposition that incised and dentate-stamped ware are differentially distributed within the research area.

To independently test this result, three separate agglomerative hierarchical cluster analyses were applied to the problem of defining relationships among variables (Wilkinson 1986: Cluster 4; Sneath and Sokal 1973:228-234). The phi coefficient is used as the input statistic. The data was explored by employing three separate linkage algorithms; single, complete, and average in the cluster analyses below. These amalgamation methods produced very similar results, as shown on Table 10. Single linkage clustering produced a two-fold solution. The single linkage algorithm takes the distance between two objects or clusters as the distance between the two closest members of these clusters. It produced long, stringy clusters. The dendrogram derived from this analysis is characterized by short distances between the higher level clusters, which makes the interpretation of individual clusters difficult. Complete linkage clustering, which takes the most distant pair of objects in two clusters to compute between-cluster distances produced three compact, globular clusters. Average linkage clustering, which takes the average of all distances between pairs of objects in different clusters to decide how far apart they are produced a result quite similar to that obtained by the complete linkage method. Of the three solutions, the average linkage method offered the most economical solution for comparing how artifact classes cluster. Thus, three clusters (groups) of highly similar artifact classes are recognized as an optimal number for interpretation. These three hierarchically derived groups mirror the three factors extracted by the above factor analysis. Cluster 1 corresponds to Factor 1; Cluster 2 with Factor 2; and Cluster 3 with Factor 3. From an examination of the behavior among all SFT artifact classes the primary conclusion drawn is that there appears to be both an eastern and western sphere of Formative cultural development. Apparently, a pattern of interregional exchange

Table 10. Artifact Clusters Obtained Through Three Agglomerative Hierarchical Clustering Analyses.

Single Linkage Method	**Cluster 1:**
	Incised fiber-tempered ware
	Marine shell tools
	Bone and antler tools
	Baked clay objects
	Ground stone implements
	Microliths
	Lapidary ornaments
	Cluster 2:
	Dentate-stamped fiber-tempered ware
	Simple stamped fiber-tempered ware
	Punctated fiber-tempered ware
	Plain fiber-tempered ware
	Chipped stone tools
Complete Linkage Method	**Cluster 1:**
	Incised fiber-tempered ware
	Marine shell tools
	Bone and antler tools
	Cluster 2:
	Baked clay objects
	Ground stone implements
	Microliths
	Lapidary ornaments
	Cluster 3:
	Dentate-stamped fiber-tempered ware
	Simple stamped fiber-tempered ware
	Punctated fiber-tempered ware
	Plain fiber-tempered ware
	Chipped stone tools
Average Linkage Method	**Cluster 1:**
	Incised fiber-tempered ware
	Marine shell tools
	Bone and antler tools
	Cluster 2:
	Baked clay objects
	Ground stone implements
	Microliths
	Lapidary ornaments
	Cluster 3:
	Dentate-stamped fiber-tempered ware
	Simple stamped fiber-tempered ware
	Punctated fiber-tempered ware
	Plain fiber-tempered ware
	Chipped stone tools

cross-cut and influenced the development of Formative culture in both regions. During the Formative period great emphasis was placed on long distance resource procurement and material exchange. Thus, these exchange items may be viewed as representing the various connections and interfaces between the western and eastern Formative patterns described above.

The identification of groups of Formative artifact classes by the above R mode analysis is useful for the interpretation of site clusters in the Q mode analyses, below. The results of both modes of analysis are cross-tabulated in the next section. As a result, further details regarding patterning among Formative artifact classes are brought out. Our attention now shifts to the problem of deriving interpretable groupings of Formative sites.

Patterning Among Formative Sites

An agglomerative hierarchical cluster analysis was performed to ascertain interpretable groupings of SFT sites (Doran and Hodson 1975:23,136-139,181-183). The nominally coded artifactual data presented in Table 7 were used to create an average linkage dendrogram (Figure 27), where Formative sites are clustered based on the observed similarities or dissimilarities (distances) between their twelve respective presence/absence artifact classes (Sneath and Sokal 1973:228-234). A matching-type measure of inter-object similarity was employed as the input statistic (Kachigan 1982:265). The values of the distance coefficient for the final 15 clustering steps of Figure 27 are graphed in Figure 28. The first major discontinuity between clustering steps is between steps 5 and 4 where the coefficient value jumps from .19 to .22. The second discontinuity between clustering steps is between steps 7 and 6 where the coefficient value varies between .17 and .18. The clustering was stopped between steps 7 and 6 since the coefficient values appear to level off after this point. Prior to .17 linkage is

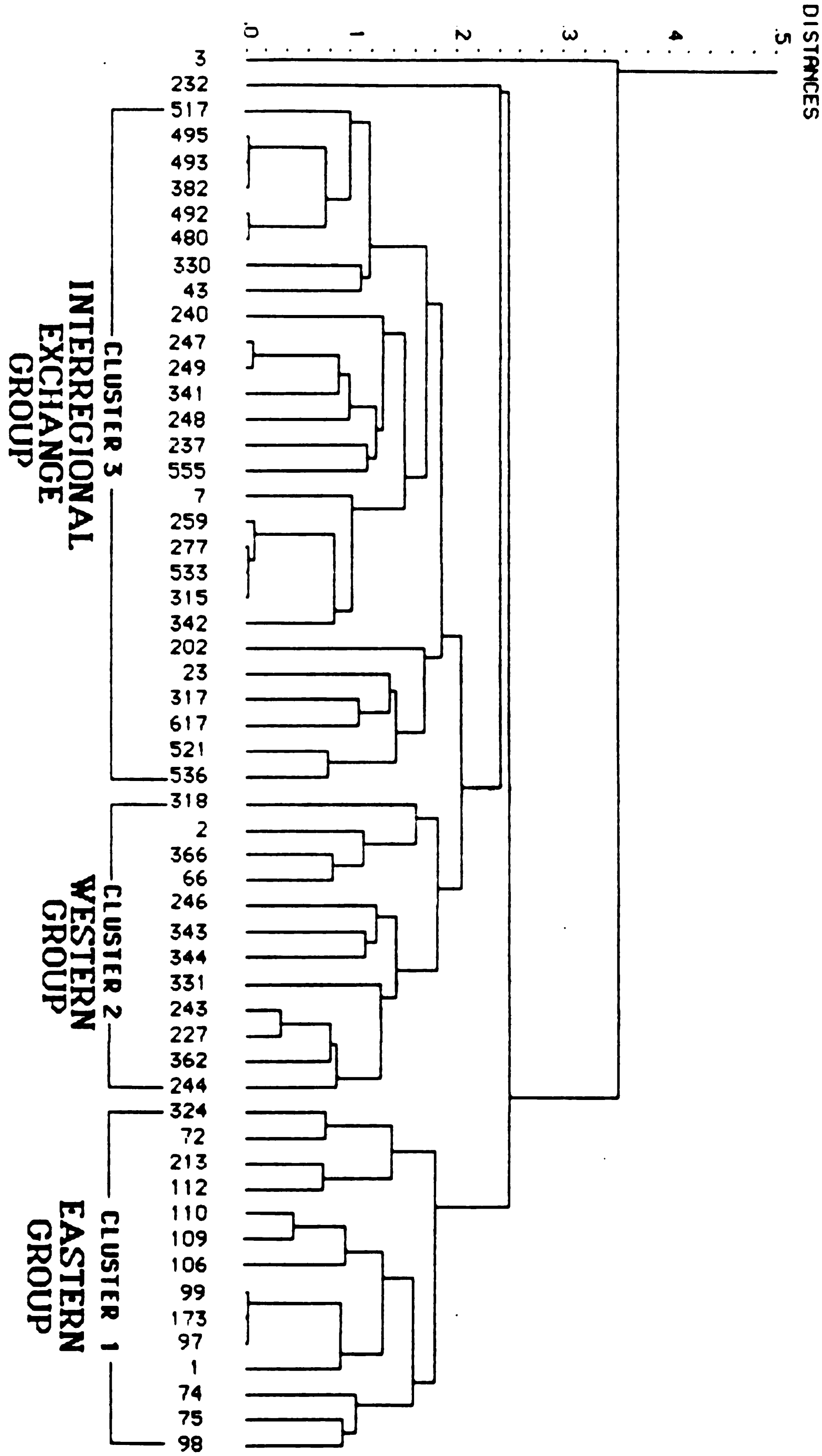


Figure 27. Table 7 Sites Clustered Based on the Distances Between Their Twelve Respective Presence/Absence Artifact Classes.

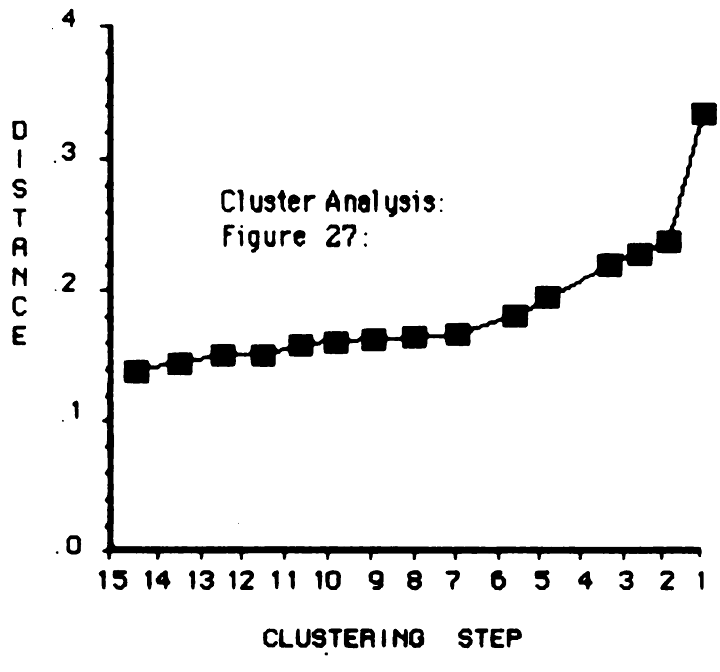


Figure 28. Graph of the Distance Coefficient Values at the Final Fifteen Clustering Steps in Figure 27.

occuring within, but not between, clusters. Therefore, it is suggested that three major site clusters formed at a distance of .17 or lower are an optimal number for interpretation.

A cross-tabulation of the results of the R-mode principal components analysis above with the results of this Q-mode site cluster analysis illustrates the occurrence of the three variable groups within the site clusters (Table 11). The patterning among Formative sites discerned from this comparison is discussed, below.

Site Cluster 1: (The Eastern Dimension) N=14

The number of artifact classes found at Cluster 1 sites ranges from six to ten. Cluster 1 contains 39 Factor 1 (eastern) items, more than double the number found in either Cluster 2 or 3. Fourteen sites group within Cluster 1 (Figure 29). They include: The Sunday Bluff site (1), which is located along the east bank of the Okalawaha River, a small tributary of the St. Johns River, Florida (Bullen 1969). The Poverty Point site (72), a large planned geometrically arranged settlement located on the edge of Macon Ridge which overlooks the Mississippi floodplains of northeastern Louisiana (Webb 1944,1948, 1968,1977; Ford and Webb 1956). The Palmer-Hill Cottage midden (74), which is located on the Gulf coast of Florida just south of Sarasota. The Summer Haven site (75), which is located on the east side of the Inland Waterway, some 15 miles south of Saint Augustine, Florida, and immediately south of Matanzas Inlet. The South Indian Field site (97), a stratified brackish water shell midden which is located within the St. Johns drainage of Florida (Ferguson 1951; Rouse 1951:72-107, Goggin 1952:45; Bullen 1961a: 104-106, 1972:15). The Cotton midden (98), which is situated on the west bank of the Inland Waterway a little north of Daytona Beach, Florida (Griffin and Smith 1954). The Bluffton site (99), of the St. Johns drainage, an enormous shell midden, is

Table 11. Occurrence of Artifact Class Groups in Site Clusters

	SITE CLUSTERS			
	1	2	3	Total
FACTOR 1 (Eastern Items)				
Incised fiber-tempered ware	12	2	3	17
Marine shell tools	13	5	5	23
Bone and antler tools	14	11	5	30
	39	18	13	70
FACTOR 2 (Interregional Exchange Items)				
Baked clay objects	7	0	14	21
Ground stone implements	14	7	28	49
Microliths	3	3	9	15
Lapidary ornaments	14	8	20	42
	38	18	71	127
FACTOR 3 (Western Items)				
Dentate-stamped fiber-tempered ware	0	7	0	7
Simple stamped fiber-tempered ware	4	5	5	14
Punctated fiber-tempered ware	9	5	8	22
Plain fiber-tempered ware	14	11	28	53
Chipped stone tools	11	11	26	48
	38	39	67	144

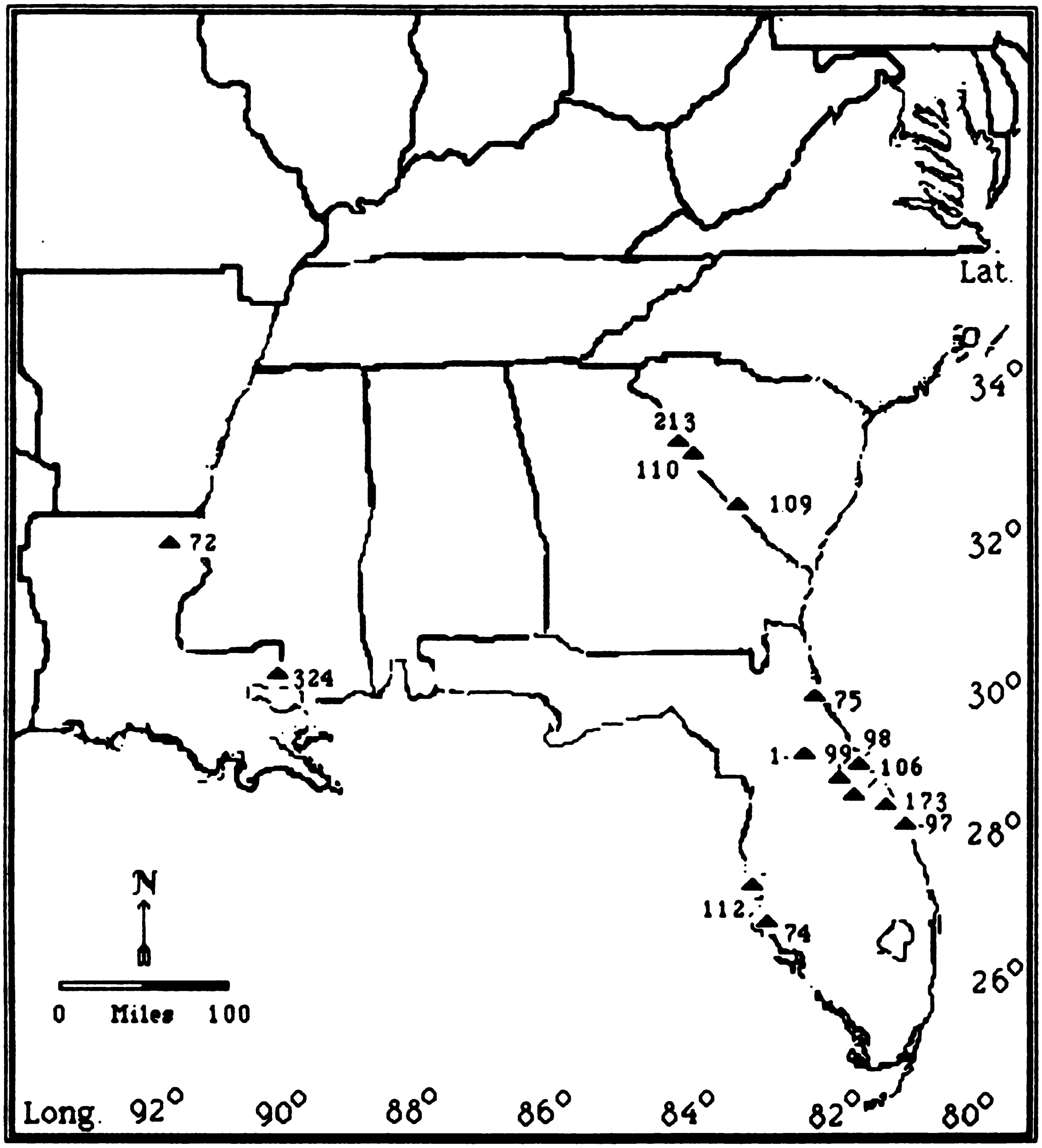


Figure 29. The location of Cluster 1 sites: the eastern dimension.

nearly 30 feet thick (Goggin 1952:89; Bullen 1955). The Tick Island Shell Mound (106), which is located in the inland brackish water environment of the St. Johns River valley. The Rabbit Mount site (109), which is situated on the South Carolina bank of the Savannah River. The Stalling's Island Mound (110), which is situated eight miles below Augusta, Georgia, on a small island in the Savannah River. The Canton Street site (112), which is located at the mouth of Tampa Bay, on the immediate north bank. The Palmer-Taylor and Shapfeld Mounds (173), two brackish water shell mounds which are located on the Econlockhatchee Creek within the St. Johns drainage (Rouse 1951:116-125). The Lake Spring site (213), which is situated on the Georgia bank of the Savannah River. And finally, the coastal Claiborne site of southeastern Louisiana, site (324), which overlooks the Pearl River estuary.

In view of the data above, an eastern Formative dimension can now be defined. The eastern dimension, heralded by the advent of fiber-tempered pottery began circa 2500 B.C. and persisted until 1500-1000 B.C. There is little doubt that the eastern Formative occupation of this region shows historical relationships with the St. Johns Late Archaic horizon of Florida. Indeed, the only change within the technological subsystems of both cultures appears to be the advent of pottery. The Formative development within this region is perhaps best defined as an incised fiber-tempered pottery/shell-ring site/marine shell tool complex. The distribution of this complex suggests a continuation of the maritime lifeway pre-established along the south Atlantic Seaboard and within the St. Johns River valley during the Late Archaic Period (Sears 1974:3).

The Formative inhabitants of eastern sites had a technology and social system which could make use of the available sub-tropical, maritime, lowland ecosystems of the south Atlantic Seaboard and Gulf Coast (Sears 1974:1-2). Eastern subsistence was primarily based on a shellfish gathering and fishing procurement system. The overwhelming dependence was upon the highly efficient use of aquatic resources, especially shellfish which provided a major part of the economic-subsistence base of the culture. Subsistence data suggests that the resource complex consistently focused upon to assure survival consisted of aquatic foods primarily; molluscan fauna, pond snails, fish, crustaceans, amphibians, and reptiles (Stoltman 1972:iii; Cumbaa 1976:49,57). Shellfish coupled with other readily available aquatic flora and fauna provided a high degree of resource reliability throughout the year.

Marine shell and bone represent the major raw materials used in tool production at Formative littoral harvesting stations. The scarcity of non-shell tools among eastern sites is not thought to reflect so much the lack of suitable raw materials within the coastal setting as it does culturally derived behavior.

Due consideration should be given to the inland sites of Louisiana, as well as those of the Savannah River drainage which fall within the eastern grouping. They are: the Poverty Point, Claiborne, Rabbit Mount, Stalling's Island Mound, and Lake Spring sites. A consideration of ceramics alone would suggest a western lifeway interpretation for many of these sites. However, the total number of eastern items exceeds the total number of western items utilized at these localities. Perhaps the participation of these sites within the vast Formative exchange network afforded added impetus for the cultural differentiation noted. River travel up the Savannah River may have resulted in the establishment of an early exchange route which served as an avenue for the diffusion of eastern lifeways inland up to the Fall Line.

Site Cluster 2: (The Western Dimension) N=12

The number of SFT artifact classes found among Cluster 2 sites ranges from three to nine. Cluster 2 contains 39 Factor 3 (western) items. The dentate stamped variable exhibits data which can be meaningfully interpreted. The dentate-stamped mode is only present among Cluster 2 sites. The remainder of the artifact classes exhibit consistent clustering behavior throughout all three site clusters. Twelve western sites group within Cluster 2 (Figure 30). They include: the Colby site (2) which is located on the east side of the Oklawaha River, a major tributary of the St. Johns (Cumbaa and Gouchnour 1970). The Rolling Oaks II site (66) which is located in the Everglades of southeastern Florida (Williams and Mowers 1982:122). The Perry site (227) which is located in northwestern Alabama within the Pickwick Basin of the Tennessee River. The Bluff Creek site (243), which is located seventeen miles upstream from Perry. The O'Neal site (244), a large shell midden which is located in the Pickwick Basin of the Tennessee River in northwestern Alabama (Webb and DeJarnette 1942:132-142). The Long Branch site (246), which is located a few miles to the west of the O'Neal site (Webb and DeJarnette 1942:201-207). The Crump site (318), which is located on an upper terrace of the Buttahatchee River in Alabama (Walthall 1980:102; DeJarnette, Walthall, and Wimberly 1975a). Site 1 Gr 2 (331), which is located on the east bank of the Tombigbee River just south of its confluence with Wilke's Creek (Jenkins 1972:162; Jenkins 1981:11). Site 1 Pi 33 (343), which is located on the Tombigbee River (Jenkins 1981:13). Site 1 Pi 61 (344), which is located on Alabama's western border, on an upper terrace of the Tombigbee River (Jenkins 1981:13). The Whitesburg Bridge site (362), which is located in north central Alabama within the Wheeler Basin of the Tennessee River. And, finally, the Kay's Landing

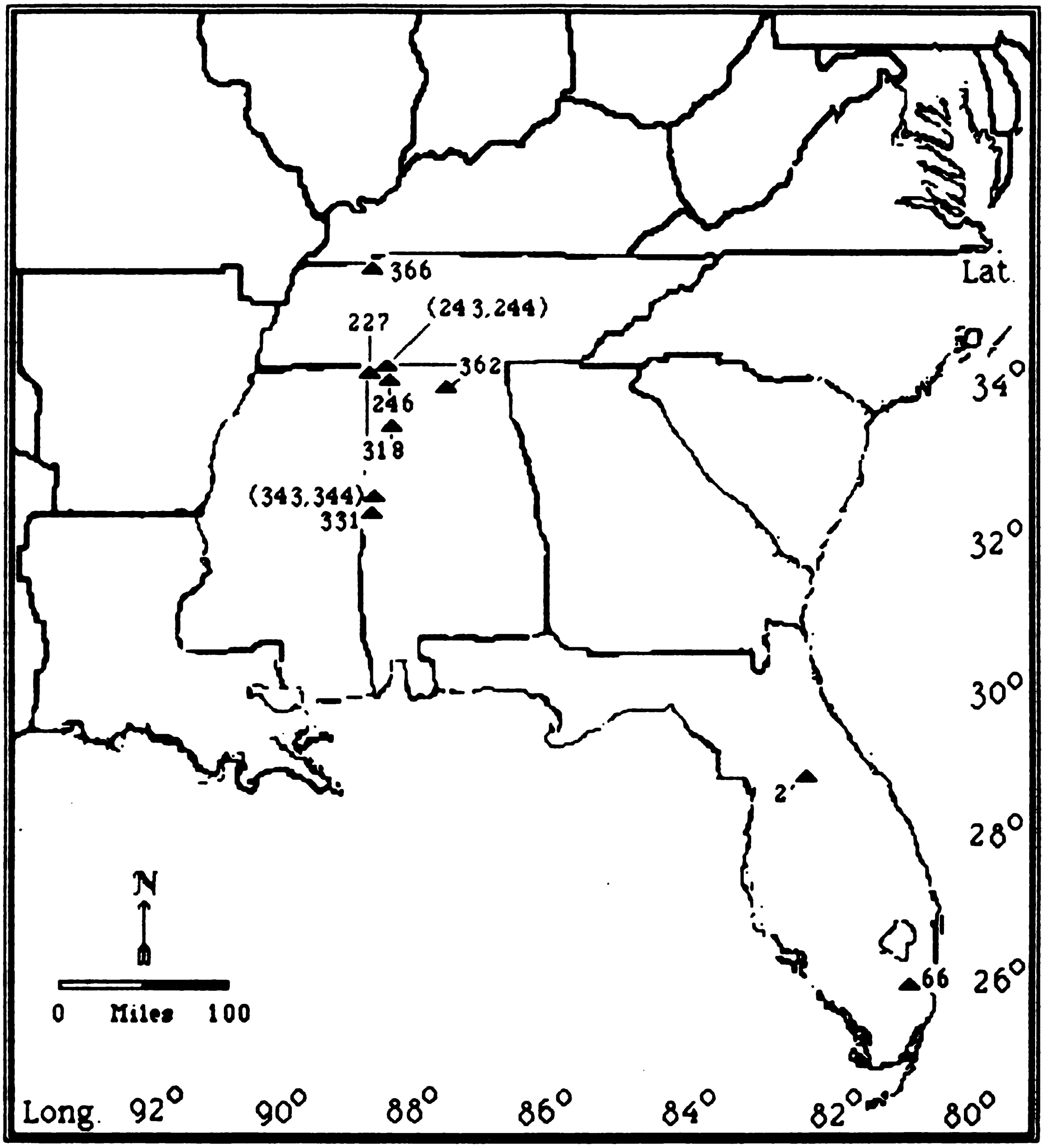


Figure 30. The location of Cluster 2 sites: the western dimension.

site (366), which is located on the Tennessee River in northern Tennessee (Lewis and Kneberg 1947; 1959:162,173; Dye 1977b:66). The Formative cultural development within the western, interior, temperate forest setting shows historical continuity with the Late Archaic development within the area. Historical ties are in terms of both technology and economic adaptive strategy. Late Archaic and Formative tool inventories are identical, given the exception of pottery, in the latter. Both manufactured an expanded inventory of tool forms and styles, each best suited for performing a specific function.

Stone, an abundant resource, appears to be the major raw material used in tool production at Formative sites located within the western interior coastal plain forests. The quantity and diversity of tool kits present among western sites was needed for the wide array of techno-economic tasks performed by these populations. The basic foods harvested by the western multiple resource scheduling strategy, mirror those of the preceding Late Archaic period and include: deer, small mammals, waterfowl, nuts, edible oily plant seeds, freshwater fish, and shellfish. The overwhelming dependence appears to have been upon the hunting of deer and small mammals and the gathering and storage of plant food resources (Stoltman 1974:235). In addition, shell middens present within the west indicate that from spring to fall, shellfish helped to round out the Formative diet (Claassen 1986a:31).

Site Cluster 3: (The Interregional Exchange Dimension) N-29

The number of SFT artifact classes found among Cluster 3 sites ranges from three to eight. Cluster 3 contains 71 Factor 2 (interregional exchange) items, nearly twice the number found among Cluster 1 sites, and more than three times the number found among Cluster 2 sites. Note the involvement of eastern peoples within the interregional exchange network. Apart from the importation of exotic raw materials, finished tools, and ornaments, their involvement may be observed directly by the increase in the number and variety of stone tools present among Late Formative river valley sites in Florida.

Twenty nine Interregional Exchange sites group within Cluster 3 (Figure 31). They include: Battery Point/Bayport shell midden (3), which is located between the Gulf of Mexico and an estuary which forms the mouth of the Mud and Weekiwachee Rivers in Florida (Bullen and Bullen 1953;1954; Coates 1955). The Tan Vat site(4), which is located in the Forks area of northwest Florida where the Chattahoochee, Flint, and Apalachicola Rivers intersect (Bullen 1958c). The Tucker site (23), which is a coastal Florida shell midden located on the shore of St. George Sound, Gulf of Mexico (Sears 1963;Phelps 1966, 1969). The Alligator Lake site (43), which is located on the Northwest Gulf Coast of Florida, approximately a half mile due west of Grayton Beach (Lazarus 1965:84). The Jaketown site (202), which is located on the west bank of the Yazoo River in Mississippi, and, which is viewed as one potential center for the Formative interregional exchange network (Webb 1977:8; Ford, Phillips, and Haag 1955; Phillips, Ford, and Griffin 1951). The Norman site (232), which is located on a small tributary of the Tallahatchie River in Mississippi (Phillips, Ford, and Griffin 1951:Fig 2, 70). The Little Woods Middens (237), which are located in the marshy lowlands just to the northeast of New Orleans, Louisiana. The Smithsonia Landing site (240), which is located in northwestern Alabama on the north bank of the Tennessee River (Webb and DeJarnette 1942:41-43). The Union Hollow site (247), a large shell midden nearly eleven feet in depth, which is located in northwestern Alabama within the Pickwick Basin of the Tennessee River (Webb and DeJarnette 1942:208-212). The Kroger's Island site (248), which is

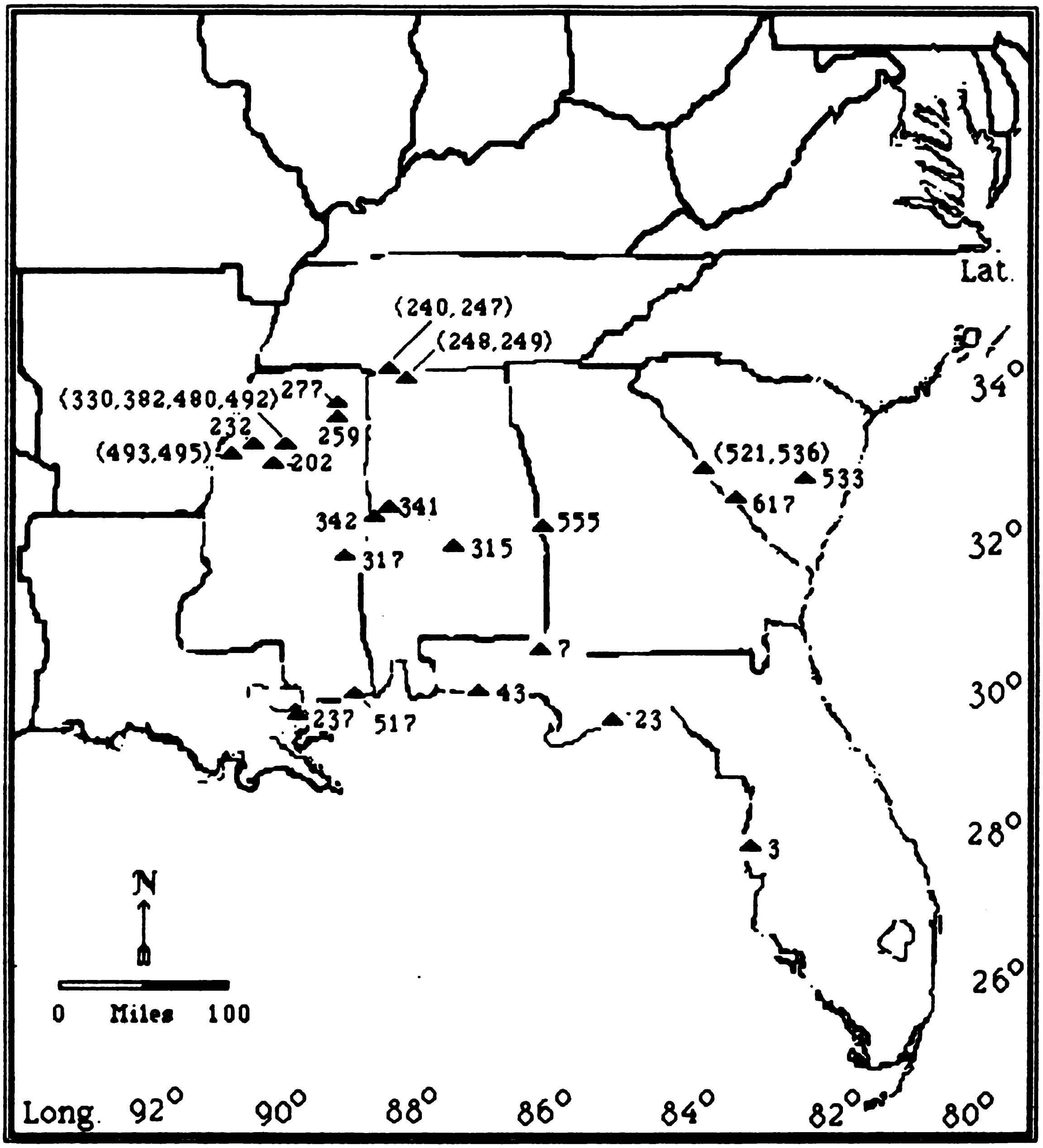


Figure 31. The location of Cluster 3 sites: the interregional exchange dimension.

located near Union Hollow, on Kroger's Island in the Tennessee River (Webb and DeJarnette 1942:212-232). The Mulberry Creek site (249), which is located within the Pickwick Basin of the Tennessee River in northwestern Alabama (Webb and DeJarnette 1942:260-261). The Red House No. 2 site (259), which is located in northeastern Mississippi, adjacent to the south bank of Vines Creek, a tributary of the Tombigbee River (Atkinson 1978:107,130,160; Bense 1982; Rafferty 1983, personal communication). Site 22 Mo 829 (277), which is located in northeastern Mississippi near the banks of the Tombigbee River (Atkinson 1978:92). The Tensaw Creek site (315), which is located in south central Alabama on Tensaw Creek, a tributary of the Alabama River (Chase 1966:91-114). Site 22 Ld 515(317), which is located on the east side of Sowashee Creek in Lauderdale County, Mississippi, and approximately two miles east of the town of Marion (Conn 1978). The Teoc Creek site (330), which is located at the confluence of the Tallahatchie and Yalobusha Rivers in western Mississippi (Connaway et al. 1977; Webb 1977:21,31,40; Hunter 1972, 1975: 61). Site 1 Gr 1X1 (341), which is located on the east bank of Turkey Paw Branch 455 m (1500 ft) north of its confluence with the Tombigbee River (Jenkins 1981:11, 248-251). Site 1 Gr 50 (342), which is located at the neck of Cook's Bend on the Tombigbee River (Jenkins 1981:12). The Falls site (382), which is located on the west bank of the Tallahatchie River in Mississippi (Webb 1968:306). The Neill site (480), which is located near Greenwood, Mississippi, on the west bank of the Yalobusha River (Webb 1977: 8, 21,58). The M^c^Gary site (492), and the Choctaw Poverty Point site (493), both of which are located within the Yazoo Basin of northwestern Mississippi. The Tackett site (495), which is located on the east bank of the Sunflower River in northwestern Mississippi (Webb 1977:8). The Applestreet site (517), a coastal site which is located near Pascagoula, Mississippi (Webb 1977:10,59). The Theriault site

(521), which is located on Brair Creek, in Burke County, Georgia, within the central Savannah River locality (Phelps 1968:19; Brockington 1971). The Cal Smoak site (533), which is located on the Edisto River in the Coastal Plain of South Carolina (Anderson et al. 1979). The Lover's Lane site (536), which is located near the banks of the Savannah River, not far from Augusta, Georgia (Ferguson and Widmer 1976). The Soap Creek site (555), which is located on Alabama's eastern border, and situated between Soap Creek and the west bank of the Chattahoochee River (McMichael and Kellar 1960:43-72,205-206). And, finally, the Clear Mount site (617), a non-shell midden found at Groton Plantation, South Carolina, which is situated upon a natural sand knoll within the Savannah River swamp.

Cluster 3 sites contain many exotic items which were exchanged from sites as far apart as southeastern Florida and northwestern Mississippi (Bullen et al. 1978:9, 25). As a result, the rapid diffusion of certain raw materials, manufactured items, and innovations, occurred. This exchange of raw materials and finished objects also brought with it the transmission of stylistic concepts and ideology (the Theocratic Formative 1200-400 B.C., in Ford's 1969 terminology), which resulted in the first appearance of mound structures and other appurtenances of organized politico-religious control.

In sum, a close inspection of Table 11 leads to the identification of relations among artifact class groups and site clusters. These, in turn, give some idea of how the three site clusters differ. A study of the distribution of artifact classes within each site cluster suggests that three distinguishing qualities may be identified. This information is useful for understanding the composition of each site cluster and how they differ: (1) Eastern sites are readily identified as sites containing incised ware and marine shell tools; (2) Western sites are distinquished by an expanded inventory of special purpose lithic tools and the unique presence of dentate-stamped ware, and, (3) Inter-regional Exchange sites contain a relative abundance of baked clay objects, ground stone implements, microliths, and lapidary ornaments. Analyses of material culture from these sites have led to the identification of two tool complexes which are differentially distributed with respect to geography. The variability among tool complexes is interpreted as reflecting culturally determined patterns of choice. Eastern populations that elected to exploit the maritime setting used a limited material culture inventory composed primarily of subsistence-oriented items made of locally available shell materials. Their limited tool types reflects a highly focalized subsistence base. By way of contrast, there is such a notable increase in the variability of tool forms among western populations that an adaptation paralleling that of tool function must be postulated. Western people created an expanded inventory of lithic tool forms and styles, which they used to perform diverse economic functions on a scheduled seasonal basis.

This analysis has resulted in the extraction and interpretation of three groupings of Southeastern Formative artifacts and sites. Eastern and western lifeways have been defined, and the impact of interregional exchange upon both has been identified. The present study moves past ceramic decorative differences to argue for an approach to Formative systematics that is in keeping with the various technological sub-systems of Formative culture. The classification offered is based upon similarities and differences in technology. Thus, the cultural entities defined differ from those of the initial four-fold interpretation built upon ceramic differences, alone. This concludes discussion of the spatial patterning among Formative artifacts and sites.

Summary of the Statistical Approach

Chapter 3 has presented a discussion of the statistical analysis of Southeastern Formative site data. This study was concerned with determining what is the relationship between SFT artifact class behavior and cultural complexity. Toward this end, the emphasis of the analysis was placed upon solving the specific analytical problems outlined in the introduction to the chapter. Southeastern Formative artifact classes and sites were separately tested through various R and Q mode analyses.

The initial examination of patterning among fiber-tempered pottery implemented Q mode agglomerative hierarchical cluster analyses to compare the geographical patterning of Formative sites to their patterning based upon pottery class similarities. This was followed by a two-by-two contingency table analysis to test the independence of ceramic decoration and geographic region. The results of this test provided insight into the question of how geographically defined site clusters differed based upon pottery.

R mode analysis was implemented to examine the patterning among all forms of Formative material culture. Twelve artifact class variables were input to two multivariate analyses: principal components analysis with varimax rotation of principal components and agglomerative hierarchical cluster analysis. Then, a Q mode cluster analysis was implemented to examine the patterning among Formative sites. By cross tabulating the results of the above R and Q mode analyses, three cultural dimensions: an eastern, western, and interregional exchange dimension were extracted and interpreted. The following stage of the analysis will attempt to objectively organize the site groupings defined, in time.

Formative Dating and Chronology

The ordering of sites presented below provides a general outline of Southeastern Formative development. Since the absolute and relative dating evidence is not evenly balanced between the Formative sites considered below, it should be understood that the patterning brought out below is clearly tentative. The validation of the temporal outline presented awaits further independent assessment through absolute dating evidence derived from stratified sites of depth and antiquity.

Two major chronological periods are delineated for the Formative period of the southeastern United States. First, there was an early period of eastern influence, which existed from 2500 B.C. to 1250 B.C. or from about 4010 B.P. to 3200 B.P. The eastern stage of Formative development is analogous to the Early Gulf Formational Period described by Walthall (1980:78). Formative settlement in the east was followed by a period of Formative expansion, circa 1250 B.C. to 500 B.C. or about 3200 B.P. to 2420 B.P., when Formative culture spread rapidly to the west from the east. Formative lifeways gained a firm foothold in the west, as extensive intergroup contacts developed among western and eastern Formative peoples. These contacts were spurred on by the establishment of an extensive exchange network. This later, western stage of Formative development is analogous to the Middle Gulf Formational Period described by Walthall (1980:83).

Table 12 presents a listing of the sites plotted on Figure 26 with comparable dating evidence. Thirteen Clusters 1 sites, nine Cluster 2 sites, and eight Cluster 3 sites are suitable for temporal study below. Interregional Exchange group sites (Cluster 3) are considered separately, because their distribution cross-cuts the spatial boundaries of the eastern and western Formative developments proposed.

Table 12. Calibrated B.P. Dates from Formative Sites.

Site No.	Site Name	C-14 Sample No.	DATES Relative	Absoulte	Calibrated B.P.[a]
EASTERN SITE DATES					
1.	Sunday Bluff	n/a	1300-1200 B.C.	n/a	3015-2940 B.P.
72.	Poverty Point	n/a	1700- 500 B.C.		3415-2420 B.P.
		TX-680		1050 B.C.	2860 B.P.
		M-2154		870 B.C.	2725 B.P.
		LNSC-73-057		865 B.C.	2730 B.P.
		Huxtable et al. (1972) thermoluminescence date		750 B.C.	2700 B.P.
74.	Palmer	n/a	1700-1400 B.C.		3650-3090 B.P.
		G-598		1625 B.C.	3340 B.P.
		G-597		1275 B.C.	3020 B.P.
		G-596		1400 B.C.	3090 B.P.
75.	Summer Haven	n/a	1450-1250 B.C.		3400-3200 B.P.
		M-1014		1380 B.C.	3075 B.P.
97.	South Indian Field	n/a	1450-1250 B.C.		3400-3200 B.P.
98.	Cotton	M-215		1065 B.C.	3220 B.P.
99.	Bluffton	RL-32		1710 B.C.	3740 B.P.
106.	Tick Island	n/a	2000- 750 B.C.		3950-2700 B.P.
109.	Rabbit Mount	GXO-345		2515 B.C.	4030 B.P.
		GXO-343		2505 B.C.	4020 B.P.
110.	Stalling's Island	M-1278		1780 B.C.	3495 B.P.
112.	Canton Street	n/a	1250-500 B.C.		3200-2450 B.P.
213.	Lake Spring	n/a	2500-2000 B.C.		4450-3950 B.P.
324.	Claiborne	TX-1403		2040 B.C.	3680 B.P.
		TX-1404		1520 B.C.	3250 B.P.
		I-3705		1150 B.C.	2910 B.P.
		Huxtable et al. (1972) thermoluminescence date		650 B.C.	2465 B.P.

Table 12 (Cont'd.).

WESTERN SITE DATES

2.	Colby	n/a	1200-1000 B.C.		2915-2860 B.P.
227.	Perry	n/a	1200- 500 B.C.		2915-2430 B.P.
243.	Bluff Creek	n/a	1200- 500 B.C.		2915-2430 B.P.
244.	O'Neal	n/a	1200- 500 B.C.		2915-2430 B.P.
246.	Long Branch	n/a	1200- 500 B.C.		2915-2430 B.P.
331.	1 Gr 2	n/a	1200- 500 B.C.		2915-2430 B.P.
343.	1 Pi 33	n/a	1200- 500 B.C.		2915-2430 B.P.
344.	1 Pi 61	n/a	1200- 500 B.C.		2915-2430 B.P.
362.	Whitesburg Bridge	n/a	1200- 500 B.C.		2915-2430 B.P.

INTERREGIONAL EXCHANGE SITE DATES

23.	Tucker	FSU-67		1012 B.C.	2860 B.P.
43.	Alligator Lake	FSU-32		1170 B.C.	2935 B.P.
202.	Jaketown	Huxtable et al. (1972) thermoluminescence date		1080 B.C.	2890 B.P.
317.	22 Ld 515	n/a	1000 B.C.		2820 B.P.
330.	Teoc Creek	M-2395		1700 B.C.	3400 B.P.
		M-2412		1650 B.C.	3360 B.P.
		M-2416		1520 B.C.	3250 B.P.
		M-2393		1450 B.C.	3180 B.P.
		M-2417		1430 B.C.	3120 B.P.
		M-2414		1320 B.C.	3050 B.P.
		M-2413		1260 B.C.	3000 B.P.
		M-2415		1130 B.C.	2960 B.P.
		M-2394		1070 B.C.	2885 B.P.
341.	1 Gr 1X1	n/a	1200- 500 B.C.		2915-2430 B.P.
342.	1 Gr 50	n/a	1200- 500 B.C.		2915-2430 B.P.
617.	Clear Mount	n/a	2000-1000 B.C.		3950-2820 B.P.

* Calibrated B.P. dates derived from Stuiver and Becker's (1986) high-precision decadal calibration of the radiocarbon time scale, A.D. 1950-2500 B.C.

Several of the sites plotted on Figure 26 proved to be unsuitable for temporal analysis, given their lack of dating evidence. Four sites; Cluster 1 site (173), and sites (66, 318, and 366) defined for site Cluster 2 have not been adequately dated. In addition, Cluster 3 sites; 3, 7, 232, 237, 240, 247, 248, 249, 259, 277, 315, 317, 341, 342, 382, 480, 492, 493, 495, 517, 521, 533, 536, 555, and 617 were deleted from further analysis because these sites have not been adequately dated.

The chronology of sites outlined in this analysis has been established through radiocarbon assay and thermoluminescence dating, as well as through various relative means such as cross-cultural comparisons and geological evidences.

Radiocarbon chronologies are based upon the theory that there is a standard amount of radiocarbon in the atmosphere, and that it decays at a known rate. However, it is a known fact that the amount of radiocarbon in the atmosphere is not a constant. It fluctuates quite widely.

Over the years, physicists have been able to work out a curve of the amount of radiocarbon in the atmosphere by assaying natural rains, etcetra. As a result tables have evolved which are correction factors to the standard dates with various degrees of reliability. Stuiver and Becker's (1986: 863-910) calibration curve for the high-precision decadal calibration of the radiocarbon time scale, A. D. 1950 - 2500 B. C. was employed below to convert the Carbon 14 age given for Formative site samples to the calendar year time scale.

The Carbon 14 dates listed on Table 12 are presented as calendar B.P. ages to facilitate comparison. Calendar B.P. ages are relative to the year A.D. 1950, with 0 calendar B.P. equal to A.D. 1950. The relationship between calendar A.D./B.C. and calendar B.P. is simple: cal B.P. = 1950 - cal A.D., and cal B.P. = 1949 + cal B.C. (Stuiver and Becker 1986:864).

The charcoal samples listed on Table 12 are assumed to be formed in isotopic Carbon 14 equilibrium with atmospheric CO2. Whereas, the radiocarbon dates derived from marine shell were converted by employing the model calculated calibration curves for marine samples provided by Stuiver, Pearson, and Braziunas (1986:980-1021), because these samples differ in specific Carbon 14 content. According to Stuiver, Pearson, and Braziunas (1986: 980), "When samples are formed in reservoirs (eg, lakes and oceans) that differ in specific Carbon 14 content from the atmosphere, an age adjustment is needed because a conventional Carbon 14 age, although taking into account Carbon 14 (and Carbon 13) fractionation, does not correct for the difference in specific Carbon 14 activity (Stuiver and Polach, 1977)".

Chronological information is presented on a site-by-site basis below. Eastern sites are considered first. The Formative occupation at site (1), the Sunday Bluff site, a multicomponent shell midden, has been dated by relative means. According to Bullen (1969b:41), "Salvage excavations at Sunday Bluff produced evidence of occupation during four sequential periods. These are known in Florida as the Late Preceramic Archaic (3000-2000 B.C.), the Orange period (very late Archaic) when pottery was fiber-tempered (2000-1000 B.C.), the Transitional period (1000-300 B.C.), and the beginning of the Deptford period (300 B.C.-A.D. 300) when stamped pottery first appeared (Bullen 1959,1965)".

The Orange period levels at Sunday Bluff appear to be relatively late within the Orange period continuum. The presence of Orange Incised sherds with fairly complicated designs and with flat, wide, incised lips suggests a Formative occupation of this site during "pure" Orange 4 times, circa 1300-1200 B.C. (Bullen 1969b:42; 1972:17) or from approximately 3015 to 2940 B.P. (Stuiver and Becker 1986:Fig. 1-G).

Formative dates at site (72), the Poverty Point site, range from 1700 - 500 B.C. (Webb 1977:5) or from about 3400 B.P. to 2420 B.P. According to Webb, Poverty Point culture was fully developed and widely distributed between 1200 and 1000 B.C. Three radiocarbon dates and one thermoluminescence date at Poverty Point have bearing on the development of early fiber-tempered ware in northeastern Louisiana (Webb 1977:5). These three radiocarbon dates are: 1050 B.C. ± 90 (TX-680) or 2860 cal B.P., 870 B.C. ± 150 (M-2154) or 2725 cal B.P., and 865 B.C. ± 255 (L.N.S.C. 73-057) or 2730 cal B.P. (Stuiver and Becker 1986 871). A thermoluminescence date on baked clay objects found within the Formative component at Poverty Point suggests a 750 B.C. (Webb 1977:5) or approximately a 2700 B.P. Formative occupation.

Site (74), the Palmer Hill Cottage Midden, produced a fiber-tempered pottery zone in the upper part of a large shell midden (Bullen and Bullen 1976:7, Fig. 4). According to Bullen and Bullen (1976:49), Formative settlement started at the Hill Cottage Midden around a small freshwater spring, 1700 B.C or about 3650 B.P. Between depths of 2 and 5.5 feet, only plain fiber-tempered pottery was encountered, dating to 1625 B.C. (G-598), (Bullen 1972:13) or 3340 cal B.P. (Stuiver and Becker 1986: 873). Incised fiber-tempered pottery with a very sandy "feel" was found between depths of 1 and 2.5 feet, a zone with a date of 1275 B.C. (G-597), (Bullen 1972:13) or 3020 cal B.P. (Stuiver and Becker 1986:872). The top foot of midden represents the end of the Formative occupation. There the semi-fiber-tempered ware dates to 1400 B.C. (G-596), (Bullen 1972:13) or about 3090 cal B.P. (Stuiver and Becker 1986:872).

The Formative midden at Summer Haven, site (75), contains steatite ware as well as plain and incised fiber- and semi-fiber-tempered ware. This shell midden is thought to have accumulated between the years 1450-1250 B.C. (Bullen 1972) or approximately from 3400-3200 B.P. Bullen (1972:15) interprets the ceramic material from the site as belonging to the Orange 3 subperiod. The incised pottery from this subperiod is marked by a tendency towards simplification in decorative designs with time (Bullen and Bullen 1961). The Formative component at the Summer Haven site has been radiocarbon dated to 1380 B.C. (M-1014) or 3075 cal B.P. (Bullen and Bullen 1961; Bullen 1971:63; 1972:15; 1974:78; Stuiver and Becker 1986:872).

Numerous tools of imported marine shell are found near the headwaters of the St. Johns River, at site (97), the South Indian Field site. The Formative occupation at South Indian Field has been dated by relative means to 1450-1250 B.C. (Griffin and Smith 1954; Ferguson 1951; Rouse 1951:72-107, Goggin 1952:45; Bullen 1961a: 104-106, 1972:15) or to approximately 3400-3200 B.P. Pottery from the Formative component at the South Indian Field site consists primarily of straight line incised fiber-tempered pottery with some punctations or ticks.

The Formative component at the Cotton midden, site (98), is represented by a deposit of coquina shell which is over twelve feet in depth. This component contains plain and incised fiber-tempered vessels with rims of the late, wide decorated variety (Bullen 1958b:101). A Fasciolaria gigantea shell obtained there has been radiocarbon dated to 1065 B.C. (M-215), (Bullen 1958b:97-110, 1972:14; Crane and Griffin 1958b:1122) or 3220 cal B.P. (Stuiver, Pearson, and Braziunas 1986:1002).

At Bluffton, site (99), fiber-tempered ware was encountered among the top seven feet of midden. A plain fiber-tempered ware zone, two foot thick, was present overlain by another two foot thick zone which contained both incised and plain pottery (Bullen 1972:10). The lowest plain ware zone has been radiocarbon dated on a shell date to 1710 B.C. (RL-32), (Bullen 1972:11) or approximately 3740 cal B.P. (Stuiver, Pearson, and Braziunas 1986:1003). This date is the earliest known for a fiber-tempered ware occupation in Florida.

Just over a millennia is represented by the strata covering the Formative deposits at site (106) the Tick Island Shell Mound (Jahn and Bullen 1978:2,20-22). The fiber-tempered component from the central part of the midden has not been radiocarbon dated, but through cross-cultural comparison and stratigraphic evidence is thought to date between 2000 B.C. and 1450 B.C. (Jahn and Bullen 1978:20; Milanich and Fairbanks 1980:156, Table 3) or approximately between 3950 and 3400 B.P. The semi-fiber-tempered levels at Tick Island date between 1000 B.C. to 750 B.C. (Jahn and Bullen 1978:21) or approximately between 2950 and 2700 B.P.

Site (109), the Rabbit Mount site has yielded two early radiocarbon dates of 2515 B.C. (GXO-345), and 2505 B.C. (GXO-343) for fiber-tempered ware deposits (Stoltman 1966;1974:235). These two dates are the earliest known for fiber-tempered pottery within the southeastern United States. Employing the calibration curves provided by Pearson et al. (1986:923) these dates may be converted to (cal) ages; 4030 B.P. and 4020 B.P., respectively.

Site (110), the Stalling's Island site, is a huge shell midden which exceeds 100,000 square feet in area. This midden rises nearly thirty feet above the Savannah River. The site has both preceramic and ceramic components present (Claflin 1931, Fairbanks 1942:227). One radiocarbon date is known for the fiber-tempered ceramic level 1780 B.C. (M-1278), (Bullen and Greene 1970; Crane and Griffin 1965) or 3495 cal B.P. (Stuiver and Becker 1986:873).

The presence of semi-fiber-tempered ware at site (112), the Canton Street site is suggestive of late Formative (Transitional period) occupation, which occurred between 1250 and 500 B.C. (Bullen 1959:45) or approximately between 3200 and 2450 B.P. Both fiber-tempered and semi-fiber-tempered levels exist at the site. The semi-fiber-tempered ware has been dated to 900 - 600 B.C. by relative means (Bullen et al. 1978:23).

The upper levels of site (213), the Lake Spring shell midden, contained fiber-tempered pottery, the lower levels lacked pottery. The decorated fiber-tempered types which occur in the earliest ceramic producing levels date by relative means to the period 2500 to 2000 B.C. (Stoltman 1974:14) or from approximately 4450 to 3950 B.P.

Site (324), the Claiborne site, a Poverty Point affiliated Formative locality, has produced four dates applicable to Formative occupation: three radiocarbon dates of 2040 B.C. (TX-1403), 1520 B.C. (TX-1404), 1150 B.C. (I-3705), and one thermoluminescence date of 650 B.C. (Gagliano 1966, Webb 1977:5). Employing the detailed calibration curves provided by Stuiver and Becker (1986:872-873) these four dates may be converted to (cal) ages; 3680 B.P., 3250 B.P., 2910 B.P., and 2465 B.P., respectively.

The dating evidence from western Formative sites is examined next. The semi-fiber- and fiber-tempered pottery from these sites reflect the final stages of fiber-tempered pottery manufacture in the Southeast. Currently, absolute dates are not available for the Formative components of sites of the western group found within the Tennessee/Tombigbee River Valley. However, these sites have been relatively dated by cross-cultural comparison as early as 1200 B.C., and as late as 500 B.C. (Jenkins 1975; Walthall and Jenkins 1976).

The relative dating evidence from western sites; 2, 227, 243, 244, 246, 331, 343, 344, and 362 is listed below. These sites have been assigned to the Middle Gulf Formational Period which dates from 1200 to 500 B.C. (Walthall 1980:83,89) or approximately from 3150 to 2450 B.P. According to Walthall (1980:83), "During the middle Gulf Formational period, mineral tempering (sand, grit, etc.) became popular in the ceramic industries of the eastern Coastal Plain settlements. Fiber-tempered pottery meanwhile was diffused westward along the Gulf coast, where by 1100 B.C. it had spread into the interior to form the Wheeler series". This plain and punctated fiber-tempered pottery spread from the coast to the interior, up through the lower Mississippi Valley, the upper Tombigbee River drainage, and finally to the western middle Tennessee Valley by 1000 B.C. or about 2840 B.P. As Walthall (1980:83) noted, "During this time there was an acceleration in trade as red jasper beads, Poverty Point-type clay balls, and steatite vessels diffused to Florida from the west and north and Saint Johns pottery spread westward among Gulf coast settlements to the lower Mississippi Valley".

The dating evidence for sites of the western group is considered next. An early western group date comes from site (2), the Colby Fish Camp site of Florida. In Orange 3 deposits at the Colby site soft, thick, chalky-like fiber-tempered examples of Orange Incised sherds were found along with a few St. Johns paste sherds containing casts of fibrous material, and semi-fiber-tempered ware (Bullen 1969b:38). The Formative component at Colby is dated by relative means to 1200-1000 B.C.(Bullen 1969b:53) or to about 3150-2950 B.P. The Colby site may have played an important role in the spread of Saint Johns pottery westward among Gulf coast settlements.

Site (227), the Perry site is located on Seven Mile Island in the Pickwick Basin of northwestern Alabama. This site has produced a substantial Formative inventory found on the surface and to a depth of four feet. However, the bulk of the fiber-tempered ware from Perry is concentrated within the top two feet of the midden (Lewis and Kneberg 1959:178) which dates from approximately 3150 to 2450 B.P.

Site (243), the Bluff Creek site, has more than six feet of shell midden which contain fiber-tempered ware (Webb and DeJarnette 1942:126-130). The lower three feet contained only fiber-tempered ware (Jenkins 1975:20). All six feet of stratigraphy are assumed to date from 3150 to 2450 B.P.

Site (244), the O'Neal site, consists of a massive eleven foot deep accumulation of cultural debris, mollusk shell, and other refuse interspersed with river deposited sand and gravel (Webb and DeJarnette 1942: 132-142; Walthall 1980:69). There fiber-tempered ware was found on the surface and to a depth of one foot (Walthall 1980:87). The Formative component at the O'Neal site dates from 3150 to 2450 B.P.

Site (246), the Long Branch site is another eleven foot thick shell midden (Webb and DeJarnette 1942:201-207). The upper three feet of the Long Branch midden contained fiber-tempered pottery which is assumed to date from 3150 to 2450 B.P.

Site (331), 1 Gr 2, is fairly well stratified. The site's stratigraphy consists of five feet of shell midden (Jenkins 1981:11). Zone E and portions of the surrounding zones represent a Formative occupation which has been relatively dated from 1200 B.C. to 500 B.C. (Jenkins 1975a) or approximately from 2915 B.P. to 2430 B.P.

Site (343), 1 Pi 33, contains fiber-tempered ware which has been associated with the Formative period (Jenkins 1981:13) from 3150 to 2450 B.P. Site (344), 1 Pi 61, has a fiber-tempered ceramic component in association with a dense concentration of shellfish (Jenkins 1975a) which is assumed to date from 3150 B.P. to 2450 B.P.

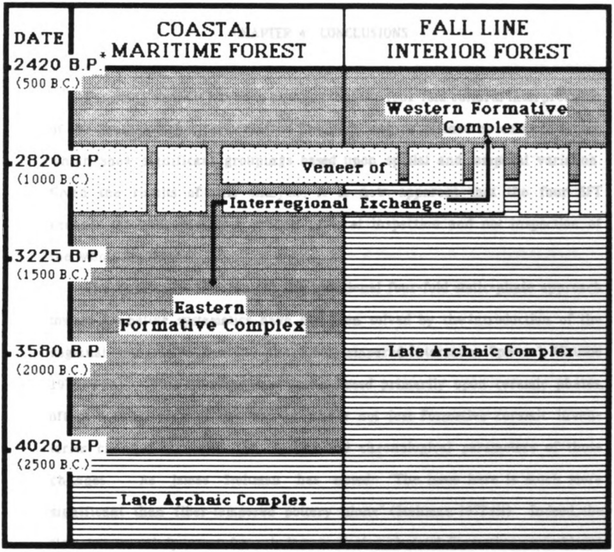
Site (362), the Whitesburg Bridge site represents a typical Late Archaic/ Formative shell midden deposit in the west (Webb and DeJarnette 1948a:12). Fiber-tempered ware was not plentiful there, but it did occur as the dominant form within Zone C., which is assumed to date from 3150 B.P. to 2450 B.P. This site is located within close proximity to the steatite outcrops of northeastern Alabama. The Whitesburg Bridge site is of particular interest, because the site may have played a role in the exchange of steatite. Indeed, one of the outstanding artifact traits at Whitesburg Bridge is the occurrence of sandstone and steatite vessels in Late Archaic burial association (Webb and DeJarnette 1948a:27).

Dating evidence indicates that the advent of Wheeler ceramic technology took place along the Gulf Coast circa 1000 B.C. or about 2820 B.P. This development may have been triggered by the spread of "semi-fiber-tempered" Norwood ware out of Florida. Perhaps this ceramic technology diffused to western Late Archaic settlements in conjunction with the spread of Formative interregional exchange.

The comparable dating evidence from Interregional Exchange group sites is presented below. Norwood sherds from the Tucker site have been radiocarbon dated to 1012 B.C. (Phelps 1966a:11,19,23; Knauer 1965) or 2860 cal B.P. (Stuiver and Becker 1986:Fig. 1G). The antiquity of the Alligator Lake Formative component comes from a radiocarbon sample obtained in Area "B" from a surface which contained fiber-tempered sherds, and an Elliott's Point clay ball. This sample, (FSU-32) yielded a date of 1170 B.C. (Lazarus 1965:109) or cal 2935 B.P. (Stuiver and Becker 1986:Fig. 1G). Baked clay objects from Jaketown have produced a thermoluminescence date of 1080 B.C. (Webb 1977:5; Huxtable et al. 1972) or cal 2890 B.P. (Stuiver and Becker 1986:Fig 1G). Site 22 Ld 515 has been dated by relative means to circa 1000 B. C. (Conn 1978:73) or about 2820 B. P. (Stuiver and Becker 1986:Fig 1G). According to Webb (1977:5), "Teoc Creek datings are on charcoal from various levels in the natural levee deposits, giving a temporal sequence for this site. The indications are that Poverty Point culture began on the Gulf Coast and in the Mississippi River basin by 1700 B.C., and that it was fully developed and widely distributed between 1200 and 1000 B.C. The latter dates are corroborated by cross-cultural contacts with northern Florida." The nine radiocarbon dates known from Teoc Creek are listed in Table 12 (Connaway, McGahey, and Webb 1977:107). The fiber-tempered sherds from sites 1 Gr 1X1 and 1 Gr 30 have been associated with the Broken Pumpkin Creek phase of the Middle Gulf Formational Period (Jenkins 1981:11,18). No radiocarbon dates are available for this phase. However, the Broken Pumpkin Creek phase has been relatively dated between 1200-500 B.C. (Walthall 1980:83) or about 2915 to 2430 B.P. (Stuiver and Becker 1986:Figs. 1F and 1G). The Clear Mount site produced evidence of a shell and sand midden of Stallings II-III origin, circa 2000 to 1000 B.C. (Stoltman 1974:155) or about 3580 to 2820 B.P. (Stuiver and Becker 1986: Figs 1F and 1G).

The cultural chronology provided in Figure 32 shows how Formative sites first developed in the east during the third millennium B.C. circa 4020 B.P. There two ceramic complexes Stalling's Island and Orange replaced the earlier Late Archaic complex. Then, by 1250 B.C. or about 2980 B.P. interregional trading practices developed between eastern Formative peoples and western Late Archaic peoples, which led to evolutionary changes in technological, socio-political, and ideological aspects of the cultural system of many peoples living inland from the coast proper. Finally, by 830 B.C. or about 2740 B.P. the knowledge of fiber-tempered pottery manufacture diffused to the Late Archaic populations of Mississippi, Alabama, Georgia, and the Carolina Fall Line region. Though they lived with some degree of geographic insularity, it is evident that these people were not completely isolated from ceramic stylistic trends occurring on the Gulf Coast and Atlantic Seaboard.

This generalized outline of possible temporal change during the Southeastern Fiber-tempered Tradition is clearly tentative. Before it can carry much weight it must be improved by a larger data base backed by more independent radiocarbon dating evidence.



* B.P. dates derived from a high-percision decadal calibration of the Radiocarbon Time Scale (Stuiver and Becker 1986: 863-910).

Figure 32. Revised (SFT) Cultural Chronology.

CHAPTER 4: CONCLUSIONS

For many years it has been assumed that the four-fold cultural interpretation of the Southeastern Fiber-tempered Tradition may be defined by ceramic series, which show significant groupings based upon spatial and temporal variation. Given the results of this analysis, it is now apparent that the four SFT ceramic taxons are simply a product of local inspection and not inspection of the whole tradition.

The difficulties inherent in the traditional four-fold static-phase approach toward Formative systematics have not been solved by the introduction of the regional integrative concept; the "Fiber-tempered Interaction Sphere" (Crusoe 1972:69-78). This developmental model based primarily upon ceramic phases, offers a static view of the way in which not just Formative ceramic inventories changed but also the spatial and chronological parameters of those changes. As James Stoltman has noted: "The issue here is much more significant than fiber-tempered pottery alone" (Stoltman 1972:iii). Indeed, the time has certainly come for scholars to deal with total Formative assemblages in their attempts at cultural reconstruction.

On the basis of this research, two rather than four spatial divisions of the SFT have been recognized: an eastern cultural development bounded by the distributions of marine shell and bone tools, shell-ring sites, and incised fiber-tempered ware, and a western cultural development bounded by the distribution of a vast array of lithic tools and stamped pottery. Cross-cultural exchanges between and among these two groups resulted from their dual participation within a vast Formative interregional exchange network.

Walthall and Jenkins (1976:43) and Walthall (1980:78) have provided a new developmental model of Formative activity within the southeastern United States. According to Walthall (1980:77), "While not believing that abandonment of the established developmental model is necessary or even desirable, many southeastern archaeologists feel that some sort of modification is in order. Ned Jenkins and John Walthall presented a research paper at the 1975 Southeastern Archaeological Conference in which these related Coastal Plain cultures were drawn into an intermediate cultural stage -- called the Gulf Formational stage -- between the Archaic and Woodland (Walthall and Jenkins 1976)." On the basis of their research experience, Walthall and Jenkins (1976) divided the Gulf Formational Stage into three sequential periods, early (2500-1200 B.C.), middle (1200-500 B.C.), and late (500-100 B.C.). In their paper, "In order to illuminate better the origins and growth of the cultures assigned to this stage, the southern Coastal Plain was divided into two subregions: (1) an eastern region extending from eastern Alabama to the Atlantic coast and (2) a western region encompassing the area between the Tombigbee drainage of western Alabama and the lower Mississippi Valley (Walthall 1980:78)." Thus, without doing a very detailed analysis Walthall and Jenkins have suggested dividing the southern Coastal Plain into two Formative developmental subregions. This study which provides a very detailed analysis of what is known about Formative development in the southeastern United States supports their conclusion.

It is concluded that on a temporal axis, two major chronological periods may be defined for the Formative Period of the southeastern United States. First, there was a period of eastern influence circa 2500 B.C. to 1250 B.C. or about 4020 B.P. to 2980 B.P. This was followed by a period of western Formative development circa 1250 B.C. to 500 B.C. or about 2980 B.P. to 2420 B.P. An extensive exchange network developed between eastern and western Formative peoples, circa 1250 B.C. or 2980 B.P.

From 2500 B.C. to 1250 B.C. or about 4020 B.P. to 2980 B.P. the distribution of southeastern fiber tempered pottery was confined to the Atlantic Seaboard, the Gulf Coast, and the associated inland maritime environs of Florida, Georgia, and the Carolinas. With an intensification of exchange activities, circa 1250 B.C. (2980 B.P.), stemming from Florida across the Gulf Coastal circuit, came the advent and spread of "semi-fiber-tempered" ware. From this point on a steady stream of cross-cultural exchanges took place through various avenues of river travel. As a result, Formative lifeways began to spread rapidly to the north and west where certain Formative elements (i.e., pottery) were adopted by various Late Archaic peoples living along or near the Fall Line. The intergroup contacts brought about through exchange led inevitably to a decrease in artifact class variability among eastern and western SFT sites. This period of transition culminated in the establishment of Formative lifeways in the west. Presumably, it was the development of a vast Formative exchange network which led to the adoption of fiber-and semi-fiber-tempered pottery within northern Mississippi, Alabama, and other areas of middle and northern latitude. Thus, the historical ties that connect these two widely separated geographical areas are emphasized by the results of this study.

Research on the Southeastern Fiber-tempered Tradition has shown that there are many questions remaining to be addressed concerning the problems of cultural development during the Late Archaic and Formative periods. It is hoped that this reconsideration of the SFT will serve as a baseline for further formal, spatial, and temporal refinements, and that it will contribute toward a better understanding of the complex lifeways and far-reaching cultural dynamics of the southeastern Formative period.

A RECONSIDERATION OF FORMATIVE CULTURAL DEVELOPMENT IN THE SOUTHEASTERN UNITED STATES

Volume 2

By

George Ward Shannon, Jr.

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Anthropology

1987

APPENDICES

APPENDIX A.

NUMERICAL LIST OF SITES SHOWN ON ALL FIGURES.

Site Map No.	Site Name Site Abbreviation Site Description	Known Formative Component(s) at the Site	Known Distribution of Fiber-tempered Pottery at the Site	Settlement Pattern	Major Bibliographic Reference(s)
1.	Sunday Bluff 8 Mr 13 Shell midden excavated by arbitrary 3 in. levels to a depth of 42 in.	"fiber-tempered-St. Johns types" -Norwood Series -Orange Series	All levels (shell midden is the predominate Formative component).	Riverine (Okalawaha River) east bank.	Bullen (1969b); Goggin (1952:96); Crusoe (1972:71)
2.	Colby 8 Mr 57 Shell midden excavated by arbitrary 6 in. levels to a depth of 60 in.	-Norwood Series -Orange Series	All levels.	Riverine (Okalawaha River) east bank.	Bullen (1969b: 37-40); Cumbaa and Gouchnour (1970: 45); Crusoe (1972:71)
3.	Battery Point, Bayport Shell midden excavated by arbitrary 5 to 8 in. levels to a depth of 31 in., and	"semi-fiber-tempered types" -Norwood Series	Surface and Layer B. Dredging and pumping activities uncovered some of these specimens.	Coastal (Gulf of Mexico) at the mouth of the Mud and Weekiwachee Rivers.	Bullen and Bullen (1953); Bullen and Bullen (1954); Coates (1955:27-30); Phelps (1969:3)

APPENDIX A (cont'd.).

	from dredged material. Site is presently inundated by the Ocean.				Crusoe (1972:72)
4.	Old Town, Fernandina (Old Fernandina) N 9a N 9 Shell midden excavated by arbitrary 6 in. zones to a depth of seven ft.	"semi-fiber-tempered types" -Norwood Series -Orange Series	At the base of the main shell deposit, below a depth of 12 in.	Coastal (Amelia Island) Atlantic Ocean, Amelia River.	Bullen (1959b:47); Bullen and Griffin (1952:49-51); Holmes (1868b:460); Phelps (1969:3)
5.	Carrabelle 8 Fr 2 Shell midden excavated by arbitrary 10 cm. levels to a depth of 90 cm.	"St. Simons types" -Stalling's Island Series -Norwood Series	Lowest levels of all excavations Levels 2,5, and 6. Surface.	Coastal (Gulf of Mexico).	Phelps (1966a:38); Sears (n.d.:21); Willey (1949:38-54,352); Willey and Woodbury (1942:241-242); Crusoe (1972:71)
6.	Upatoi, Ga. n/a	-Stallings Series	Fiber-tempered sherds found in a stratigraphic sequence.	Riverine (Chattahoochee River, Upatoi tributary) east bank.	Lazarus (1965:110, 113); Kelly (1959)
7.	Tan Vat (J-18) 8 Ja 18 Non-shell midden	-Orange Series	0-8 in. under the surface.	Riverene (Chattahoochee River) west bank.	Bullen (1958c:323-325); Lazarus (1965:113)

APPENDIX A (cont'd.).

	excavated by arbitrary 4 in. levels to a depth of 12 in.				
8.	Chattahoochee (J-5) 8 Ja 5 Non-shell midden excavated by arbitrary 4 in. levels. A section taken from a 19 ft. deep drainage ditch indicated 14 zones of natural and cultural stratification.	-Orange Series	Zone 9, separated from all others by two sterile zones "closed site".	Riverine (Chattahoochee River) west bank near the confluence of the Chattahoochee and Flint Rivers where they form the Apalachicola River.	Bullen (1954:46-48); Bullen (1956:31-36); Bullen (1958c:333-350); Lazarus (1965: 111 and 113)
9.	Whitehurst, Bolen Bluff A 35 Non-shell midden excavated by arbitrary 6 in. levels to a depth of 30 in.	"semi-fiber-tempered types" -Norwood Series -Orange Series	From 6 to 30 in. beneath surface.	Inland (near Levy Lake).	Bullen (1958a:21-37); Bullen (1959b:46)
10.	Chattahoochee 8 Ja 62 Non-shell midden excavated by arbitrary 4 in. levels to a depth of 16 in.	-Orange Series	8-16 in. below surface.	Riverine (Chattahoochee River) west bank.	Bullen (1958c: 325-327); Lazarus (1965:113)

APPENDIX A (cont'd.).

11.	Marianna Caverns n/a	-Norwood Series	Surface.	Coastal Gulf of Mexico	Lazarus (1965:113)
12.	Bryant's Landing #3 1 Ba 176 Shell midden excavated by natural zones.	-Wheeler Series -Poverty Point Complex	Shell layers no. 2 and 3.	Riverine (Tensaw River) southeast bank.	Lazarus (1965:111, 113); Jenkins (1981:369, 371-373) Phillips (1970:82); Trickey and Holmes (1971:119-122)
13.	Elmo's (Ullmore) Cove 8 Wa 34 Shell midden excavated by arbitrary 4 in. levels to depth of 48 in.	-Norwood Series	Level 10.	Coastal (Dickson Bay) Gulf of Mexico.	Allen (1954:63, 71-75); Phelps (1966a:38); Phelps (1969:9)
14.	Neal J 42 n/a	-Orange Series	One sherd found with the Deptford occupation, on the surface.	Riverine (Chattahoochee River) west bank.	Bullen (1950: 122-123)
15.	Useppa Island n/a	-Norwood Series -Orange Series	Surface.	Coastal (Pine Island Sound) Gulf of Mexico.	Griffin (1949:92)
16.	North side of Charlotte Harbor n/a	"semi-fiber-tempered types" -Norwood Series	Surface.	Coastal (North side of Charlotte Harbor) Gulf of Mexico.	Bullen and Bullen (1953:90)

APPENDIX A (cont'd.).

17.	Fort Center Non-shell midden excavated by a variety of methods to various depths.	"semi-fiber-tempered types" -Norwood Series -Orange Series	Periods I and II (lowest levels of the site).	Riverine (Fisheating Creek) north and south bank. Lake Okeechobee.	Sears (1982)
18.	N-44 n/a	"semi-fiber-tempered types" -Norwood Series -Orange Series	Surface.	Coastal (Amelia Island) Atlantic Ocean.	Bullen and Griffin (1952:42-43,56)
19.	Suwannee 8 Su 2 Non-shell midden excavated by arbitrary 4 in. levels to a depth of 48 in.	"Suwannee Plain type (a new form of fiber-tempered pottery)" -Norwood Series	Upper half of the site.	Riverine (junction of the Suwannee and Santa Fe Rivers).	Goggin (1950:47)
20.	Oakland Mound 8 Je 53 8 ft. tall oval sand mound excavated by 6 in. levels	"Sandy fiber-tempered types" -Norwood Series -Elliott's Point Complex	Scattered in the mound fill and thought to come from an early occupation of the borrow area.	Inland (near Lake Miccosukee).	Morrell (1960:101); Phelps (1966a:38); Lazarus (1965:113)
21.	Nine Mile Point 8 Fr 9 n/a	-Norwood Series "St. Simons types" -Stalling's Island Series	Surface.	Coastal (Apalachicola Bay) Gulf of Mexico.	Phelps (1966a:38), Lazarus (1965: 113); Willey (1949:352)

APPENDIX A (cont'd.).

22.	Top Sail Bluff 8 Fr 7 n/a	-Norwood Series "St. Simon's types" -Stalling's Series	Surface.	Coastal (Apalachicola Bay) Gulf of Mexico.	Phelps (1966a:38); Lazarus (1965:113); Willey (1949:352)
23.	Tucker 8 Fr 4 Shell midden excavated by arbitrary 6 in. levels	-Norwood Series -Elliott's Point Complex * Norwood type site	Surface and lower levels of site.	Coastal (St. George Sd.) Gulf of Mexico.	Phelps (1966a); Phelps (1969:2); Moore (1902); Sears (1963); Willey (1949); Crusoe (1972:71)
24.	8 Wa 2 n/a	-Norwood Series	Surface.	Riverine (Ochlockonee River) northeast bank.	Phelps (1966a:38)
25.	8 Wa 37 n/a	-Norwood Series	Surface.	Coastal (Apalachee Bay) Gulf of Mexico.	Phelps (1966a:38)
26.	8 Wa 4 n/a	-Norwood Series	Surface.	Coastal (Apalachee Bay) Gulf of Mexico.	Phelps (1966a:38)
27.	West Goose Creek 8 Wa 6 n/a	-Norwood Series "St. Simon's types" -Stalling's Island Series	Surface.	Coastal (Apalachee Bay) Gulf of Mexico.	Phelps (1966a:38); Lazarus (1965:113); Willey (1949:352)

APPENDIX A (cont'd.).

28.	Refuge Fire Tower Cemetery 8 Wa 15 n/a	-Norwood Series	Surface.	Coastal (Apalachee Bay) Gulf of Mexico.	Phelps (1966a:38); Phelps (1969); Shannon (1979)
29.	Near St. Marks 8 Wa 7 n/a	-Norwood Series "St. Simon's types" -Stalling's Series	Surface.	Inland.	Phelps (1966a:38); Lazarus (1965:113)
30.	8 Le 23 n/a	-Norwood Series	Surface.	Inland.	Phelps (1966a:38)
31.	8 Le 73 n/a	-Norwood Series	Surface.	Riverine (Ochlockonee River) east bank.	Phelps (1966a:38)
32.	8 Le 15 n/a	-Norwood Series	Surface.	Inland.	Phelps (1966a:38)
33.	8 Le 16 n/a	-Norwood Series	Surface.	Riverine (Ochlockonee River) east bank.	Phelps (1966a:38)
34.	8 Je 15 n/a	-Norwood Series	Surface.	Riverine (Aucilla River) west bank.	Phelps (1966a:38)
35.	8 Je 16 n/a	-Norwood Series	Surface.	Riverine (Aucilla River) west bank.	Phelps (1966a:38)
36.	8 Je 14 n/a	-Norwood Series	Surface.	Riverine (Aucilla River) west bank.	Phelps (1966a:38)

APPENDIX A (cont'd.).

37.	Lock 8 Je 57 Non-shell midden	-Norwood Series	Zone 3, the lowest deposit.	Riverine (Aucilla River) west bank.	Phelps (1966a:38); Phelps (1969:5; 7,9), Smith (1968)
38.	8 Je 52 n/a	-Norwood Series	Surface.	Coastal (Apalachee Bay) Gulf of Mexico.	Phelps (1966a:38)
39.	Williams 8 Ta 32 Shell midden nearly 4 ft. in depth	-Norwood Series	All levels of culturally mixed stratification.	Riverine (Aucilla River) east bank.	Phelps (1966a:38); Phelps (1969:8)
40.	Berklund Mound 8 Ta 35 n/a	-Norwood Series	n/a.	Riverine (between the Econfina and Fenholloway rivers).	Phelps (1966a:38)
41.	8 Ta 13 n/a	-Norwood Series	Surface.	Coastal (Apalachee Bay) Gulf of Mexico.	Phelps (1966a:38)
42.	8 Ta 10 n/a	-Norwood Series	Surface.	Coastal (Apalachee Bay) Gulf of Mexico.	Phelps (1966a:38)
43.	Alligator Lake 8 Wl 29 Non-shell midden excavated by 2 arbitrary 6 in. levels to a depth of 12 in.	"semi-fiber-tempered types" -Norwood Series -Orange Series -Elliott's Point Complex	Surface and Levels 1 and 2.	Coastal (Choctawhatchee Bay) Gulf of Mexico.	Lazarus (1965:103)

APPENDIX A (cont'd.).

44.	Amelia Island N 36 (Jones) n/a	-Norwood Series	Surface.	Coastal (Amelia Island) Atlantic Ocean.	Phelps (1969:2-3)
45.	Melrose 9 Gr 50 n/a	-Norwood Series	Surface.	Riverine (Ochlockonee River) west bank.	Phelps (1969:3.5)
46.	Stoutamire 8 Lo 107 Shell midden	-Norwood Series	Norwood materials separated from Weeden Is. component by a sterile sand deposit.	Riverine (Ochlockonee River).	Phelps (1969:8)
47.	Refuge Fire Tower 8 Wa 14 Shell midden excavated by arbitrary 6 in. levels	-Norwood Series	Surface and all levels.	Coastal (Apalachee Bay) Gulf of Mexico.	Phelps (1969:9); Shannon (1979); Willey (1949:297)
48.	Lower Peach Tree Ferry Non-shell midden	"fiber-tempered types" -Norwood Series	Surface.	Riverine (Alabama River) east bank.	Sears (n.d.: 52)
49.	Mulatto Bayou 8 Sa 24 Shell midden	"fiber-tempered types" -Norwood Series	Surface.	Riverine (Escambia River) west bank.	Sears (n.d.: 28)

APPENDIX A (cont'd.).

50.	Stallworth Non-shell midden	"fiber-tempered types" -Norwood Series	Surface.	Riverine (Alabama River) east bank.	Sears (n.d.: 55)
51.	M[c]Alpin Mound complex and village site	"fiber-tempered types" -Norwood Series	Surface.	Riverine (Tombig-bee River) east bank.	Sears (n.d.: 60)
52.	Charlotte Harbor 1 n/a	"semi-fiber-tempered types" -Norwood Series "fiber-tempered types" -Orange Series	Surface.	Coastal (Char-lotte Harbor) Gulf of Mexico.	Bullen (1959b:47); Griffin (1949)
53.	Charlotte Harbor 2 n/a	"semi-fiber-tempered types" -Norwood Series "fiber-tempered types" -Orange Series	Surface.	Coastal (Char-lotte Harbor) Gulf of Mexico.	Bullen (1959b:47); Goggin (1954)
54.	Charlotte Harbor 3 n/a	"semi-fiber-tempered types" -Norwood Series "fiber-tempered types" -Orange Series	Surface.	Coastal (Char-lotte Harbor) Gulf of Mexico.	Bullen (1959b:47); Bullen and Bullen (1956)
55.	Angora, Shell Heap, Englewood Shell midden	"semi-fiber-tempered types" -Norwood Series "fiber-tempered types" -Orange Series	Surface.	Coastal (Gulf of Mexico).	Bullen (1959b: 47); Goggin (1954)
56.	Paw Paw Midden Shell midden excavated by arbitrary 1 ft. levels to a depth of 10 ft.	"semi-fiber-tempered types" -Norwood Series -Orange Series	Levels 3,4 and 5 of Test I, and Levels 6-10 of Test II.	Riverine (St. Johns River) east bank.	Bullen (1956:61-66); Crusoe (1972:71)

APPENDIX A (cont'd.).

57.	Wills (Hinds Co.) n/a	"fiber-tempered types" -Wheeler Series -Poverty Point Complex	Surface.	n/a.	Lazarus (1965:113); Rands (1959:17)
58.	8 Le 103 n/a	-Norwood Series	Surface.	n/a.	Phelps (1978, personal communication)
59.	8 Fr 3 Unexcavated Shell midden thought to be a little less than 1 meter thick	-Norwood Series	Surface.	Coastal (St. George's Sd.) Gulf of Mexico.	Phelps (1978, personal communication); Willey (1949:268)
60.	8 Fr 25 n/a	-Norwood Series	Surface.	n/a.	Phelps (1978, personal communication)
61.	8 Fr 22 n/a	-Norwood Series	Surface.	n/a.	Phelps (1978, personal communication)
62.	8 Le 24 n/a	-Norwood Series	Surface.	n/a.	Phelps (1978, personal communication)
63.	Bayou Jasmine (St. John Par.) Site is buried 6 to 12 ft. below present mean Gulf level. Site was exposed by canal excavation.	"fiber-tempered types" -Wheeler Series -Poverty Point Complex	Canal spoil.	Coastal (Lake Pontchartrain).	Lazarus (1965:113); Webb (1968: 297-298)

APPENDIX A (cont'd.).

64.	Marco Island n/a	-Norwood Series -Orange Series	Surface.	Coastal Gulf of Mexico.	Bullen (1972:12,14)
65.	Midden south of Englewood n/a	-Norwood Series -Orange Series	Middle and upper parts of the midden.	Coastal (Lemon Bay) Gulf of Mexico.	Bullen and Bullen (1976:49-50)
66.	Rolling Oaks II 8 Bd 73 Sand midden excavated by. 10 and 20 cm levels to a depth of 60 cm.	"semi-fiber-tempered types" -Norwood Series	50-60 cm level.	Inland (hammock in the Ever-glades).	Williams and Mowers (1982)
67.	A site at the N.E. corner of Lake Okeechobee n/a	"semi-fiber-tempered types" -Norwood Series	Surface.	Inland (Lake Okee-chobee).	Sears (1974:3-4)
68.	Linsley (Orleans Par.) Site is buried 6 to 12 ft. below present mean Gulf level, it was exposed by canal excavation.	"fiber-tempered types" -Wheeler Series -Poverty Point Complex	Canal spoil.	Coastal (Lake Pontchar-train).	Gagliano (1963:111); Lazarus (1965:113); Phelps (1964:106); Webb (1968:297)
69.	Wash Island n/a	"semi-fiber-tempered types" -Norwood Series	Surface.	Coastal (Crystal River) north side 1 mile from the Gulf of Mexico.	Bullen and Bullen (1961b); Crusoe (1972:72)
70.	near Jackson-ville	-Norwood Series -Orange Series	n/a.	Riverine (St. Johns	Bullen (1969b:43)

APPENDIX A (cont'd.).

	A stratigraphic test dug by Goggin			River).	
71.	Specimens in Yale Peabody Museum (3837) from a site near St. Marks n/a	"fiber-tempered types" -Norwood Series	Surface.	Coastal (Apalachee Bay) Gulf of Mexico.	Goggin (1947:116)
72.	Poverty Point (Carroll Par.) Non-shell midden 2 meters in depth. Site consists of 6 concentric elevated ridges each forming five-eighths of an octagon.	"fiber-tempered types" -Wheeler Series -aceramic component with a Poverty Point Complex	Fiber-tempered sherds at the deepest levels of habitation.	Riverine (Bayou Macon) west bank.	Lazarus (1965:111-112); Phelps (1964:106); Ford and Webb (1956); Jenkins (1975:23); Webb (1944, 1948, 1968) Morgan (1980: 6-7); Kuttruff (1975); Haag (n. d.); Moore (1913); Webb (1977:31)
73.	Camp Ranch, Bolen Bluff Sand midden excavated by arbitrary 6 in. levels to a depth of 36 in.	"semi-fiber-tempered types" -Norwood Series -Orange Series	6-12 in. level and 18-24 in. level.	Inland (near Levy Lake).	Bullen (1958a)
74.	Palmer (Hill Cottage Midden) Shell midden excavated by	-Norwood Series -Orange Series	All levels.	Coastal (Little Sarasota Bay) Gulf of Mexico.	Bullen (1972:11-14); Bullen and Bullen (1976:3-20); Crusoe (1972:71)

APPENDIX A (cont'd.).

	arbitrary 6 in. level to a depth of 11 ft.				
75.	Summer Haven 8 SJ 46 Shell midden excavated by arbitrary 6 in. levels to a depth of 42 in.	"semi-fiber- tempered types" -Norwood Series -Orange Series	All levels.	Coastal (Matan- zas Inlet) Atlantic Ocean.	Bullen and Bullen (1961a); Bullen (1972:12 and 15); Goggin (1952:92); Crusoe (1972:71)
76.	Peace Camp Sand midden n/a	-Norwood Series -Orange Series	Base of the site.	Inland (Ever- glades).	Bullen (1972:12 and 20)
77.	Okaloosa- Walton 8 Wl 1 n/a	-Norwood Series -Elliott's Point Complex	Surface.	Riverine (Chocta- whatchee River, tributary) east bank.	Lazarus (1965:113); and Willey (1949:215)
78.	McQuade Bayou 8 Wl 11 n/a	-Norwood Series	Surface.	Coastal (Chocta- whatchee Bay) Gulf of Mexico.	Lazarus (1965:113); Willey (1949:221)
79.	Eagle Creek 8 Wl 42 n/a	-Norwood Series -Elliott's Point Complex	Surface.	Coastal Gulf of Mexico.	Lazarus (1965:113)
80.	Florosa- Mary Esther 8 Ok 5 n/a	-Norwood Series -Elliott's Point Complex	Surface.	Coastal Gulf of Mexico.	Lazarus (1965:113)

APPENDIX A (cont'd.).

81.	Ft. Walton Midden 8 Ok 6 n/a	-Norwood Series	Surface.	Coastal (Gulf of Mexico).	Lazarus (1958:32); (1965:113); Phelps (1966a:22-23)
82.	Goodthing Lake 8 Ok 12 n/a	-Norwood Series	Surface.	Coastal (Fort Walton Beach).	Lazarus (1958:32); (1965:113); Phelps (1966a:22-23)
83.	Bell 8 Ok 20 n/a	-Norwood Series	Surface.	n/a.	Lazarus (1965:113); Phelps (1966a:22-23)
84.	Golf Course I 8 Ok 52 n/a	-Norwood Series	Surface.	n/a.	Lazarus (1965:113); Phelps (1966a:22-23)
85.	Ruckel 8 Ok 20 n/a	-Norwood Series	Surface.	n/a.	Lazarus (1965:113); Phelps (1966a:22-23)
86.	Shirk Point 8 Ok 53 n/a	-Norwood Series -Elliott's Point Complex	Surface.	n/a.	Lazarus (1965:113); Phelps (1966a:22-23)
87.	Indian Bayou, E. 8 Ok 54 n/a	-Norwood Series -Elliott's Point Complex	Surface.	Coastal (Choctawhatchee Bay) Gulf of Mexico	Lazarus (1965:113); Phelps (1966a:22-23)
88.	W. Hurlbert 8 Ok 61 n/a	-Norwood Series	Surface.	n/a.	Lazarus (1965:113); Phelps (1966a:22-23)

APPENDIX A (cont'd.).

89.	Halloca Creek, Ga. n/a	-Stalling's Series	Fiber-tempered sherds found in a stratagraphic sequence.	Riverine (Chattahoochee River) east bank.	Lazarus (1965:110-113); Kelly (1959)
90.	Stafford North Shell midden 0.5-1.0 ft. thick excavated by natural strata	"semi-fiber-tempered types" -Norwood Series -Stalling's Series	All levels upper and lower shell and underlying humus.	Coastal (Cumberland Is.) Atlantic Ocean.	Milanich (1971a:44-46)
91.	Table Point Shell midden (Shell ring site)	"semi-fiber-tempered types" -Norwood Series "fiber-tempered types" -Orange Series -Stalling's Series	Post ring humus, shell ring fill, old surface under fill, occupation humus in gap inside ring, shell pile in 500N,495E, and old humus under central midden.	Coastal (Cumberland Is.) Atlantic Ocean.	Milanich (1971a:46-73)
92.	8 Li 15 n/a	-Norwood Series	Surface.	Riverine (Apalachicola River) east bank.	Percy and Jones (1976:114)
93.	8 Li 44 n/a	-Norwood Series	Surface.	Riverine (Apalachicola River) east bank.	Percy and Jones (1976:114)
94.	8 Li 51 n/a	-Norwood Series	Surface.	Riverine (Apalachicola River) east bank.	Percy and Jones (1976:114)
95.	8 Li 56 n/a	-Norwood Series	Surface.	Riverine (Apalachicola River) east bank.	Percy and Jones (1976:114)

APPENDIX A (cont'd.).

96.	Torreya 8 Li 8 n/a	-Norwood Series	Surface.	Riverine (Apalachicola River) east bank.	Percy and Jones (1976:120)
97.	South Indian Field 8 Br 23 Shell midden excavated by arbitrary levels	"semi-fiber-tempered types" -Norwood Series -Orange Series	All levels and in cemented shell refuse.	Riverine (St. Johns River) east bank on hammock.	Ferguson (1951); Rouse (1951:72-107); Bullen (1969b); Crusoe (1972:71)
98.	Cotton (Hernandez) Vo 83 Shell midden excavated by arbitrary 6 in. and 1 ft. levels to a depth of 11 ft. 6 in.	-Orange Series	All levels.	Riverine (Halifax River) west bank.	Blatchley (1902); Bullen (1954); Bullen (1972); Goggin (1952:93); Griffin and Smith (1954)
99.	Bluffton (Dexter's Point) Vo 22 Shell midden excavated by natural layers to a depth of 17.5 ft. Depth of midden unknown.	-Orange Series	Top 7 ft. of a 30 ft. deep deposit of preceramic fresh-water shell midden.	Riverine (St. Johns River) east bank.	Bullen (1955); Bullen (1972); Goggin (1952:89)
100.	Jones Creek Shell midden excavated by arbitrary 6 in. levels.	-Orange Series	Found as deep as 42-48 in. below surface.	Riverine (St. Johns River).	Bullen (1954:46)

APPENDIX A (cont'd.).

101.	Shired Island n/a	-Orange Series	Surface.	Coastal (at the mouth of the Suwannee River) Gulf of Mexico.	Bullen (1972:12,14)
102.	Bosquebello Cemetery, N - 11 n/a	-Orange Series	Surface.	Coastal (Amelia Island) Atlantic Ocean.	Bullen and Griffin (1952:42-43, 52)
103.	Withlacoochee River n/a	-Orange Series	Surface.	Riverine (Withlacoochee River) west bank	Bullen (1972:12,14)
104.	Perico Island 8 Ma 6 Small shell midden	-Stallings Series -Orange Series	From the Glades cultural complex levels of the smaller shell midden.	Coastal (Sarasota Bay) Gulf of Mexico.	Bullen (1972:12,14); Willey (1949:172-182,352)
105.	Cayo Pelau Shell midden	-Orange Series	Surface.	Coastal (Charlotte Harbor) Gulf of Mexico.	Bullen (1972:12, 14); Goggin (1954)
106.	Tick Island Shell Mound 8 Vo 24 Shell midden excavated by dredging operation	-Norwood Series -Orange Series -Poverty Point Complex	Surface (materials collected from dredge washer).	Riverine (St. Johns River).	Holmes (1893:123); Jahn and Bullen (1978); and Moore (1894d:211); Morgan (1980:37)

APPENDIX A (cont'd.).

107.	Zabski 8 Br 165 Sand midden excavated by arbitrary 6 in. levels to a depth of 42 in.	(Transitional site)	Surface and levels 2 and 3.	Riverine (located between the Banana and Indian Rivers) on Merritt Island.	Bullen (1972:12,19); Atkins and MacMahan (1967:133-144)
108.	N-24 n/a	-Orange Series	Surface.	Coastal (Amelia Island) Atlantic Ocean.	Bullen and Griffin (1952:42-43, 54)
109.	Rabbit Mount GR-1 Sand and shell midden excavated by natural strata and arbitrary 6 in. levels to a depth of 6 ft.	-Stallings Series	All shell midden levels and remaining arbitrary and mixed levels. Sample excludes above and below shell midden artifacts.	Riverine (Savannah River) east bank.	Stoltman (1966) and (1974); Hanson (1982:12)
110.	Stalling's Island Mound 9 Co 1 Shell midden nearly 8 ft. in depth	-Stallings Series "semi-fiber-tempered types" -Norwood Series = Stallings type site	All levels of Stalling's Island component and Savannah River Focus.	Riverine (on Stalling's Is. in the Savannah River)	Claflin (1931); Fairbanks (1942); Jones (1861:13; 1873:199-200); Stoltman (1974:11-13); Crusoe (1972:71, 83,124-126); Bullen and Greene (1970); Caldwell (in Griffin 1952:312); Hanson (1982:12); Crusoe and DePratter (1976)

APPENDIX A (cont'd.).

111.	John's Island Shell midden excavated by arbitrary 6 in. levels to a depth of 4 ft.	(Transitional site)	All levels.	Coastal (at the mouth of the Chassahowitzka River) Gulf of Mexico.	Bullen and Bullen (1950)
112.	Canton Street Shell midden excavated by arbitrary 6 in. levels to a depth of 60 in.	-Norwood Series -Orange Series -Poverty Point Complex	All levels.	Coastal (Tampa Bay) Gulf of Mexico.	Bullen et al. (1978)
113.	Ocala National Forest Midden No. 1 Shell midden excavated by arbitrary 6 in. and 1 ft. levels to a depth of 10 ft.	-Orange Series	From the surface to a depth of 18 in.	Riverine (St. Johns River) west bank.	Bullen and Bryant (1965:3)
114.	Palmer site (Varme Midden) Shell midden excavated by 1 ft. levels to a depth of 54 in.	-Norwood Series -Orange Series	All levels.	Coastal (Little Sarasota Bay) Gulf of Mexico.	Bullen and (Bullen 1976:34)
115.	Palmer site (Burial Mound) Stratified Burial	-Norwood Series	All levels.	Coastal (Little Sarasota Bay) Gulf of Mexico.	Bullen and (Bullen 1976:35)

APPENDIX A (cont'd.).

	Mound excavated by 6 in. arbitrary levels.				
116.	Fort San Carlos, Fernandina 8 Na 10 n/a	-Orange Series	Surface.	Riverine (St. Johns River) northwest bank.	Goggin (1952:82)
117.	Fort George Island Midden 8 Du 5 n/a	-Orange Series	Surface.	Riverine (St. Johns River) northwest bank.	Goggin (1952:83)
118.	Ponte Vedra Beach 8 SJ 1 Stratification information n/a	-Orange Series -Stallings Series	Surface.	Coastal Atlantic Ocean.	Goggin (1952:75, 83,99)
119.	Shellbluff Landing, North River, midden 8 SJ 32 n/a	-Orange Series	Surface.	Riverine (Tolomato River) near Atlantic Ocean.	Goggin (1952:83)
120.	Wrights Landing, North River, midden 8 SJ 3 n/a	-Orange Series	Surface.	Riverine (Tolomato River) near Atlantic Ocean.	Goggin (1952:83)

APPENDIX A (cont'd.).

121.	South of Wrights Landing, North River, midden 8 SJ 33 Shell Midden	-Orange Series	Surface.	Coastal (Atlantic Ocean).	Goggin (1952:83)
122.	"Fountain of Youth" 8 SJ 31 n/a	-Orange Series	Surface.	Coastal (Atlantic Ocean).	Goggin (1952:83)
123.	Crescent Beach Bridge 8 SJ 43 n/a	-Orange Series	Surface.	Coastal (Atlantic Ocean).	Goggin (1952:84)
124.	St. Johns Bluff Midden 8 Du 8 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) southeast bank.	Goggin (1952:84)
125.	Fort San Francisco de Pupo 8 Cl 10 n/a	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Goggin (1952:86)
126.	Shell midden Two miles north of Palatka 8 Pu 4 Shell midden	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Goggin (1952:86)

APPENDIX A (cont'd.).

127.	Palatka Midden 8 Pu 8 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Goggin (1952:86)
128.	Rollestown (Charlotia), midden 8 Pu 64 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) east bank.	Goggin (1952:86)
129.	Murphy Island Midden A 8 Pu 18 Shell Midden	-Orange Series -Stallings Series	Surface.	Riverine Murphy Island (St. Johns River)	Goggin (1952:75,86)
130.	Spauldings Lower Store, Stokes Landing 8 Pu 23 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Goggin (1952:87)
131.	Midden 1/2 mile north of Horse Landing 8 Pu 26 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Goggin (1952:87)
132.	Mount Royal mound and/or midden 8 Pu 35 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) east bank.	Goggin (1952:87)

APPENDIX A (cont'd.).

133.	Rocky Point, midden 8 Pu 40 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Goggin (1952:88)
134.	Midden near Georgetown 8 Pu 46 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - Lake George) east bank.	Goggin (1952:88)
135.	Midden near Georgetown 8 Pu 47 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - Lake George) east bank.	Goggin (1952:88)
136.	Midden 2 "Main Shell Heap" Salt Spring Run 8 Mr 2 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - Salt Spring Run) north bank.	Goggin (1952:88)
137.	Midden 4 Salt Spring Run, near spring 8 Mr 4 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - Salt Spring Run) north bank.	Goggin (1952:88)
138.	Silver Glen Spring midden 8 La 2 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - Silver Glen Springs Run) south bank.	Goggin (1952:88) Neill (1958)

APPENDIX A (cont'd.).

139.	Hitchens Creek Midden A 8 Vo 4 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - Lake George) east bank.	Goggin (1952:88)
140.	Astor (Fort Butler) Midden 8 La 17 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Goggin (1952:89)
141.	Lake Woodruff 8 Vo 29 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - Lake Woodruff) east bank.	Goggin (1952:90)
142.	De Leon Springs 8 Vo 30 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - DeLeon Springs) east bank.	Goggin (1952:90)
143.	Mound one mile from Alexander Springs, on north side of creek 8 La 26 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - Lake Dexter) west bank.	Goggin (1952:90)
144.	Mosquito Grove 8 La 28 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Goggin (1952:90)

APPENDIX A (cont'd.).

145.	St. Francis (Old Town) 8 La 29 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Goggin (1952:90)
146.	Hawkinsville 8 La 34 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Goggin (1952:90)
147.	Ziegler Mound near Deland 8 Vo 34 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) east bank.	Goggin (1952:90)
148.	Hontoon Island midden 8 La 39 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) east bank.	Goggin (1952:91)
149.	Blue Springs Midden A 8 Vo 42 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) east bank.	Goggin (1952:91)
150.	Enterprise 8 Vo 55 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - Lake Monroe) east bank.	Goggin (1952:91); Wyman (1868b:451); Hemmings and Von-Burger (1975)
151.	N - 12 Shell midden excavated by arbitrary 6 in. levels to a depth	-Orange Series	Level 2 6-12 in. below Surface.	Coastal (Amelia Island) Atlantic Ocean.	Bullen and Griffin (1952:42-43, 52)

APPENDIX A (cont'd.).

of 18 in.

152.	Black Hammock 8 So 9 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Goggin (1952:92); Wyman (1868b:451)
153.	Huntingdon's midden 8 So 11 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Goggin (1952:92); Moore (1894d:211)
154.	Watsons Landing 8 Vo 62 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) east bank.	Goggin (1952:92); Wyman (1868b:451)
155.	Cooks Ferry Midden 8 So 12 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - Lake Harney) west bank.	Goggin (1952:92)
156.	Cooks Ferry Mound 8 So 13 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - Lake Harney) west bank.	Goggin (1952:92)
157.	Rock House Mound 8 Vo 101 Shell Midden	-Orange Series	Surface.	Coastal (Atlantic Ocean).	Goggin (1952:94)
158.	South Canal 8 Vo 113 Shell Midden	-Orange Series	Surface.	Coastal (Atlantic Ocean).	Goggin (1952:95)

APPENDIX A (cont'd.).

159.	Old Site, Eaton Creek 8 Mr 14 Shell Midden	-Orange Series	Surface.	Riverine (Okla-waha River - Eaton Creek) east bank.	Goggin (1952:96)
160.	Eaton Creek, 1.25 miles Scrub Lake 8 Mr 16 Shell Midden	-Orange Series	Surface.	Riverine (Okla-waha River - Eaton Creek) east bank.	Goggin (1952:96)
161.	Old Stroud Place Site 1 8 Mr 26 Shell Midden	-Orange Series	Surface.	Riverine (Okla-waha River) west bank.	Goggin (1952:96)
162.	Priest Landing, Stroud Creek, Site 2 8 Mr 27 Shell Midden	-Orange Series	Surface.	Riverine (Okla-waha River) west bank.	Goggin (1952:96)
163.	Kauffman Island, Lake Kerr, midden 8 Mr 40 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River - on an is-land in Lake Kerr)	Goggin (1952:96)
164.	Glass Grove Midden B 8 So 6 Shell Midden	-Orange Series	Surface.	Riverine (St. Johns River) west bank.	Holmes (1893:124); Goggin (1952:92)

APPENDIX A (cont'd.).

165.	Bayou La Batre Shell Midden Shell Midden	-Wheeler Series -Poverty Point Complex	n/a	Coastal (at mouth of theTensaw River)	Lazarus (1965:113); Wimberly (1960:62-63)
166.	Mulberry Mound #1 Or 9 #2 Or 10 Stratified, shell midden excavated by Moore	-Orange Series	Surface. and from 13 to 16 ft. below the Surface.	Riverine (St. Johns River) island	Griffin (1945:220); Moore (1894c:22); and (1894d:212); and Rouse (1951:131 -137)
167.	Orange Mound Or 1 Stratified, shell ridge excavated by Moore. Ridge is concentric in shape with a height of 14 ft. Excavated in 10 arbitrary levels to a depth of 15 ft.	-Orange Series *Orange type site	From 1 ft. to 4 ft. down from the Surface. Layers 2 and 3	Riverine (St. Johns River)	Holmes (1893:128); Griffin (1945: 218-222); Moore (1894c:21); and (1894d:211); and Rouse (1951: 127-129); Crusoe (1972:127)
168.	Cato Stratified shell midden Shell Midden	(Transitional site)		Coastal Atlantic Ocean (near Vero Beach)	Bullen (1972:19)
169.	Ormond Beach Mound 8 Vo 75 Stratified	-Orange Series		Coastal (Halifax River a brackish lagoon) Atlantic	Jennings et al. (1957)

APPENDIX A (cont'd.).

	sand burial mound			Ocean	
170.	Burial Mound do. Shell Midden	-Orange Series		Riverine (St. Johns River)	Wyman (1868b:451)
171.	Rest Haven 8 So 15 Shell Midden. Materials collected from drainage canal spoil.	-Orange Series	Surface.	Riverine (Lake Harney, St. Johns River) south bank.	Rouse (1951:115)
172.	Camp Glory 8 So 16 Shell Midden. Materials collected from drainage canal spoil.	-Orange Series	Surface and drainage spoil.	Riverine (Lake Harney, St. Johns River) south bank.	Rouse (1951:115)
173.	Palmer-Taylor and Shepfeld Mound 8 So 18 Stratified shell midden excavated by Moore to a depth of 7 ft.	-Orange Series	Surface and in layers 2, 3, and 5.	Riverine (Econlockhatchee creek, St. Johns River) northwest bank.	Rouse (1951:116-125)
174.	Buzzard's Roost or Heifer Mound 8 So 21 Shell heap hammock	-Orange Series	Surface.	Riverine (Puzzle Lake, St. Johns River) west bank.	Rouse (1951:126)

APPENDIX A (cont'd.).

	situated in the marsh; Shell Midden				
175.	Long Bluff I. 8 Or 6 Shell Midden excavated in 3 layers.	-Orange Series	At a depth of 8 in. in layer 3 or 7.5 ft. down from the surface.	Riverine (St. Johns River) west bank.	Rouse (1951:129)
176.	Raulerson's 2 8 Vo 136 Stratified shell midden excavated by Moore to a depth of 4.75 ft. in 4 layers.	-Orange Series	Surface and from among the roots of Orange trees dynamited out of the ground.	Riverine (Lake Harney, St. Johns River) southeast bank.	Rouse (1951:141)
177.	Arrowhead Ranch 8 Br 2 Shell Midden	-Orange Series	From road cut.	Riverine (St. Johns River) east bank.	Rouse (1951:144)
178.	Rattlesnake Hammock 8 Br 3 Shell Midden	-Orange Series	Surface.	Riverine (Salt Creek, St. Johns River) east bank.	Rouse (1951:144); Wyman (1868b: 462, 1875:10, 16)
179.	Middle Indian Field 8 Br 21 Shell Midden excavated to a depth of 45 in. on the highest part of the mid-	-Orange Series	From layer 2	Riverine (St. Johns River) east bank.	Rouse (1951:148)

APPENDIX A (cont'd.).

	den. It yielded 3 layers of stratigraphy.				
180.	8 Br 25 Shell midden	-Orange Series	From drainage canal spoil.	Riverine (St. Johns River) east bank.	Rouse (1951:149)
181.	Stuart Point 8 Br 40 Shell midden	"fiber-tempered sherds" -Orange Series	From dredged spoil taken from 2 ft. below creek basin.	Riverine (Crane Creek Estuary, Indian River).	Rouse (1951:152)
182.	Bancroft 8 Br 43 n/a	-Orange Series	Material found in sod while grading the lawn.	Riverine (Crane Creek Estuary, Indian River).	Rouse (1951:153)
183.	Herndl Beach 8 Br 109 Shell midden	-Orange Series	Surface to a depth of 14 in. Cultural refuse lying on sterile beach sand.	Coastal (Indian River) Atlantic Ocean.	Rouse (1951:204)
184.	Bill Herndl 8 Br 113 Shell midden. The deposit of coquina shell at the site is estimated at 6 ft. in depth	-Orange Series	Found during the removal of shell for road building material.	Coastal (Indian River) Atlantic Ocean.	Rouse (1951:205)
185.	8 Br 133 n/a	-Orange Series	In cemented shell refuse at the bottom of Indian River and exposed only at low tide.	Coastal (Sebastian Beach, Indian River) Atlantic Ocean.	Rouse (1951:211)

APPENDIX A (cont'd.).

186.	9 Hi 60	-Stallings Series	Surface.	Riverine Buford Reservoir, Ga.	Fairbanks (1955)
187.	Refuge Shell midden excavated by arbitrary 6 in. levels to a depth of 84 in.	(Transitional) "Bilbo types" -Stallings Series "semi-fiber-types" -Norwood Series	All levels.	Riverine (Savannah River - Little Back River) west bank.	Williams (1977:198-208); Crusoe (1972:71)
188.	Bilbo 9 Ch 4 Shell midden excavated by arbitrary 6 in. levels to a depth of 114 in.	"St. Simons types" -Stallings Series "semi-fiber-tempered types" -Norwood Series -Poverty Point Complex	All levels.	Riverine (Savannah River) southeast bank.	Williams (1977:152-197); Caldwell in Griffin (1952); Crusoe (1972:71); Caldwell (1971); Hanson (1982:12)
189.	N-43 site disturbed by drainage ditch	"fiber-tempered types" -Orange Series	Surface and drainage spoil.	Coastal (Amelia Island) Atlantic Ocean.	Bullen and Griffin (1952:56)
190.	Dulany 9 Ch 54 Shell midden 4 to 6 ft. deep	"Bilbo fiber-tempered types" -Stallings Series -Poverty Point Complex	Surface and lower levels of site.	Riverine (Savannah River) southeast bank.	Waring in Williams (1977: 208,235, 320,321, 329); Caldwell (1971:88)
191.	Turtle Bay 2 8 Ch 37 n/a	"semi-fiber-tempered types" -Norwood Series -Orange Series	Surface.	Coastal (Turtle Bay) Gulf of Mexico.	Bullen and Bullen (1956:49)
192.	N-21 n/a	-Orange Series	Surface.	Coastal (Amelia Island) Atlantic Ocean.	Bullen and Griffin (1952:42-43, 53)

APPENDIX A (cont'd.).

193.	Fish Camp 8 Ch 23 Shell midden excavated by arbitrary levels to a depth of 2 ft.	-Orange Series	Surface.	Coastal (Turtle Bay) Gulf of Mexico.	Bullen and Bullen (1956:12)
194.	Cash Mound 8 Ch 38 Shell mound excavated by arbitrary 6 in. levels to a depth of 66 in.	"semi-fiber-tempered types" -Norwood Series	Surface.	Coastal (Turtle Bay) Gulf of Mexico.	Bullen and Bullen (1956:14)
195.	Sapelo Island 9 M^c^I 23 (Shell ring)	-Stallings Series "semi-fiber-tempered types" -Norwood Series -Poverty Point Complex	Surface and all levels of site.	Coastal (Sapelo Island) Atlantic Ocean.	Williams (1977); Crusoe (1972:71); Webb (1968:300); Marrinan (1975:127); Morgan (1980:4); Hemmings (1971:52); Caldwell (1971); M^c^Kinley (1873: 422-428)
196.	Elliott's Point 8 Ok 10 Shell midden excavated by arbitrary 4 and 8 in. levels to a	-preceramic component with Elliott's Point complex	Surface. and from 12 to 28 in. below Surface.	Coastal Gulf of Mexico.	Lazarus (1958)

APPENDIX A (cont'd.).

	depth of 28 in.				
197.	Double Bridges n/a	-Poverty Point Complex	Surface.	Riverine (Mississippi River) west bank.	Webb (1968:307)
198.	Four Mile Village 8 Wl 35 Sand dune blowout	-Elliott's Point Complex	Surface.	Coastal (Choctawhatchee Bay) Gulf of Mexico.	Fairbanks (1959)
199.	West Choctawmar 8 Ok 13 n/a	-Elliott's Point Complex	Surface.	Coastal (Choctawhatchee Bay) Gulf of Mexico.	Lazarus (1958:24)
200.	Horseshoe Bayou 8 Wl 36 Shell midden	-Elliott's Point Complex	Surface.	Coastal (Choctawhatchee Bay) Gulf of Mexico.	Fairbanks (1959)
201.	Buck Bayou Midden 8 Wl 34 Shell midden	-Elliott's Point Complex	Lower levels of the midden.	Coastal (Mack Bayou) Gulf of Mexico.	Fairbanks (1959:97)
202.	Jaketown Non-shell sand midden excavated by arbitrary 10 cm. levels to a depth of 12.5 ft.	-Wheeler Series -Poverty Point Complex	Lowest levels containing pottery. Poverty Point occupation is a foot or more in depth.	Riverine (Yazoo River) west bank.	Ford, Phillips and Haag (1955); Phillips, Ford and Griffin (1951)

APPENDIX A (cont'd.).

203.	Hopeka Plantation	-Poverty Point Complex	Surface.	Riverine (Tensas River) west bank.	Ford, Phillips and Haag (1955:48); Moore (1913:43)
204.	Schwing Place	-Poverty Point Complex	Surface.	Riverine (Mississippi River) west bank.	Ford, Phillips and Haag (1955:49); Moore (1913:16)
205.	O'Bryan Ridge	-Poverty Point Complex	Surface.	Riverine (Mississippi River) west bank.	Ford, Phillips and Haag (1955:47)
206.	Weems	-Poverty Point Complex	Surface.	Riverine (Mississippi River) west bank.	Ford, Phillips and Haag (1955:47)
207.	Calion	-Poverty Point Complex	Surface.	Riverine (Quachita River) west bank.	Ford, Phillips and Haag (1955:48,50); Webb (1968:299)
208.	Welsh Camp Landing	-Poverty Point Complex	Surface.	Riverine (Yazoo River) east bank.	Ford, Phillips and Haag (1955:48); Moore (1908:580)
209.	Monroe	-Poverty Point Complex	Surface.	Riverine (Quchita River) east bank.	Ford, Phillips and Haag (1955:48,50); Webb (1968:299)
210.	Insley	-Poverty Point Complex	Surface.	Riverine (Bayou Macon) west bank.	Ford, Phillips and Haag (1955:48,50); Moore (1913:61); Webb (1968:299)

APPENDIX A (cont'd.).

211.	Garner	-Wheeler Series -Poverty Point Complex	Surface.	Inland.	Ford, Phillips and Haag (1955:48,50); Phillips et. al. (1951:70)
212.	Kelly Farm Shell midden	-Poverty Point Complex	Baked clay objects assummed to have originated from the lowest levels of the site. From a post-Archaic phase. Found cache in the eroded river bank.	Riverine (Ohio River, on the Falls) east bank.	Ford, Phillips, and Haag (1955:52); Small (1966:68)
213.	Lake Spring 9 Cu 61 Shell midden excavated by arbitrary 6 in. levels to a depth of 5 ft.	-Stallings Series -Poverty Point Complex	Surface, to a depth of 2.5 ft. Upper levels of shell midden, Savannah River focus material.	Riverine (Savannah River) south bank.	Miller (1949: 38-51); Caldwell (1954: 38); Stoltman (1972:39, 1974:13-14)
214.	Turner 31 Cb 4	-Stallings Series	Surface.	Columbus County, North Carolina.	Phelps (1964:90); Phelps in Mathis and Crow (1983:26)
215.	Lake Plantation Shell midden badly disturbed to a depth up to 6 ft.	-Stallings Series	Found with the pottery of later occupations.	Coastal (Port Royal Island) Atlantic Ocean.	Phelps (1964:90); Flannery (1943); Griffin (1943)
216.	Chester Field 38 Bu 29	-Stallings Series	Found with pottery of later occupations.	Coastal (Port Royal Island) Atlantic Ocean.	Phelps (1964:90); Flannery (1943: 147-153);

APPENDIX A (cont'd.).

	(Large horse-shoe shaped ridge of piled oyster shell)				Marrinan (1975:123); Griffin (1943: 159-167); Caldwell in Griffin (1952:314)
217.	Jones Island	-Stallings Series	Found with pottery of later occupations.	Coastal (Port Royal Island) Atlantic Ocean.	Flannery (1943:148); Caldwell in Griffin (1952:314)
218.	Hilton Head Island (Shell ring)	-Stallings Series	Surface.	Coastal (Hilton Head Is.) Atlantic Ocean.	Phelps (1964:90); Marrinan (1975:124)
219.	Meldrim (Shell ring)	-Stallings Series	Found mixed with later Deptford and Wilmington ware.	Coastal (Wilmington Island) Atlantic Ocean.	Caldwell in Griffin (1952:314)
220.	Oemler Marsh 9 Ch 14 (2 shell ring horseshoes)	-Stallings Series	Surface and lower levels of site.	Coastal (Wilmington Island) Atlantic Ocean.	Caldwell in Griffin (1952:314); Waring in Williams (1977:221, 320); Marrinan (1975:126); DePratter (n.d.)
221.	Deptford Shell midden 4 ft. deep	"St. Simons types" -Stallings Series	In a stratigraphic pit at Deptford some Stalling's-like sherds were found at the bottom in Period 1 deposits.	Riverine (Savannah River) southwest bank.	Caldwell in Griffin (1952:315); Waring in Williams (1977:102-103, 140,143,159, 186,220,252, 315)

APPENDIX A (cont'd.).

222.	White's Mound 9 Ri 4 Non-shell mound excavated by arbitrary 6 in. levels to a depth of 4.7 ft. Strata are divided into 4 zones of occupation.	-Stallings Series -Poverty Point Complex	Steatite vessels and Stallings Is. fiber-tempered wares begin at the lowest level of Zone 3.	Riverine (Savannah River) southwest bank.	Phelps and Burgess (1964)
223.	Irene Stratified sand and shell mound approximately 16 ft. in height	-Stallings Series	Layer X, First Mound, Mantle 1 and found scattered haphazardly in mound fill.	Riverine (Savannah River) west bank.	Caldwell and McCann (1941); Fewkes (1938)
224.	Charlie King Mound 9 Gn 3 Non-shell mound	-Stallings Series "semi-fiber-tempered types" -Norwood Series -Orange Series	Surface.	Coastal (St. Simons Island) Atlantic Ocean.	Holder (1938: 8-9); Waring <u>in</u> Williams (1977:234); Crusoe and DePratter (1976:6)
225.	A site in Monroe Co. Georgia	-Stallings Series	Surface.	Monroe County, Georgia.	Wauchope (1966)
226.	A site in Bartow Co. Georgia	-Stallings Series	Surface.	Bartow County, Georgia.	Wauchope (1966)
227.	Perry 1 Lu° 25 Shell midden excavated by arbitrary 6 in. and 12 in.	-Wheeler Series	Upper portion of Zone A	Riverine (Seven Mile Is.) Tennessee River.	Webb and DeJarnette (1942:77-93)

APPENDIX A (cont'd.).

	levels to a 10 ft. depth				
228.	Claflin's Site No. 6 Shell mound	-Stallings Series	Surface.	Riverine (at the conflu- ence of Fox Creek and the Savannah River) east bank.	Claflin (1931:41); Bullen and Greene (1970:12)
229.	Claflin's Site No. 5 Shell mound 4 ft. deep	-Stallings Series	Surface.	Riverine (Savannah River) east bank.	Claflin (1931:41); Bullen and Greene (1970:12)
230.	Withers n/a	-Wheeler Series	Surface.	Riverine (Mississi- ppi R.; Coldwater R. Tribu- tary) east bank.	Phillips, Ford, and Griffin (1951:70)
231.	Yager n/a	-Wheeler Series	Surface.	Riverine (a Tallaha- tchie R.; tributary) east bank.	Phillips, Ford, and Griffin (1951:70)
232.	Norman	-Wheeler Series -Poverty Point Complex	Surface.	Riverine (a Tallaha- tchie R.; tributary) east bank.	Phillips, Ford, and Griffin (1951:70); Webb (1977:33)
233.	Wilnot	-Wheeler Series	Surface.	Riverine (Sunflower River) east bank.	Phillips, Ford, and Griffin (1951:70)
234.	Fennel 1 Ct 130	-Wheeler Series	Surface.	Riverine (Mud Cre- ek-Town Creek Drainage)	Brock and Clayton (1966)

APPENDIX A (cont'd.).

235.	40 My 5 Non-shell midden	"sand in fiber-tempered sherds -Wheeler Series -Poverty Point Complex -Norwood Series	Surface.	Riverine (Hatchie River).	Peterson (1975: 8-9); Dye (1977b:65)
236.	Graham Cave n/a	-Wheeler (Nebo Hill)	Level IV.	Riverine (Missouri River) north bank.	Logan (1952:60)
237.	Little Woods Middens (Sites Or-1, Or-2,Or3, Or-4,Or-5)	-Wheeler Series -Poverty Point Complex	Surface and lowest levels.	Coastal (Lake Pontchartrain) southeast bank.	Ford and Quimby (1945:3-6)
238.	Paxton-Brake	-Poverty Point Complex	Surface.	Riverine (Yazoo River).	Ford, Phillips, and Haag (1955:145)
239.	McKelvey Mound 40 Hn° 1 Shell midden buried 6-9 ft. below earthen mound.	-Wheeler Series	Zone D. Debris-Shell Midden 6-9 ft. below apex of mound.	Riverine (Tennessee River) east bank.	Webb and DeJarnette (1942:9-25)
240.	Smithsonia Landing 1 Lu° 5 Shell mound 12 feet deep excavated to depth of 4 ft. by arbitrary 1 ft levels.	-Wheeler Series	1-2 ft. below Surface.	Riverine (Tennessee River) north bank.	Webb and DeJarnette (1942:41-43)

APPENDIX A (cont'd.).

241.	Seven Mile Island 1 Lu° 21 Stratified, truncated pyramidal earthen mound 12 ft. tall.	-Wheeler Series	Level 7, seven ft. below mound's apex.	Riverine (Seven Mile Island) Tennessee River.	Webb and DeJarnette (1942:54); Webb (1971:109)
242.	Rhea County Watts Bar Reservoir	-Wheeler Series	Surface.	Riverine (Tennessee River).	Faulkner (1968:26)
243.	Bluff Creek 1 Lu° 59 Shell midden excavated by arbitrary 6 in. levels in 8 natural zones to a depth of 17 ft.	-Wheeler Series * Wheeler type site	Surface to a depth of 6 ft., the lower 3 ft. of which was a pure strata containing Wheeler sherds.	Riverine (Tennessee River) north bank.	Webb and DeJarnette (1942:127-130)
244.	O'Neal 1 Lu° 61 Shell midden excavated by arbitrary 1 ft. levels to a depth of 11 ft.	-Wheeler Series	Surface to a depth of 1 ft.	Riverine (Tennessee River) north bank.	Webb and DeJarnette (1942:132-142)
245.	Meander Scar 1 Lu^v 62 Stratified silt and shell midden (Zones A-H)	-Wheeler Series	Zones A,B, and the surface of Zone C.	Riverine (Bluff Creek) north bank.	Webb and DeJarnette (1942:142-146)

APPENDIX A (cont'd.).

246.	Long Branch 1 Lu° 67 Shell midden excavated in 1 ft. and 6 in. arbitrary levels to a depth of 11 ft.	-Wheeler Series	Upper 3 ft. of midden.	Riverine (Tennessee River) north bank.	Webb and DeJarnette (1942:201-207)
247.	Union Hollow 1 Lu° 72 Shell midden excavated by arbitrary 1 ft. levels to a depth of 11 ft.	-Wheeler Series	Upper 3 ft. of midden and Surface. And from exploratory trench.	Riverine (Tennessee River) east bank.	Webb and DeJarnette (1942:208-212)
248.	Kroger's Island 1 Lu° 92 Shell midden 2 ft. deep	-Wheeler Series	Fiber-tempered sherds are said to be chance inclusions of no significance.	Riverine (Kroger's Island in the Tennessee River).	Webb and DeJarnette (1942:212-232)
249.	Mulberry Creek 1 Ct° 27 Shell mound excavated by arbitrary 1 ft. levels to a depth of 20 ft.	-Wheeler Series	Surface to a depth of 3 ft.	Riverine (Tennessee River).	Webb and DeJarnette (1942:260-261)
250.	Georgetown Landing 1 Ct° 34	-Wheeler Series	Surface to 2 ft. below.	Riverine (Tennessee River).	Webb and DeJarnette (1942:267)

APPENDIX A (cont'd.).

	Stratified shell midden Excavations were haulted at a depth of 7 ft. due to flooding.			south bank.	
251.	1 Mg^{v} 2 Soil midden with a small scattering of shell. Flooding at the site made its complete excavation impossible.	-Wheeler Series	Materials uncovered by flooding.	Riverine (Flint Creek) east bank.	Griffin (1939:132-134); Webb (1939:80-83)
252.	1 Lu^{o} 86 Stratified shell midden excavated by 6 in. arbitrary levels to a depth of 13 ft.	-Wheeler Series	Surface and upper layers particularly the upper 2.5 ft.	Riverine (Tennessee River) north bank.	Griffin (1939:131-136); Webb (1939:21-33,178)
253.	1 Ct^{v} 17 Unstratified shell midden excavated in 12 in. arbitrary levels to a depth of 8 ft.	-Wheeler Series	Surface.	Riverine (Tennessee River) south bank.	Griffin (1939:136-141); Webb (1939:34-42,182)
254.	Walker Co., Alabama. n/a	-Wheeler Series	Surface.	Walker County, Alabama.	Brannon (1924:81); Griffin (1939:159-160)
255.	Alexander Mound	-Wheeler Series	Mound fill.	Riverine (Tennessee	Fowke (1928:446);

APPENDIX A (cont'd.).

	n/a			River) south bank.	Griffin (1939:160-161)
256.	Near Beaufort #1	-Stallings Series	Surface.	Coastal (Port Royal Sound) Atlantic Ocean.	Griffin (1939: 139,158, 162-163)
257.	Near Beaufort #2	-Stallings Series	Surface.	Coastal (Port Royal Sound) Atlantic Ocean.	Griffin (1939: 158,162-163)
258.	Macon Plateau, Mound D, Ocmulgee Bottoms	-Stallings Series	In the upper half of the intermediate sand layer.	Riverine (Ocmulgee River) east bank.	Griffin (1939:159); Griffin (1943:164); Kelly (1938:32); Ingmanson (1964:32); Miller (1950:279)
259.	Red House Site No. 2 22 Mo 510 Non-shell midden with shallow cultural deposit, 35 cm. deep.	-Wheeler Series	Surface to 35 cm below.	Riverine (Vines Creek, Tombigbee River) south bank.	Atkinson (1978:107, 130,160); Bense (1982); Rafferty (1983, personal communication)
260.	Schiess 22 Mo 548 A large shell midden between 35 cm. and 1 m. deep.	-Wheeler Series	Surface to 1 meter deep.	Riverine (Tombigbee River).	Atkinson (1978:106, 128,159); Bense (1982); Rafferty (1983, personal communication)

APPENDIX A (cont'd.).

261.	Self 22 Mo 586 Non-shell midden	"sandy paste types" -Norwood Series -Wheeler Series	Surface, and from the west half of the excavation.	Riverine (Tombig-bee River) east bank.	Atkinson (1978:73, 105,128); Blakeman (1975a); Wynn and Atkinson (1976:36-39); Rafferty (1983, personal communi-cation)
262.	22 Mo 608 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Atkinson (1978:135); Bense (1982); Blakeman (1975a)
263.	22 Mo 640 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Atkinson (1978:129); Blakeman (1975a); Rafferty (1983, personal communi-cation)
264.	22 Mo 650 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Atkinson (1978:129); Bense (1982); Blakeman (1975a); Rafferty (1983, personal communi-cation)
265.	22 Mo 656 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Atkinson (1978:124); Bense (1982); Blakeman (1975a); Rafferty (1983, personal communi-cation)

APPENDIX A (cont'd.).

266.	22 Mo 710 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Atkinson (1978:136); Bense (1982); Blakeman (1976); Rafferty (1983, personal communication)
267.	22 Mo 728 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Atkinson (1978:132); Blakeman (1976); Rafferty (1983, personal communication)
268.	22 Mo 735 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River) west bank.	Atkinson (1978:117); Bense (1982); Blakeman (1976); Rafferty (1983, personal communication)
269.	22 Mo 750 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Atkinson (1978:110); Bense (1982); Blakeman (1976); Rafferty (1983, personal communication)
270.	22 Mo 751 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Atkinson (1978:111); Rafferty (1983, personal

APPENDIX A (cont'd.).

					communi- cation)
271.	22 Mo 732 At least 1 m. of undisturb- ed midden	-Wheeler Series	Surface to 1 meter down.	Riverine (Tombig- bee River) west bank.	Atkinson (1978:112); Rafferty (1983, personal communi- cation)
272.	22 Mo 768 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River) west bank.	Atkinson (1978:116); Bense (1982); Blakely (1976); Rafferty (1983, personal communi- cation)
273.	22 Mo 802 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Atkinson (1978:109); Bense (1982); Blakeman (1976); Rafferty (1983, personal communi- cation)
274.	East Aberdeen 22 Mo 819 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Atkinson (1978:39); Rafferty (1983, personal communi- cation)
275.	22 Mo 824 No midden deposit below the plowzone.	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Atkinson (1978:90); Rafferty (1983, personal communi- cation)
276.	22 Mo 826	-Wheeler Series	Surface and plow zone.	Riverine (Tombig-	Atkinson (1978:93);

APPENDIX A (cont'd.).

	No midden deposit below the plowzone.			bee River).	Rafferty (1983, personal communication)
277.	22 Mo 829 10 cm of undisturbed non-shell midden below plow zone.	"fiber-sand tempered types" -Norwood Series -Wheeler Series	Surface.	Riverine (Tombigbee River).	Atkinson (1978:92); Rafferty (1983, personal communication)
278.	22 Mo 833 20 cm of undisturbed midden below the plow zone.	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Atkinson (1978:74); Rafferty (1983, personal communication)
279.	North Nashville Ferry Cutoff 22 Lo 553 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Atkinson (1978:123); Boone (1982); Blakeman (1975a:73); Rucker (1974); Rafferty (1983, personal communication)
280.	Barnes Mound 22 Lo 564 Shell mound	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Atkinson (1978:105); Blakeman (1975a:73); Rucker (1974); Rafferty (1983, personal communication)

APPENDIX A (cont'd.).

281.	22 Lo 682 Stratified shell mound extending to a depth of 80 cm.	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Atkinson (1978:65); Rafferty (1983, personal communication)
282.	22 Lo 692 Unstratified non-shell midden extending to a depth of 25 cm.	-Wheeler Series	Surface to a depth of 25 cm.	Riverine (Tombigbee River) west bank.	Atkinson (1978:53); Bense (1982); Rafferty (1983, personal communication)
283.	22 Lo 703 Unstratified non-shell midden extending to a depth of 25 cm.	-Wheeler Series	Surface to a depth of 25 cm.	Riverine (Tombigbee River) west bank.	Atkinson (1978:52); Rafferty (1983, personal communication)
284.	Kellogg Village 22 Cl 527 Stratified shell midden extending to a depth of 90 cm.	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Atkinson (1978:123); Rafferty (1983, personal communication); Rucker (1974); Atkinson et al. (1980)
285.	1 Pi 83 Unstratified non-shell midden extending to a depth of 70 cm.	-Wheeler Series	Surface and upper 20-30 cm. of midden.	Riverine (Tombigbee River).	Atkinson (1978:45); Rafferty (1983, personal communication)

APPENDIX A (cont'd.).

286.	22 Ja 568 Stratified non shell midden excavated by arbitrary 10 cm. levels to a depth of 140 cm.	-Wheeler Series	Surface to a 20 cm below.	Riverine (between Tallahala and Naukfuppa Creeks.	Atkinson and Elliott (1979:22-30)
287.	22 Ja 588 Stratified non shell midden excavated by arbitrary 10 cm. levels to a depth of 60 cm.	-Wheeler Series	Level 4 (30-40 cm. below Surface).	Riverine (between Tallahala and Naukfuppa Creeks).	Atkinson and Elliott (1979:30-35)
288.	22 Ja 582 Stratified non shell midden excavated by arbitrary 10 cm. levels to a depth of 60 cm.	-Wheeler Series "fiber-tempered sandy paste types" -Norwood Series	Levels 1 and 2 (0-20 cm. below Surface).	Riverine (between Tallahala and Naukfuppa Creeks).	Atkinson and Elliott (1979:35-39)
289.	22 Ja 569 Stratified non shell midden excavated by arbitrary 10 cm. levels to a depth of 50 cm.	-Wheeler Series	Levels 2-5 (10-50 cm. below Surface).	Riverine (Tallahala Creek) west bank.	Atkinson and Elliott (1979:41-45)
290.	22 Ja 572 Stratified non shell midden excavated by	-Wheeler Series " plain fiber-tempered types with sandy paste" -Norwood Series	Levels 1-4 and Fea. 1 (0-40 cm. below Surface.)	Riverine (Naukfuppa Creek) east bank.	Atkinson and Elliott (1979:47-53)

APPENDIX A (cont'd.).

	arbitrary 10 cm. levels to a depth of 40 cm.				
291.	22 Ja 587 Stratified non shell midden excavated by arbitrary 10 cm. levels to a depth of 90 cm.	-Wheeler Series	Levels 2-7 (10-70 cm. below surface).	Riverine (Nauk-fuppa Creek) east bank.	Atkinson and Elliott (1979:53-61)
292.	22 Ja 594 Unstratified non-shell midden extending to a depth of 15 cm.	-Wheeler Series "fiber-tempered plain types with sandy paste" -Norwood Series	Surface.	Riverine (Nauk-fuppa Creek) east bank.	Atkinson and Elliott (1979:65-66)
293.	22 Ja 600 Unstratified non-shell midden extending to a depth of 35 cm.	-Wheeler Series	Level 2 (10-20 cm. below Surface).	Riverine (Tallahala Creek) west bank.	Atkinson and Elliott (1979:72-75)
294.	22 Ja 604 Unstratified non-shell midden extending to a depth of 35 cm.	-Wheeler Series	Surface and from random shovel tests.	Riverine (Tallahala Creek) west bank.	Atkinson and Elliott (1979:78-79)
295.	Pharr Mound E An 8 ft. tall dome shaped	-Wheeler Series	Mound fill and old humus.	Riverine (junction of Little Brown and Mackeys.	Bohannon (1972:49)

APPENDIX A (cont'd.).

	mound of earth measuring 165 X 175 ft. in dimension.			Creek)	
296.	Pharr Habitation Area Stratified non-shell midden extending to a depth of 1.5 ft.	-Wheeler Series	Feature 6.	Riverine (junction of Little Brown and Mackeys Creek).	Bohannon (1972:49)
297.	Paradise Park n/a	"semi-fiber-tempered types" -Norwood Series	Surface.	Riverine (Altamaha River).	Crusoe (1972:21,71)
298.	Popwell's Landing n/a	"semi-fiber-tempered types" -Norwood Series	Surface.	Riverine (Altamaha River).	Crusoe (1972:21,71)
299.	A. Busch Krick 9 McI 87 (A horseshoe shaped shell midden)	-Stallings Series "semi-fiber-tempered types" -Norwood Series	Surface.	Coastal (Creighton Island, Georgia) Atlantic Ocean.	Crusoe (1972:24,36, 69); Crusoe and DePratter (1976:7,9)
300.	Cane Patch 9 Ch 35 Shell midden excavated in 7, 3 inch levels to a depth of 20 inches. Midden attains a maximum thickness of 10 ft.	-Stallings Series	All levels.	Coastal (Ossabaw Island, Ga.) Atlantic Ocean.	Crusoe (1972:64); Crusoe and DePratter (1976:3,8-9)

APPENDIX A (cont'd.).

301.	St. Simon's Airport	-Stallings Series	Surface.	Coastal (St. Simons Island) Atlantic Ocean.	Crusoe (1972:69-70); Holder (1938:8)
302.	San Savilla 9 Wy 5 Non-shell midden	-Stallings Series "semi-fiber-tempered types" -Norwood Series	Surface.	Riverine Altamaha River west bank.	Crusoe and DePratter (1976:7); Kellar et al. (1961:99); Crusoe (1972:71)
303.	Cannon's Point n/a	"semi-fiber-tempered types" -Norwood Series	Surface.	Coastal Atlantic Ocean.	Crusoe (1972:71)
304.	A site near Pearl-ington Non-shell midden 2 and 1/2 ft. deep	-Wheeler Series - Poverty Point Complex	Surface. and to a depth of 2 ft.	Coastal (Pearl River Delta) east bank.	Crusoe (1972:82); Webb (1968:298)
305.	Ruth Canal Artifacts collected from canal spoil	-Wheeler Series -Poverty Point complex	Surface and canal spoil.	Riverine (Teche Mississi-ppi River meander loop) east bank.	Crusoe (1972:82); Gagliano and Saucier (1963); Webb (1968:298)
306.	Fig Island #2 38 Ch 42-1 (shell ring)	-Stallings Series	Found throughout the shell refuse.	Riverine (North Edisto River) Edisto Island.	Crusoe (1972:92); Hemmings (1971:52); Morgan (1980:5); Marrinan (1975:121)
307.	Skull Creek 38 Bu 8	-Stallings Series	Surface.	Coastal (Hilton Head Island)	Crusoe (1972:92); Hemmings (1971:52);

APPENDIX A (cont'd.).

	(2 shell rings)			Atlantic Ocean.	Calmes (1968:45)
308.	Guerard Point 38 Bu 21	-Stallings Series	Surface.	Coastal Atlantic Ocean.	Crusoe (1972:92)
309.	Skidaway 9 9 Ch 60 Cresent shaped shell midden. (shape may be due to shell removal)	-Stallings Series	Surface Area disturbed by shell removal activities, resulting in reverse stratigraphy.	Coastal (Skidaway Island, Ga. at the mouth of the Savannah River.	Crusoe (1972:92); Crusoe and DePratter (1976:9); Beasley (1971)
310.	Thom's Creek 38 LX 2	-Stallings Series	Surface.	Riverine (Congaree River) south bank.	Crusoe (1972:92); Griffin (1945: 467)
311.	Walthour	-Stallings Series	Surface.	Coastal (Wilmington Island) Atlantic Ocean.	Crusoe (1972:92)
312.	Mt. Taylor Shell midden	-Orange Series	Layer IV.	Riverine (St. Johns River).	Crusoe (1972:92)
313.	St. Catherine's Island	-Stallings Series	Surface.	Coastal (St. Catherine's Island) Atlantic Ocean.	Crusoe (1972:13)
314.	Sansavilla	"semi-fiber-tempered types" -Norwood Series	Surface.	Riverine (Altamaha River)	Crusoe (1972:21,71)
315.	Tensaw Creek 1 Lo 9	-Stallings Series	Levels 1 through 5, but concentrated in Level 2.	Riverine (Tensaw Creek a tributary	Chase (1966:91-114)

APPENDIX A (cont'd.).

	Non-shell midden excavated in 6 in. arbitrary levels to a depth of 42 in.			of the Alabama River) west bank.	
316.	1 Ds 53 Shell midden excavated by 6 in. arbitrary levels to a depth of 4 ft.	-Wheeler Series	Surface. and Levels 3-8.	Riverine (Alabama River) east bank.	Chase (1982: 19-30)
317.	22 Ld 515 Non-shell midden excavated by 10 cm. levels to a depth of 160 cms.	-Norwood Series -Wheeler Series	Levels 1,3,4,5 Areas B,C,D.	Riverine (Sowashee Creek a tributary of the Chickasawway River) east bank.	Conn (1978:32)
318.	Crump 1 Lr 20 Non-shell midden with four zones of natural and cultural strata excavated by 4 in. arbitrary levels to a depth of 2 ft.	-Wheeler Series	Levels 1-4.	Riverine (Buttahatchee River) west bank.	DeJarnette et al. (1975a)
319.	Stucks Bluff Rock Shelter 1 Lr 34 Non-shell midden with five zones of natural and cultural strata	-Wheeler Series	Zones A and B.	Riverine (Buttahatchee River) west bank.	DeJarnette (1975b)

APPENDIX A (cont'd.).

	excavated by 4 in. arbitrary levels to a depth of 5.5 ft.				
320.	Sakti Chaha 40 Hr 100 n/a	"sandy fiber-tempered types" -Norwood Series -Wheeler Series	One sandy fiber-tempered sherd found in an Alexander occupation beneath 1.8 m. of sterile clay.	Riverine (Tennessee River) south bank.	Dye (1980:103-104); Dye and Galm (1982:2, 7)
321.	Snake Creek 40 Hr 35 n/a	-Wheeler Series	Lower levels of the site in an intact Colbert component.	Riverine (Tennessee River).	Dye and Galm (1982:7)
322.	Westmoreland Barber 40 Mi 11 n/a	-Wheeler Series	Surface.	Riverine (Tennessee River) Nickajack Reservoir.	Faulkner and Graham (1966:51)
323.	Brans Camp n/a	-Wheeler Series	Surface.	n/a.	Ford (1936: 153-154)
324.	Claiborne 22 HC 35 A horseshoe-shaped shell midden "semi-circular"	-Wheeler Series -Poverty Point Complex	Surface and lower levels of site.	Coastal (Pearl River Delta) at mouth, east bank.	Jenkins (1973, 1982:6); Gagliano and Webb in Webb and Broyles (1970: 47-72); Webb (1968:299, 304); Webb (1971:110); Webb (1977:23, 31,40)
325.	Spring Creek 40 Py 207	-Wheeler Series	Surface.	Riverine (Tennessee River) Kentucky	Peterson (1973:18); Dye (1977b: Fig 1.)

APPENDIX A (cont'd.).

				Reservoir east bank.	
326.	Beau Rivage Site destroyed by the construction of a country club; thus, stratification information is n/a	-Poverty Point Complex	Surface.	Riverine (Vermilion River) east bank.	Gibson (1979: 96-116)
327.	Terrail Lewis Midden 2 ft. deep riddled with whole and fragmentary baked clay objects	-Poverty Point Complex	From 6 pits containing numerous clay objects, ashes and charcoal.	Riverine (Joe's Bayou) east bank.	Hunter (1975:61); Webb (1977:8,24)
328.	Shoe Bayou n/a	-Poverty Point Comnplex	From a pit conatining numerous clay objects, ashes and charcoal.	Riverine (Old Saline River) east bank.	Hunter (1972, 1975:61); Webb (1977:9)
329.	M Le 18 Non-shell midden excavated to a depth of 2 ft.	-Wheeler Series	Surface.	Riverine (Oldtown Creek) west bank.	Jennings (1941:205)
330.	Teoc Creek Deep midden 10 ft. below levee crest (semi-circular) shell midden	-Wheeler Series - Poverty Point Complex	Fiber-tempered pottery overlay a Poverty Point zone 30 to 60 cm. below the surface.	Riverine (Tallahatchie and Yalobusha Rivers) east bank.	Hunter (1972, 1975:61); Jenkins (1982:6); Webb (1977: 21,31,40)
331.	1 Gr 2 Shell midden extending to 5 ft. below surface ex-	"semi-fiber tempered types" -Wheeler Series	Zone E and throughout most of the site.	Riverine (Tombigbee River).	Jenkins (1972:162, 1981:164,273); Jenkins and Ensor (1981: 35-58)

APPENDIX A (cont'd.).

	cavated in 7 zones.				
332.	Stanfield-Worley Bluff Shelter (rock shelter)	-Wheeler Series	Zone E.	Riverine (Seven miles south of the Tenn. River) on a shallow stream.	Jenkins (1974:190); DeJarnette et al. (1962) Walthall (1980:42-45)
333.	Little Bear Creek 1 Ct° 8 n/a	-Wheeler Series	Surface.	Riverine (Little Bear Creek) Tennessee River Valley.	Jenkins (1974:190); Webb and DeJarnette (1948d)
334.	Metzger 1 n/a	-Wheeler Series -Poverty Point Complex	Surface.	Riverine (Tombigbee River).	Jenkins (1975:19); Webb (1977:59)
335.	A site on Broken Pumpkin Creek in Noxubee Co., Mississippi	-Wheeler Series	Surface.	Riverine (Broken Pumpkin Creek).	Jenkins (1975:19)
336.	M Le 53 n/a	-Wheeler Series	Surface.	Riverine (Mud Creek) west bank.	Jennings (1941:205)
337.	M Le 56 n/a	-Wheeler Series	Surface.	Riverine (Mud Creek west bank.	Jennings (1941:205)
338.	M Le 62 n/a	-Wheeler Series	Surface.	Inland.	Jennings (1941:205)

APPENDIX A (cont'd.).

339.	Miller n/a	"fiber-tempered plain types" -Wheeler Series -Poverty Point Complex	Miller I levels.	Riverine (Tombigbee River) east bank.	Jennings (1944:411); Moore (1913: 12)
340.	Womack Mound 22 Ya° 1 Conical non-shell mound, 10 feet tall.	-Wheeler Series	Mound fill.	Riverine (Turkey Creek) west bank.	Koehler (1966:31)
341.	1 Gr 1X1 Five zones of strata excavated in 6 in. levels.	"semi-fiber-tempered type" -Wheeler Series	Zone C (levels 1-4), Features 2,5,9-13,17,21, 22,23,24c,28b, 29,30,35,37,41, 44,46,118a,48b.	Riverine (Turkey Paw Branch of the Tombigbee River) east bank.	Jenkins (1981:248-251)
342.	1 Gr 50 Non-shell midden excavated in 6 in. levels through 4 major zones.	-Wheeler Series	Levels 1,2.	Riverine (Tombigbee River) northeast bank.	Jenkins (1981:316-317)
343.	1 Pi 33 Shell midden excavated in 6 in. levels through 4 major zones.	"semi-fiber-tempered types" -Wheeler Series	Levels 1,3. Features 3, 42, 48,51.	Riverine (Tombigbee River) west bank.	Jenkins (1981:328-331, 335,342, 343,356)
344.	1 Pi 61 excavated in 6 in. and 1 ft. levels 4 zones of strata recognized.	"semi-fiber-tempered types" -Wheeler Series	Levels 1-9 Features 2,3, 14,15,17,18, 20,21,25-31, 32a,34-36,38, 40,41,44,46, 48,51,52,54, 62-69,71-74,	Riverine (Tombigbee River) southeast bank.	Jenkins (1981:371-373)

APPENDIX A (cont'd.).

			76-79,85,86, 90,92,93,95a, 95c,97,98, 101-103,111, 116,117,119, 120,122,126, 127,128,130, 134,-136,138, 139-142,153, 155,158,166, 178-180,182, 184,188,191, 193-194,197, 199,201-204, 208,210-214, 216-220,222, 227,230,241, 243,247,Burial 8.		
345.	Doherty 14 MM 27 n/a	"fiber-tempered types" -Wheeler Series Wheeler (Nebo Hill)	Surface.	Inland (Marais des Cygnes Basin).	Reid (1984:56-57); Blakeslee and Rohn (1982)
346.	Lafayette n/a	-Poverty Point Complex	Surface.	Riverine (Bayou Teche) east bank.	Phillips (1970:875); Ford and Quimby (1945:23)
347.	Bayou Sorrel n/a	-Poverty Point Complex	Surface.	Riverine (Bayou Teche) east and west bank.	Moore (1913:15); Phillips (1970:875)
348.	Avery Island n/a	-Poverty Point Complex	Surface.	Riverine (Bayou Teche) east bank.	Gagliano (1964:57); Phillips (1970:875)
349.	Garcia A site which is currently beneath 3 to 4 ft. of water, 750 ft. from	-Poverty Point Complex	Surface.	Coastal (Lake Pontchartrain) northeast bank.	Gagliano (1967:13); Phillips (1970:874)

APPENDIX A (cont'd).

	the shore of Lake Pontchar- train.				
350.	Tchefuncte n/a	-Poverty Point Complex -Wheeler Series	Surface.	Coastal (Lake Pontchar- train) north bank.	Phillips (1970: 874)
351.	Big Oak Island n/a	-Poverty Point Complex	Surface.	Coastal (Lake Pontchar- train) southeast bank.	Phillips (1970: 874); Webb (1977:10)
352.	40 My 2 Non-shell midden n/a	"sand in sherds" -Norwood Series -Wheeler Series	Surface.	Riverine (Hatchie River).	Dye (1977b:65-66); Peterson (1975:24)
353.	40 My 3 n/a	"sand in sherds" -Norwood Series -Wheeler Series	Surface.	Riverine (Hatchie River).	Dye (1977b:65-66); Peterson (1975:24)
354.	40 My 13 n/a	"sand in sherds" -Norwood Series -Wheeler Series -Poverty Point Complex	Surface.	Riverine (Hatchie River).	Dye (1977b:65-66); Peterson (1975:24)
355.	40 My 22 n/a	"sand in sherds" -Norwood Series -Wheeler Series -Poverty Point Complex	Surface.	Riverine (Hatchie River).	Dye (1977b:65-66); Peterson (1975:25)
356.	40 My 27 n/a	"sand in sherds" -Norwood Series -Wheeler Series	Surface.	Riverine (Hatchie River).	Dye (1977b:65-66); Peterson (1975:24)
357.	40 My 33 Non-shell midden	"sand in sherds" -Norwood Series -Wheeler Series	Surface.	Riverine (Hatchie River).	Dye (1977b:65-66); Peterson (1975:24)

APPENDIX A (cont'd.).

358.	40 My 34 Non-shell midden n/a	"sand in sherds" -Norwood Series -Wheeler Series	Surface.	Riverine (Hatchie River).	Dye (1977:65-66); Peterson (1975:24)
359.	40 My 37 n/a	"sand in sherds" -Norwood Series -Wheeler Series	Surface.	Riverine (Hatchie River).	Dye (1977:65-66); Peterson (1975:24)
360.	Buzzard Roost Creek Bluff Shelter (rock shelter)	-Wheeler Series	Surface.	Riverine (Tennessee River tributary Bear Creek) northeast bank.	Jolly (1974); Dye (1977b:Fig 1)
361.	A shell midden site in Perry Co. Tennessee, on the lower Tenn. River.	-Wheeler Series	Surface.	Riverine (Tennessee River).	Benthall (1965:42-46)
362.	Whitesburg Bridge site 1 Ma^{v}10 Shell midden 6 ft. deep.	-Wheeler Series	In all levels but concentrated in Zone C.	Riverine (Tennessee River) north bank.	Dunlevy <u>in</u> Webb and DeJarnette (1948a)
363.	Flint River 1 Ma^{o}48 Shell midden over 10 ft. deep.	-Wheeler Series	Widely scattered vertically and horizontally in all levels.	Riverine (intersection of Flint and Tennessee River) north bank.	Dunlevy <u>in</u> Webb and DeJarnette (1948b)
364.	M^{c}Quorquodale Mound	-Wheeler Series	accidental inclusions in mound	Riverine (Tombigbee River)	Wimberly and Tourtelot (1941)

APPENDIX A (cont'd.).

	1 Ck°25		fill.	north east bank.	
365.	40Sy40 n/a	-Wheeler Series	Surface.	Riverine (Mississ-ippi River) east bank.	Dye (1977b:66)
366.	Kay's Landing Shell midden excavated to a depth of 12 feet.	-Wheeler Series	Surface and Kays III component	Riverine (Tennessee River) west bank.	Dye (1977b:66); Lewis and Kneberg (1959:162-163, 173)
367.	West Cuba Landing Shell midden 4 ft. thick.	-Wheeler Series	Surface.	Riverine (Tennessee River) west bank.	Dye (1977b:66); Lewis and Kneberg (1959:162-163, 173)
368.	40 Hr 203 n/a	-Wheeler Series	Surface.	Riverine (Mississ-ippi River) west bank.	Dye (1977b:66)
369.	40 Hr 205 n/a	-Wheeler Series	Surface.	Riverine (Mississ-ippi River) west bank.	Dye (1977b:66)
370.	40 Hr 206	-Wheeler Series	Surface.	Riverine (Mississ-ippi River) west bank.	Dye (1977b:66)
371.	Belle Isle Shell midden	-Poverty Point Complex	Surface.	Coastal (Gulf of Mexico).	Webb (1968:298); Webb (1977:10)
372.	1 Pi 15 Non-shell midden with some scat-tered remains of shellfish	-Wheeler Series	Lower zones.	Riverine (Tombig-bee River).	Walthall (1980:90)

APPENDIX A (cont'd.).

373.	Hobbs Island n/a	-Wheeler Series	Surface.	Riverine (Tennessee River)	Moore (1915)
374.	Caney Island Mounds n/a	-Poverty Point Complex	Surface.	Riverine (Cypress Bayou) west bank.	Hunter in Webb and Broyles (1970:83); Webb (1977:9)
375.	Wild Hog Mound n/a	-Poverty Point Complex	Surface.	Riverine (Cross Bayou) west bank.	Hunter in Webb and Broyles (1970:87); Webb (1977:9)
376.	Gorum n/a	-Poverty Point Complex	Surface.	Riverine (Atchafalaya River)	Hunter in Webb and Broyles (1970:88); Webb (1977:10)
377.	Long Branch Lu°67 Shell midden 11 ft. deep.	-Wheeler Series	Surface.	Riverine (Tennessee River)	Dye (1977b, Fig 1.)
378.	Nebo Hill 23 CL 11 Non-shell midden	"fiber-tempered pottery" -Wheeler (Nebo Hill)	Uniform distribution across the dumping area.	Riverine (Missouri River) north bank.	Reid (1984)
379.	A site from the Ft. Walton area, some 60 mi. east of Mobile Bay	"fiber-tempered types" -Wheeler Series	Surface.	Coastal (Gulf of Mexico)	Trickey and Holmes (1967:24; 1970:126)
380.	Stainback	-Wheeler Series -Poverty Point Complex	Surface.	Riverine (Tallahatchie River) west bank.	Webb (1968:305)

APPENDIX A (cont'd.).

381.	Avack n/a	-Wheeler Series -Poverty Point Complex	Surface.	Riverine (Sunflower River) west bank.	Webb (1968:305)
382.	Falls n/a	-Wheeler Series -Poverty Point Complex	Surface.	Riverine (Tallahatchie River) west bank.	Webb (1968:305)
383.	Hill n/a	-Wheeler Series -Poverty Point Complex	Surface.	Riverine (Sunflower River) west bank.	Webb (1968:305)
384.	Six Mile Bayou n/a	-Wheeler Series	Surface.	Riverine (Sunflower River) west bank.	Webb (1968:305)
385.	Abby n/a	-Wheeler Series -Poverty Point Complex	Surface.	Riverine (Tallahatchie River) west bank.	Webb (1968:306) Webb (1977:8)
386.	$Ma^{v}10$ n/a	-Wheeler Series	Surface.	Riverine (Tennessee River).	Heimlich (1952:34)
387.	$Ja^{v}28A$ n/a	-Wheeler Series	Surface.	Riverine (Tennessee River).	Heimlich (1952:34)
388.	$Ja^{v}28$ n/a	-Wheeler Series	Surface.	Riverine (Tennessee River).	Heimlich (1952:55)
389.	$Ja^{o}176$ n/a	-Wheeler Series	Surface.	Riverine (Tennessee River).	Heimlich (1952:57)
390.	$Ja^{v}176A$ n/a	-Wheeler Series	Surface.	Riverine (Tennessee River).	Heimlich (1952:57)
391.	$Ma^{v}32$ n/a	-Wheeler Series	Surface.	Riverine (Tennessee River).	Heimlich (1952:58)

APPENDIX A (cont'd.).

392.	Ja^{v}102 n/a	-Wheeler Series	Surface.	Riverine (Tennessee River).	Heimlich (1952:58)
393.	Turner-Casey 23 Ja 35 n/a	-Wheeler Series (Nebo Hill)	Surface.	Riverine (Missouri River) south bank.	Reid (1984:57) Schmit and Wright (1981)
394.	40 Hr 212 Shell midden	-Wheeler Series	Surface.	Riverine (Tennessee River) northeast bank.	Dye (1977b:66)
395.	40 Hr 219 Shell midden	-Wheeler Series	Surface.	Riverine (Tennessee River) west bank.	Dye (1977b:66)
396.	40 Hr 220 Shell midden	-Wheeler Series	Surface.	Riverine (Tennessee River, tri-butary) west bank.	Dye (1977b:66)
397.	40 Hr 221 Shell midden	-Wheeler Series	Surface.	Riverine (Tennessee River, tri-butary) west bank.	Dye (1977b:66)
398.	40 Hr 223 Shell midden	-Wheeler Series	Surface.	Riverine (Tennessee River) west bank.	Dye (1977b:66)
399.	40 Hr 225 Shell midden	-Wheeler Series	Surface.	Riverine (Tennessee River) west bank.	Dye (1977b:66)
400.	40 Hr 236 Shell midden	-Wheeler Series	Surface.	Riverine (Tennessee River) east bank.	Dye (1977b:66)

APPENDIX A (cont'd.).

401.	40 Hr 240 Shell midden	-Wheeler Series	Surface.	Riverine (Tennessee River) east bank.	Dye (1977b:66)
402.	40 Hr 258 Shell midden	-Wheeler Series	Surface.	Riverine (Tennessee River) west bank.	Peterson (1974:11); Dye (1977b:66)
403.	Mingo Mound 22 Ts 511	-Wheeler Series	Surface.	Riverine (Tennessee River, tributary).	Dye (1977b:66); Jolly (1971b)
404.	Copell	Poverty Point Complex	Surface.	Coastal (Gulf of Mexico).	Webb (1968:298); Ford and Quimby (1945)
405.	22Mo 661 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Blakeman (1975a)
406.	22 Mo 669 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Blakeman (1976)
407.	22 Mo 675 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Duggan et al. (1982)
408.	22 Mo 700 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Blakeman (1976)
409.	22 Mo 746 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Blakeman (1976)
410.	22 Mo 774 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Blakeman (1976)
411.	22 Mo 805 n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Blakeman (1976)
412.	22 Lo 526b n/a	-Wheeler Series	Surface.	Riverine (Tombigbee River).	Rucker (1974)

APPENDIX A (cont'd.).

413.	22 Lo 530 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Rucker (1974)
414.	22 Lo 538 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Atkinson (1974)
415.	22 Lo 543 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Rucker (1974)
416.	22 Lo 544 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Rucker (1974)
417.	22 Lo 551 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Rucker (1974)
418.	22 Lo 559 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Rucker (1974)
419.	22 Lo 580 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Blakeman (1975a)
420.	22 Lo 599 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Blakeman et al. (1976)
421.	22 Lo 600 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	O'Hear et al. (1981)
422.	22 Lo 618 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Brookes and Connaway (n.d.)
423.	22 Lo 670 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Brookes and Connaway (n.d.)
424.	22 Lo 672 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Brookes and Connaway (n.d.)

APPENDIX A (cont'd.).

425.	22 Cl 528 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Blakeman (1975a), Rucker (1974)
426.	22 Cl 814 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Solis and Walling (1982)
427.	22 Cl 524 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Caldwell and Lewis (1972)
428.	22 Lo 604 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Brookes and Connaway (n.d.)
429.	22 Lo 605 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Brookes and Connaway (n.d.)
430.	22 Lo 611 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Brookes and Connaway (n.d.)
431.	22 Lo 616 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Brookes and Connaway (n.d.)
432.	22 Lo 617 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Brookes and Connaway (n.d.)
433.	22 It 539 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Caldwell and Lewis (n.d.), Ensor and Studer (1982)
434.	22 It 541 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Caldwell and Lewis (n.d.)
435.	22 It 560 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Blakeman (1976)
436.	22 It 563 n/a	-Wheeler Series	Surface.	Riverine (Tombig- bee River).	Blakeman (1976), Galm et al. (1982)

APPENDIX A (cont'd.).

437.	22 It 565 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Blakeman (1976)
438.	22 It 567 n/a	-Wheeler Series -Poverty Point Complex	Surface.	Riverine (Tombig-bee River).	Blakeman (1976)
439.	22 It 576 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Bense and Rodeffer (1982)
440.	22 It 580 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Blakeman (1976)
441.	22 It 590 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Blakeman (1976), Galm (1982)
442.	22 It 621 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Bense et al. (1982), Rodeffer (1982)
443.	22 It 622 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Studer (1982)
444.	22 It 623 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Bense et al. (1982), Rodeffer and Duggan (1982)
445.	22 It 624 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Bense et al. (1982), Rodeffer and Duggan (1982)
446.	22 Ts 954 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Hubbert (1978)
447.	22 Ts 959 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Hubbert (1978)
448.	22 Ts 976 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Hubbert (1978)

APPENDIX A (cont'd.).

449.	22 Ts 992 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Hubbert (1978)
450.	22 Ts 1006 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Hubbert (1978)
451.	22 Ts 578 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Caldwell and Lewis (1972)
452.	Ok 549 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Blakeman (1975b)
453.	Ok 580 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Blakeman (1975b)
454.	1 Pi 503 n/a	-Wheeler Series	Surface.	Riverine (Tombig-bee River).	Bense (1982)
455.	Cedarland Plantation 22 HC 30 Semi-circular shell midden	-Poverty Point Complex	Surface.	Coastal (Pearl River Estuary).	Gagliano (1963); Gagliano and Webb <u>in</u> Webb and Broyles (1970:51)
456.	Old Saline Camp n/a	-Poverty Point Complex	Surface.	Riverine (Saline Bayou Lake).	Hunter <u>in</u> Webb and Broyles (1970:80)
457.	Marksville n/a	-Poverty Point Complex	Surface.	Riverine (Red River) south bank.	Hunter <u>in</u> Webb and Broyles (1970:88)
458.	Greenhouse n/a	-Poverty Point Complex	Surface.	Riverine (Red River) south bank.	Hunter <u>in</u> Webb and Broyles (1970:88)

APPENDIX A (cont'd.).

459.	Crooks Mound n/a	-Poverty Point Complex	Surface.	Riverine (Little River) east bank.	Hunter *in* Webb and Broyles (1970:88)
460.	Russell Landing n/a	-Poverty Point Complex	Surface.	Riverine (Little River-Catahoola Lake).	Hunter *in* Webb and Broyles (1970: 74,87,88)
461.	Angola Gate n/a	-Poverty Point Complex	Surface.	Riverine (Mississippi River).	Gagliano (1967:13)
462.	Pk 22 n/a	-Norwood Series	Surface.	Coastal (Gulf of Mexico).	Phelps (personal communication)
463.	A site on Price's Is. n/a	-Stallings Series	Surface.	Riverine (Savannah River) south west bank.	Heimlich (1952:41)
464.	M Cs 4 Domed oval ridge of humus.	-Wheeler Series	Surface.	Riverine (Mattubba Creek).	Jennings (1941:199)
465.	Pickett's Island n/a	-Poverty Point Complex	Surface.	Riverine (Little River) east bank.	Webb (1968:301)
466.	Wiley n/a	-Poverty Point Complex	Surface.	Riverine (Ouachita River) west bank.	Webb (1968:301)
467.	A site in the Monroe City limits, Ouachita Parish, Louisiana Now destroyed.	-Poverty Point Complex	Surface.	Riverine (Ouachita River) east bank.	Webb (1968:302); Ford et al. (1955)

APPENDIX A (cont'd.).

468.	Alabama landing n/a	-Poverty Point Complex	Surface.	Riverine (Ouachita River) east bank.	Webb (1968:302)
469.	Wilson site n/a	-Poverty Point Complex	Surface.	Riverine (Ouachita River) west bank.	Webb (1968:302)
470.	Neimeyer-Dare n/a	-Poverty Point Complex	Surface.	Riverine (Boeuf River) east bank.	Webb (1968:302)
471.	Parks n/a	-Poverty Point Complex	Surface.	Riverine (Boeuf River) east bank.	Webb (1968:302)
472.	Cooper a deep midden	-Poverty Point Complex	Deepest level at the site.	Riverine (Ouachita River).	Webb (1968:302)
473.	Midden 200 ft. from Rose Mound n/a	-Poverty Point Complex	Surface.	Riverine (St. Francis River).	Webb (1968:303)
474.	Roscoe Burns n/a	-Poverty Point Complex	Surface.	Riverine (A-2 stage Mississippi relicit channel near L'Anguille River).	Webb (1968:303)
475.	A site on the North Fork of the Forked Deer River in Gibson Co., Tenn. n/a	-Poverty Point Complex	Surface.	Riverine (North Fork of the Forked Deer River).	Webb (1968: 303)

APPENDIX A (cont'd.).

476.	Deep Bayou n/a	-Poverty Point Complex	Surface.	Riverine (Arkansas River).	Webb (1968:299, 304); Webb (1977:8)
477.	Mott n/a	-Poverty Point Complex	Surface.	Riverine (Bayou Macon) west bank.	Webb (1968:299, 304); Webb 1977:8)
478.	W.E. Smith n/a	-Poverty Point Complex	Surface.	Riverine (Tallahatchie River) west bank.	Webb (1968:299, 304); Webb (1977:8)
479.	Jacks n/a	-Poverty Point Complex	Surface.	Riverine (Tallahatchie River) west bank.	Webb (1968:299, 304); Webb (1977:8)
480.	Neill n/a	-Wheeler Series -Poverty Point Complex	Surface.	Riverine (Yalobusha River) west bank.	Webb (1968:299, 304); Webb (1977:8,21,58)
481.	Vaughn n/a	-Norwood Series -Wheeler Series	Found in association with Alexander ceramics.	Riverine (Yalobusha River) west bank.	Wynn and Atkinson (1976:38); Atkinson (1974:137)
482.	Hobo n/a	-Poverty Point Complex	Surface.	Riverine (Sunflower River) west bank.	Webb (1968:299, 304); Webb (1977:8)
483.	Kinlock n/a	-Poverty Point Complex	Surface.	Riverine (Sunflower River) west bank.	Webb (1968:299, 304); Webb (1977:8)
484.	Sky Lake n/a	-Poverty Point Complex	Surface.	Riverine (Yazoo River) west bank.	Webb (1968:299, 304); Webb (1977:8)
485.	Rabbit Island	-Poverty Point Complex	Surface.	Coastal (Gulf of	Webb (1968:299,

APPENDIX A (cont'd.).

	n/a			Mexico).	304); Webb (1977:10)
486.	Lake George n/a	-Poverty Point Complex	Surface.	Riverine (Yazoo River) east bank.	Webb (1968:299, 304); Webb (1977:8)
487.	Waller n/a	-Poverty Point Complex	Surface.	Riverine (Yazoo River) east bank.	Webb (1968:299, 304); Webb (1977:8)
488.	Head n/a	-Poverty Point Complex	Surface.	Riverine (Bayou Macon) west bank.	Webb (1968:299, 304); Webb (1977:8)
489.	Neeley n/a	-Poverty Point Complex	Surface.	Riverine (Bayou Macon) west bank.	Webb (1968:299, 304); Webb (1977:8)
490.	Panther Lake n/a	-Poverty Point Complex	Surface.	Riverine (Joe's Bayou) east bank.	Webb (1968:299, 304); Webb (1977:8)
491.	Monte Sano Mound n/a	-Poverty Point Complex	Surface, and from bull dozer cut at mound base.	Riverine (at the junction of the Monte Sano Bayou and the Miss-issippi River).	Webb (1968:299,304)
492.	McGary n/a	-Poverty Point Complex -Wheeler Series	Surface.	Riverine (Yazoo River) east bank.	Webb (1977:8,58)

APPENDIX A (cont'd.).

493.	Choctaw Poverty Point n/a	-Poverty Point Complex -Wheeler Series	Surface.	Inland (between the Yazoo and Mississippi Rivers).	Webb (1977:8,58)
494.	M[c]Coy n/a	-Poverty Point Complex	Surface.	Riverine (Yazoo River) west bank.	Webb (1968:299, 304); Webb (1977:8)
495.	Tackett n/a	-Wheeler Series -Poverty Point Complex	Surface.	Riverine (Sunflower River) east bank.	Webb (1977:8,58)
496.	Lea n/a	-Poverty Point Complex	Surface.	Riverine (Bayou D'Arbonne River) west bank.	Webb (1968:299, 304); Webb (1977:9)
497.	Ray Brake n/a	-Poverty Point Complex	Surface.	Riverine (Joe's Bayou River) west bank.	Webb (1968:299, 304); Webb (1977:8)
498.	Marsden n/a	-Poverty Point Complex	Surface.	Riverine (Bayou Macon) west bank.	Webb (1968:299, 304); Webb (1977:8)
499.	Jigger n/a	-Poverty Point Complex	Surface.	Inland (between the Bayou Macon and Boeuf Rivers).	Webb (1968:299, 304)
500.	Cold Lake n/a	-Poverty Point Complex	Surface.	Riverine (Sunflower River) east bank.	Webb (1968:299, 304); Webb (1977:8)

APPENDIX A (cont'd.).

501.	Isola n/a	-Poverty Point Complex	Surface.	Riverine (Sunflower River) east bank.	Webb (1968:299, 304), (1977:8)
502.	Blue Lake n/a	-Poverty Point Complex	Surface.	Riverine (Coldwater River) east bank.	Webb (1968:299, 304), (1977:8)
503.	Savage n/a	-Poverty Point Complex	Surface.	Riverine (Mississippi River) east bank.	Webb (1968:299, 304), (1977:8)
504.	Crippen Point n/a	-Poverty Point Complex	Surface.	Riverine (Sunflower River) east bank.	Webb (1968:299, 304)
505.	Savery A semi-circular arrangement of eight earthen mounds.	-Poverty Point Complex	Surface.	Riverine (Sunflower River) west bank.	Webb (1968:299, 304), (1977:8), Phillips (1970)
506.	Maben n/a	-Poverty Point Complex	Surface.	Riverine (Yazoo River) east bank.	Webb (1968:299, 304), (1977:8)
507.	Fairview n/a	-Poverty Point Complex	Surface.	Riverine (Yazoo River) east bank.	Webb (1968:299, 304)
508.	Pritchard n/a	-Poverty Point Complex	Surface.	Riverine (Atchafalaya River) east bank.	Webb (1977:10)
509.	Cutoff Landing n/a	-Poverty Point Complex	Surface.	Riverine (Atchafalaya River) west bank.	Webb (1977:10)

APPENDIX A (cont'd.).

510.	Wesley n/a	-Poverty Point Complex	Surface.	Riverine (Atchafalaya River) west bank.	Webb (1977:10)
511.	Hearnes n/a	-Poverty Point Complex	Surface.	Southeastern Missouri.	Webb (1977:28), Klippel (1969)
512.	Hyneman n/a	-Poverty Point Complex	Surface.	Riverine (St. Francis River) west bank.	Webb (1977:7,10) Klippel (1969)
513.	Walnut Mound n/a	-Poverty Point Complex	Surface.	Riverine (Little River).	Webb (1977:7,10) Klippel (1969)
514.	Frierson n/a	-Poverty Point Complex	Surface.	Riverine (Little River).	Webb (1977:7,10)
515.	Joe George n/a	-Wheeler Series -Poverty Point Complex	Surface.	Riverine (Sunflower River-Yazoo Basin) east bank.	Webb (1977:8,58)
516.	Goss n/a	-Wheeler Series -Poverty Point Complex	Surface.	Riverine (Sunflower River-Yazoo Basin) west bank.	Webb (1977:58)
517.	Applestreet n/a	-Wheeler Series -Poverty Point Complex	Surface.	Coastal (Gulf of Mexico).	Webb (1977:10,59)
518.	Mattassee Lake 38BK226	-Stallings Series -Poverty Point Complex	Surface.	Riverine (Santee River) south bank.	Anderson et al. (1982: 53-93)

APPENDIX A (cont'd.).

519.	Mattassee Lake 38BK229 n/a	-Stallings Series -Poverty Point Complex	Surface.	Riverine (Santee River) south bank.	Anderson et al. (1982: 53-93)
520.	Rocky Ford n/a	-Stallings Series	Surface.	Riverine (Ogeechee River) northeast bank.	Bartsch (1981:13-15)
521.	Theriault "Boy Scout Site" 9Bk2 (9Bur6) n/a	-Stallings Series -Poverty Point Complex	All areas and levels of site.	Riverine (Savannah River, Brier Creek Tributary) north bank.	Brockington (1971); Phelps (1968:19)
522.	Claflin's site #1 n/a	-Stallings Series	Surface.	Riverine (Savannah River) west bank.	Bullen and Greene (1970); Claflin (1931: 40-41)
523.	Claflin's site #2 n/a	-Stallings Series	Surface.	Riverine (Savannah River) west bank.	Bullen and Greene (1970); Claflin (1931: 40-41)
524.	Claflin's site #3 n/a	-Stallings Series	Surface.	Riverine (Savannah River) west bank.	Bullen and Greene (1970); Claflin (1931: 40-41)
525.	Claflin's site #4 n/a	-Stallings Series	Surface.	Riverine (Savannah River) west bank.	Bullen and Greene (1970); Claflin (1931: 40-41)
526.	Claflin's site #7 n/a	-Stallings Series	Surface.	Riverine (Savannah River) west bank.	Bullen and Greene (1970); Claflin (1931: 40-41)
527.	Claflin's site #8 n/a	-Stallings Series	Surface.	Riverine (Savannah River) west bank.	Bullen and Greene (1970); Claflin (1931: 40-41)

APPENDIX A (cont'd.).

528.	Large Ford Shell Ring 38Bu8 n/a	-Stallings Series -Poverty Point Complex	Lowest levels of shell midden.	Coastal (Hilton Head Is.) Atlantic Ocean.	Calmes (1968: 45-48)
529.	Small Ford Shell Ring 38Bu8 n/a	-Stallings Series	Surface.	Coastal (Hilton Head Is.) Atlantic Ocean.	Calmes (1968: 45-48)
530.	Paradise Park 9Wy9 n/a	"semi-fiber tempered types" -Norwood Series -Stallings Series	Surface.	Riverine (Altamaha River).	Crusoe and DePratter (1976); Crusoe 1972:71)
531.	Pagan Plum Point 9Ch61 Shell Midden 4 ft. deep.	-Stallings Series	Surface.	Coastal (Skidaway Island) Atlantic Ocean.	Crusoe and DePratter (1976:9); Bensley (1971)
532.	Cannon's Point 9Gn87 n/a	-Stallings Series -Orange Series -Norwood Series	Surface and lower levels.	Coastal (St. Simons Is.) Atlantic Ocean.	Crusoe and DePratter (1976:6-7); Holder (1938:9); Marrinan (1975:19); Crusoe (1972:71)
533.	Cal Smoak 38 Bm 4 n/a	-Stallings Series	Levels B-F to a depth of 18 inches.	Riverine (Edisto River) south bank.	Anderson et al. (1979)
534.	Daw's Island 38Bu9 Shell midden	-Stallings Series	Surface.	Coastal (Port Royal Sound, Daw's Is.) Atlantic Ocean.	Crusoe and DePratter (1976:12); Hemmings (1969:6); Michie (1973:116-125)

APPENDIX A (cont'd.).

535.	Horse Island 38Ch14 n/a	-Stallings Series	Surface.	Coastal (Mouth of Edisto River Atlantic Ocean.	Caldwell (in Griffin, J.B. 1952:315); DePratter et al. (1973:45)
536.	Lover's Lane 9Rd8 n/a	-Stallings Series	Surface and uppermost levels of site, and from strati-graphic tests cores.	Riverine (Savannah River) west bank.	Ferguson and Widmer (1976:42-76)
537.	Taylor's Hill 9Rd4 n/a	-Stallings Series	Surface and test cores.	Riverine (Savannah River) west bank.	Ferguson and Widmer (1976:36-38)
538.	Cat Island Shell midden n/a	-Stallings Series	Surface.	Coastal (Port Royal Sound) Atlantic Ocean.	Flannery (1943:148-150)
539.	Swift Creek n/a	-Stallings Series	Mound A.	Riverine (Swift Creek a tributary of the Ocmulgee River).	Griffin (1943:164); Kelly (1938); Kellar et al. (1961:95)
540.	One Mile Track n/a	-Stallings Series	Surface.	Riverine (Ocmulgee River).	Griffin (1943:164); Kelly (1938);
541.	Shell Rock Cave n/a	-Stallings Series	Surface.	Riverine (Ocmulgee River).	Griffin (1943:164); Kellar et al. (1961:95); Kelly (1938)

APPENDIX A (cont'd.).

542.	Stubb's Mound n/a	-Stallings Series	Surface.	Riverine (Ocmulgee River).	Griffin (1943:164); Kellar et al. (1961:95); Kelly (1938)
543.	Stubb's Village n/a	-Stallings Series	Surface.	Riverine (Ocmulgee River).	Griffin (1943:164); Kellar et al. (1961:95); Kelly (1938)
544.	Wilke's County, Georgia n/a	-Stallings Series	Surface.	Riverine (Savannah River).	Griffin (1943:164)
545.	A site at the upper end of Ossabaw Island n/a	-Stallings Series	Surface.	Coastal (Ossabaw Island) Atlantic Ocean.	Caldwell (in Griffin 1952:314)
546.	Valona in McIntosh County n/a	-Stallings Series	Surface beach deposit.	Coastal Atlantic Ocean.	Caldwell (in Griffin 1952:314)
547.	Glynn County south of the Altamaha River n/a	-Stallings Series	Surface.	Riverine (Altamaha River) south bank.	Caldwell (in Griffin 1952:314)
548.	1 Ho 22 n/a	-Stallings Series	Surface and test excavations.	Riverine (Chattahoochee River).	Huscher (1959); Jenkins (1978:78)
549.	1 Ho 24 n/a	-Stallings Series	Surface.	Riverine (Chattahoochee River).	Huscher (1959); Jenkins (1978:78)

APPENDIX A (cont'd.).

550.	Omussee Creek Mound 1 Ho 27 n/a	-Stallings Series	Surface.	Riverine (Omussee Creek).	Huscher (1959); Jenkins (1978:78)
551.	Mandeville n/a	-Stallings Series -Orange Series	Mound A all levels.	Riverine (Chatta-hoochee River) west bank.	Kellar et al. (1961:14, 33,47 1962:349)
552.	38 Bu 66 Shell midden	-Stallings Series	Surface.	Coastal (Pickney Island) Atlantic Ocean.	Lepionka (1979:7)
553.	38 Bu 67 Shell midden	-Stallings Series	Surface.	Coastal (Pickney Island) Atlantic Ocean.	Lepionka (1979:7)
554.	38 Bu 92 Shell midden	-Stallings Series	Surface.	Coastal (Pickney Island) Atlantic Ocean.	Lepionka (1979:7)
555.	Soap Creek "Wacoochee Mound" "Chattasook Mound" 1 Le 1 Non-shell mound	"semi-fiber tempered types" -Norwood Series -Stallings Series	Surface Div. N-13 TP #4, K-15, F# 1.	Riverine (Chatta-hoochee River) west bank.	McMichael and Kellar (1960:62-68, 70,205-206)
556.	1 Le 11 small rock shelter	-Norwood Series -Stallings Series	Surface.	Riverine (Chatta-hoochee River) west bank.	McMichael and Kellar (1960:94,97, 195-196, 205-206)

APPENDIX A (cont'd.).

557.	Standing Boy 9 Me 205 n/a	-Norwood Series -Stallings Series	Surface.	Riverine (Chattahoochee River) east bank.	McMichael and Kellar (1960: 133,139-141, 205-206)
558.	Pottery Beach 1 Le 5 Non-shell midden	-Norwood Series -Stallings Series	Surface.	Riverine (Chattahoochee River) west bank.	McMichael and Kellar (1960:72,75, 205,206)
559.	1 Le 7 Non-shell midden	-Norwood Series -Stallings Series	Surface and 18-24" deep in a rock cluster, and in the lowest levels of site.	Riverine (Chattahoochee River) west bank.	McMichael and Kellar (1960:77,79, 205-206)
560.	1 Le 8 Non-shell midden	-Norwood Series -Stallings Series	Surface.	Riverine (Chattahoochee River) west bank.	McMichael and Kellar (1960:91, 205-206)
561.	1 Le 16 Non-shell midden	-Norwood Series -Stallings Series	Lowest levels of site.	Riverine (Chattahoochee River) west bank.	McMichael and Kellar (1960: 98-100, 103, 205-206)
562.	1 Le 17 Non-shell midden	-Norwood Series	Lowest levels of site.	Riverine (Chattahoochee River) west bank.	McMichael and Kellar (1960: 105-111, 205-206)
563.	1 Le 21 Non-shell midden	-Norwood Series -Stallings Series	Lowest levels of site.	Riverine (Chattahoochee River) west bank.	McMichael and Kellar (1960: 114, 205-206)

APPENDIX A (cont'd.).

564.	Sand Pit 9 Mo 206 Non-shell midden	-Norwood Series -Stallings Series	A sub-surface site.	Riverine (Chattahoochee River) east bank.	McMichael and Kellar (1960: 155-156, 205-206)
565.	9 Mo 214 Small rock shelter	-Norwood Series -Stallings Series	0-6 in. below surface.	Riverine (Chattahoochee River) east bank.	McMichael and Kellar (1960: 157-162, 205-206)
566.	Light House Shell midden	-Norwood Series -Stallings Series	At base of site.	Coastal (St. Simon's Is.) Atlantic Ocean.	Kellar et al. (1961:95)
567.	Sewee Mound 38 Ca 45	-Stallings Series -Poverty Point complex	Surface.	Coastal (Bull's Bay) Atlantic Ocean.	Edwards (1965); Marrinan (1975:6,119)
568.	Yough Hall (Auld) Plantation Shell ring 38 Ch 41	-Stallings Series	Surface.	Coastal Atlantic Ocean.	Crane and Griffin (1964: 9-10); Marrinan (1975:6); Hemmings (1971:53)
569.	Sea Pines Shell Ring 38 Bu 7 1 to 3 ft. deep	-Stallings Series	Surface.	Coastal (Hilton Head) Atlantic Ocean.	Calmes (1968:45-48)
570.	Cannon's Point, West Ring 9 Gn 76	-Stallings Series -Orange Series	0.5-1.0 meters below present marsh surface.	Coastal (St. Simon's Is.) Atlantic Ocean.	Marrinan (1975:31-33); Crusoe and DePratter (1976:6,7). Holder (1938:9)

APPENDIX A (cont'd.).

571.	Cannon's Point, Marsh Ring 9 Gn 57	-Stallings Series -Orange Series	0.5-1.0 meters below present marsh surface.	Coastal (St. Simon's Is.) Atlantic Ocean.	Marrinan (1975:31-33); Crusoe and DePratter (1976:6,7), Holder (1938:9)
572.	Bony Hammock n/a	-Stallings Series -Orange Series -Poverty Point Complex	Lowest levels of site.	Coastal (St. Simon's Is.) Atlantic Ocean.	Marrinan (1975:128)
573.	34°10'N/ 79°10'W n/a	-Stallings Series	Surface.	Riverine (Little PeeDee) west bank.	Anderson et al. (1979:134, Fig L)
574.	34°10'N/ 79°50'W n/a	-Stallings Series	Surface.	Inland.	Anderson et al. (1979:134, Fig L)
575.	Brunswick Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Cape Fear River).	Phelps (*in* Mathis and Crow 1983:27), South (1964)
576.	Brunswick Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Cape Fear River).	Phelps (*in* Mathis and Crow 1983:27), South (1964)
577.	Brunswick Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Cape Fear River).	Phelps (*in* Mathis and Crow 1983:27), South (1964)
578.	Brunswick Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Cape Fear River).	Phelps (*in* Mathis and Crow 1983:27), South (1964)

APPENDIX A (cont'd.).

579.	New Hanover Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Cape Fear River).	Phelps (in Mathis and Crow 1983:27); Wilde-Ramsing (1978).
580.	New Hanover Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Cape Fear River).	Phelps (in Mathis and Crow 1983:27); Wilde-Ramsing (1978).
581.	New Hanover Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Cape Fear River).	Phelps (in Mathis and Crow 1983:27)
582.	Pender Co., North Carolina n/a	-Stallings Series	Surface.	Coastal Atlantic Ocean.	Phelps (in Mathis and Crow 1983:27)
583.	Bladen Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Cape Fear River) west bank.	Phelps (in Mathis and Crow 1983:27)
584.	Weyman Creek 31 Cb 15 n/a	-Stallings Series	Surface.	Riverine (Cape Fear River) southwest bank.	Phelps (1976:10)
585.	Little River n/a	-Stallings Series	Surface.	Riverine (Little River).	Miller (1949:39)
586.	Hoke Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Cape Fear River-tributary).	Phelps (in Mathis and Crow 1983:27)

APPENDIX A (cont'd.).

587.	Cumberland Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Cape Fear River) west bank.	Phelps (in Mathis and Crow 1983:27)
588.	Onslow Co., North Carolina n/a	-Stallings Series	Surface.	Coastal (New River inlet) Atlantic Ocean.	Phelps (in Mathis and Crow 1983:27)
589.	Onslow Co., North Carolina n/a	-Stallings Series	Surface.	Coastal (New River inlet) Atlantic Ocean.	Phelps (in Mathis and Crow 1983:27)
590.	Onslow Co., North Carolina n/a	-Stallings Series	Surface.	Coastal (New River inlet) Atlantic Ocean.	Phelps (in Mathis and Crow 1983:27)
591.	Onslow Co., North Carolina n/a	-Stallings Series	Surface.	Coastal (New River inlet) Atlantic Ocean.	Phelps (in Mathis and Crow 1983:27)
592.	Duplin Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Cape Fear River-tributary) west bank.	Phelps (in Mathis and Crow 1983:27)
593.	Carteret Co., North Carolina n/a	-Stallings Series	Surface.	Coastal Atlantic Ocean.	Phelps (in Mathis and Crow 1983:27)
594.	Wayne Co., North Carolina n/a	-Stallings Series	Surface.	Inland.	Phelps (in Mathis and Crow 1983:27)

APPENDIX A (cont'd.).

595.	Wayne Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Neuse River) north bank.	Phelps (in Mathis and Crow 1983:27)
596.	Wayne Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Neuse River) north bank.	Phelps (in Mathis and Crow 1983:27)
597.	Wayne Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Neuse River) south bank.	Phelps (in Mathis and Crow 1983:27)
598.	Wayne Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Neuse River) south bank.	Phelps (in Mathis and Crow 1983:27)
599.	Wayne Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Neuse River) south bank.	Phelps (in Mathis and Crow 1983:27)
600.	Wayne Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Neuse River) south bank.	Phelps (in Mathis and Crow 1983:27)
601.	Wayne Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Neuse River) south bank.	Phelps (in Mathis and Crow 1983:27)
602.	Wayne Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Neuse River) south bank.	Phelps (in Mathis and Crow 1983:27)

APPENDIX A (cont'd.).

603.	Wayne Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Neuse River) south bank.	Phelps (in Mathis and Crow 1983:27)
604.	Wayne Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Neuse River) south bank.	Phelps (in Mathis and Crow 1983:27)
605.	Greene Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Neuse River) north bank.	Phelps (in Mathis and Crow 1983: 26-27)
606.	Greene Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Neuse River) north bank.	Phelps (in Mathis and Crow 1983: 26-27)
607.	Pitt Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Tar River) north bank.	Phelps (in Mathis and Crow 1983: 26-27)
608.	Edgecombe Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Tar River) north bank.	Phelps (in Mathis and Crow 1983: 26-27)
609.	Edgecombe Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Tar River) north bank.	Phelps (in Mathis and Crow 1983: 26-27)
610.	Bertie Co., North Carolina n/a	-Stallings Series	Surface.	Coastal (Albemarle Sound) Atlantic Ocean	Phelps (in Mathis and Crow 1983: 26-27)

APPENDIX A (cont'd.).

611.	Chowan Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Chowan River) east bank.	Phelps (in Mathis and Crow 1983: 26-27)
612.	Gates Co., North Carolina n/a	-Stallings Series	Surface.	Riverine (Chowan River-tributary east bank.	Phelps (in Mathis and Crow 1983: 26-27)
613.	Refuge Shell midden	"Bilbo types" -Stallings Series	Surface and all levels of the site.	Riverine (Savannah River tributary Little Black River) west bank.	Waring (in Williams 1977: 198-208); Peterson (1971)
614.	Cedar Keys n/a	-Orange Series -Stallings Series	Surface.	Coastal Gulf of Mexico.	Goggin (n.d.); Goggin (1952); Willey (1949:352)
615.	Wacissa River n/a	-Orange Series	Surface.	Riverine (Wacissa River) west bank.	Goggin (1952:75)
616.	Great Kiokee Creek Shell Midden	-Stallings Series	Surface and lowest levels.	Riverine (Savannah River)	Miller (1949: 46-47)
617.	Clear Mount Non-shell midden	-Stallings Series	All levels.	Riverine (Savannah River)	Stoltman (1974:153)
618.	Waste Bluff n/a	-Stallings Series	All levels.	Riverine (Savannah River)	Neill (1966:1-10)

APPENDIX A (cont'd.).

619.	Gaylord's Crossing GR-3 n/a	-Stallings Series	Surface.	Riverine (Savannah River).	Stoltman (1974: 164-168)
620.	Ivanhoe Dam GR-4 n/a	-Stallings Series	Surface.	Riverine (Savannah River).	Stoltman (1974: 169-173)
621.	Pasley GR-7 n/a	-Stallings Series	Surface.	Riverine (Savannah River).	Stoltman (1974: 181-183)
622.	Ivanhoe Finger GR-11 n/a	-Stallings Series	Surface.	Riverine (Savannah River).	Stoltman (1974: 187-190)
623.	Martin's Bluff GR-12 n/a	-Stallings Series	Surface.	Riverine (Savannah River).	Stoltman (1974: 190-195)
624.	Lu°85 n/a	-Wheeler Series	Surface.	Riverine (Tennessee River) north bank.	Waring in Williams (1977:194)
625.	Evelyn Plantation n/a	-Orange Series -Stallings Series	Surface.	Riverine (Altamaha River) south bank.	Waring in Williams (1977:194, 254)
626.	Waccamaw Neck n/a	-Stallings Series	Surface.	Riverine (Waccamaw River)	Waring in Williams (1977:194)

APPENDIX A (cont'd.).

627.	Colonel's Island n/a	-Stallings Series	Surface.	Coastal Atlantic Ocean.	Waring in Williams (1977:194)
628.	Charles Towne 31 CH 1 n/a	-Stallings Series	Surface and yellow sand layer.	Coastal Atlantic Ocean.	South (1970)
629.	Li^{v} 36 n/a	-Wheeler Series	Surface.	Riverine (Tennessee River) north bank.	Waring in Williams (1977:194)
630.	Allatoona Reservoir n/a	-Stallings Series	Surface.	Riverine (Etowah River).	Caldwell (1950:6)
631.	34°10'/79°55' n/a	-Stallings Series	Surface.	Inland.	Anderson et al. (1979: 134, Fig. L)
632.	Jordan Rock Shelter 9 Me 8 n/a	-Stallings Series	Surface.	Riverine (Turkey Creek).	McMichael and Kellar (1960: 120)
633.	Allendale n/a	-Stallings Series	Surface.	Inland.	Lee in Neighbors (1980:69-70)
634.	34°11'/79°55' n/a	-Stallings Series	Surface.	Inland.	Anderson et al. (1979: 134, Fig. L)
635.	GR-22 n/a	-Stallings Series	Surface.	Riverine (Savannah River).	Peterson (1970:4)

APPENDIX A (cont'd.).

636.	Tischer Pond n/a	-Orange Series	Surface.	Riverine (St. Johns River).	Creek (1978)
637.	Greens Old Field 9 Cr 31 n/a	"semi-fiber tempered types" -Norwood Series -Stallings Series	Surface.	Riverine (Okefenokee Swamp).	Trowell (1980:67)
638.	Butler Point Shell midden	-Stallings Series	Surface.	Coastal (St. Simon's Island) Atlantic Ocean.	Crusoe and DePratter (1976:6-7)
639.	Second Refuge 38 JA 61 n/a	"St. Simon's types" -Stallings Series	All levels.	Riverine (Savannah River).	Lepionka (1980: 202-205)
640.	Creighton Island 9 M^{c}I 87 n/a	-Stallings Series	Surface.	Coastal (Sapelo Island) Atlantic Ocean.	Marrinan (1975:126); Crusoe and DePratter (1976:3,7)
641.	Old Still 38CH115	-Stallings Series	Surface.	Coastal (Edisto Island).	Sutherland in Neighbors (1980: 185-186)
642.	9 Rd 10 n/a	-Poverty Point complex	Surface.	Riverine (Savannah River).	Ferguson and Widmer (1976:80)
643.	Waverly Creek n/a	-Stallings Series	Surface.	Inland (Okefenokee Swamp).	Trowell (1980:68)

APPENDIX A (cont'd.).

644.	EFW	-Norwood Series -Orange Series -Stallings Series	Surface.	Inland (Okefen-okee Swamp).	Trowell (1980:68)
645.	WFW n/a	-Stallings Series	Surface.	Inland (Okefen-okee Swamp).	Trowell (1980:68)
646.	ESP n/a	-Stallings Series -Norwood Series	Surface.	Inland (Okefen-okee Swamp).	Trowell (1980:68)
647.	WSP n/a	-Stallings Series	Surface.	Inland (Okefen-okee Swamp).	Trowell (1980:68)
648.	SI n/a	-Stallings Series -Norwood Series	Surface.	Inland (Okefen-okee Swamp).	Trowell (1980:68)
649.	EFWI n/a	-Stallings Series -Norwood Series	Surface.	Inland (Okefen-okee Swamp).	Trowell (1980:68)
650.	Suw./Sat. R2 n/a	-Stallings Series -Norwood Series	Surface.	Inland (Okefen-okee Swamp).	Trowell (1980:68)
651.	34°10'N/ 80°10'W n/a	-Stallings Series	Surface.	Riverine (Black River) east bank.	Anderson et al. (1979:134, Figure C)
652.	St. Simons n/a	-Orange Series -Stallings Series	Surface.	Coastal (Atlantic Ocean).	Waring in Williams (1977:219)
653.	Whitmarsh Plantation Marsh midden in Glynn Co., Ga.	-Orange Series -Stallings Series	Surface.	Coastal (Atlantic Ocean).	Waring in Williams (1977:254)

APPENDIX A (cont'd.).

654.	Prairie Creek Midden	-Orange Series -Stallings Series	Surface.	Near Gaines-ville.	Goggin (1952: 75)
655.	34°05'N/ 79°30'W	-Stallings Series	Surface.	Riverine. (Great Pee Dee River) east bank.	Anderson et al. (1979:134, Fig. L)
656.	34°07'N/ 79°30'W	-Stallings Series	Surface.	Riverine. (Great Pee Dee River) east bank.	Anderson et al. (1979:134, Fig. L)
657.	33°55'N/ 79°20'W	-Stallings Series	Surface.	Riverine. (Great Pee Dee River) east bank.	Anderson et al. (1979:134, Fig. L)
658.	33°50'N/ 81°00'W	-Stallings Series	Surface.	Riverine. (Congaree River) west bank.	Anderson et al. (1979:134, Fig. L)
659.	33°45'N/ 81°25'W	-Stallings Series	Surface.	Inland.	Anderson et al. (1979:134, Fig. L)
660.	33°35'N/ 81°40'W	-Stallings Series	Surface.	Riverine (South Fork Edisto River) south bank.	Anderson et al. (1979:134, Fig. L)
661.	33°35'N/ 80°30'W	-Stallings Series	Surface.	Riverine (Congaree River) south bank.	Anderson et al. (1979:134, Fig. L)
662.	33°35'N/ 80°30'W	-Stallings Series	Surface.	Riverine (Congaree River) south bank.	Anderson et al. (1979:134, Fig. L)

APPENDIX A (cont'd.).

663.	33°25'N/ 80°25'W	-Stallings Series	Surface.	Riverine (Congaree River) south bank.	Anderson et al. (1979:134, Fig. L)
664.	33°25'N/ 80°20'W	-Stallings Series	Surface.	Riverine (Congaree River) south bank.	Anderson et al. (1979:134, Fig. L)
665.	33°25'N/ 80°20'W	-Stallings Series	Surface.	Riverine (Congaree River) south bank.	Anderson et al. (1979:134, Fig. L)
666.	33°20'N/ 80°20'W	-Stallings Series	Surface.	Riverine (Congaree River) south bank.	Anderson et al. (1979:134, Fig. L)
667.	33°20'N/ 81°15'W	-Stallings Series	Surface.	Riverine (South Fork - Edisto River)	Anderson et al. (1979:134, Fig. L)
668.	33°30'N/ 81°30'W	-Stallings Series	Surface.	Riverine (South Fork - Edisto River)	Anderson et al. (1979:135, Fig. M)
669.	33°15'N/ 81°50'W	-Stallings Series	Surface.	Inland.	Anderson et al. (1979:134, Fig. L)
670.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (South Fork - Edisto River) south bank.	Anderson et al. (1979:134, Fig. L)
671.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (South Fork - Edisto River) south bank.	Anderson et al. (1979:134, Fig. L)

APPENDIX A (cont'd.).

672.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (South Fork - Edisto River) south bank.	Anderson et al. (1979:134, Fig. L)
673.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (South Fork - Edisto River) south bank.	Anderson et al. (1979:134, Fig. L)
674.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (South Fork - Edisto River) south bank.	Anderson et al. (1979:134, Fig. L)
675.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (South Fork - Edisto River) south bank.	Anderson et al. (1979:134, Fig. L)
676.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (Edisto River)	Anderson et al. (1979:134, Fig. L)
677.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (Edisto River)	Anderson et al. (1979:134, Fig. L)
678.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (North Fork - Edisto River)	Anderson et al. (1979:134, Fig. L)
679.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (North Fork - Edisto River)	Anderson et al. (1979:134, Fig. L)

APPENDIX A (cont'd.).

680.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (North Fork - Edisto River).	Anderson et al. (1979:134, Fig. L)
681.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (North Fork - Edisto River).	Anderson et al. (1979:134, Fig. L)
682.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (North Fork - Edisto River).	Anderson et al. (1979:134, Fig. L)
683.	33°10'N/ 80°50'W	-Stallings Series	Surface.	Riverine (North Fork - Edisto River).	Anderson et al. (1979:134, Fig. L)
684.	32°50'N/ 81°15'W	-Stallings Series	Surface.	Riverine (Coosawhatchie River) south bank.	Anderson et al. (1979:134, Fig. L)
685.	32°55'N/ 81°20'W	-Stallings Series	Surface.	Riverine (Coosawhatchie River) south bank.	Anderson et al. (1979:134, Fig. L)
686.	32°55'N/ 81°15'W	-Stallings Series	Surface.	Riverine (Coosawhatchie River) south bank.	Anderson et al. (1979:134, Fig. L)
687.	33°00'N/ 81°20'W	-Stallings Series	Surface.	Riverine (Coosawhatchie River) north bank.	Anderson et al. (1979:134, Fig. L)

APPENDIX A (cont'd.).

688.	33°00'N/ 81°10'W	-Stallings Series	Surface.	Riverine (Salkie-hatchie River) north bank.	Anderson et al. (1979:134, Fig. L)
689.	33°00'N/ 81°10'W	-Stallings Series	Surface.	Riverine (Salkie-hatchie River) south bank.	Anderson et al. (1979:134, Fig. L)
690.	33°00'N/ 81°10'W	-Stallings Series	Surface.	Riverine (Salkie-hatchie River) south bank.	Anderson et al. (1979:134, Fig. L)
691.	33°00'N/ 81°10'W	-Stallings Series	Surface.	Riverine (Salkie-hatchie River) south bank.	Anderson et al. (1979:134, Fig. M)
692.	33°00'N/ 81°20'W	-Stallings Series	Surface.	Riverine (Coosa-whatchie River).	Anderson et al. (1979:135, Fig. L)
693.	33°00'N/ 81°20'W	-Stallings Series	Surface.	Riverine (Coosa-whatchie River).	Anderson et al. (1979:135, Fig. L)
694.	Burbon Field	-Stallings Series	Surface.	Coastal (Atlantic Ocean).	Simpkins and Allard (1986:104-105)
695.	Pine Harbor	-Stallings Series	Surface.	Coastal (Atlantic Ocean).	Simpkins and Allard (1986:104-105)
696.	Harris Neck	-Stallings Series	Surface.	Coastal (Atlantic Ocean).	Simpkins and Allard (1986:104-105)

APPENDIX A (cont'd.).

697.	Princes Pond I	-Stallings Series	Surface.	Coastal (Atlantic Ocean).	Simpkins and Allard (1986:104-105)
698.	Tuft Springs I	-Stallings Series	Surface.	Riverine (Altamaha River) west bank	Simpkins and Allard (1986:104-105)

APPENDIX B.

SOUTHEASTERN FORMATIVE ACTIVITIES AND MATERIAL CULTURE SUMMARY AND COMPARISON.

ACTIVITY CATEGORY

Activity/Artifact/"Functional Category"	Formative Component: Site Number

---

ACTIVITY CATEGORY: SUBSISTENCE

Cooking Activity:

Ceramic Vessels (fiber-tempered) "Storing" and/or "Cooking"	**Norwood**: 3.11.13.16.19.20.23.24.25.26.28. 30.31.32.33.34.35.36.37.38.39.40.41.42.44. 45.46.47.48.49.50.51.58.59.60.61.62.66.67. 69.71.77.78.79.80.81.82.83.84.85.86.87.88. 92.93.94.95.96.115.194.462.562 **Orange**: 7.8.10.14.98.99.100.101.102.103. 105.108.113.116.117.119.120.121.122.123. 124.125.126.127.128.130.131.132.133.134. 135.136.137.138.139.140.141.142.143.144. 145.146.147.148.149.150.151.152.153.154. 155.156.157.158.159.160.161.162.163.164. 166.167.169.170.171.172.173.174.175.176. 177.178.179.180.181.182.183.184.185.189. 192.193.615.636 **Norwood/Orange**: 1.2.4.9.15.17.18.43.52.53. 54.55.56.64.65.70.73.74.75.76.97.106.112. 114.191 **Wheeler**: 12.57.63.68.72.165.202.211.227. 230.231.232.233.234.237.239.240.241.242. 243.244.245.246.247.248.249.250.251.252. 253.254.255.259.260.262.263.264.265.266. 267.268.269.270.271.272.273.274.275.276. 278.279.280.281.282.283.284.285.286.287. 289.291.293.294.295.296.304.305.316.318. 319.321.322.323.324.325.329.330.332.333. 334.335.336.337.338.339.340.342.350.360. 361.362.363.364.365.366.367.368.369.370. 372.373.377.379.380.381.382.383.384.385. 386.387.388.389.390.391.392.394.395.396. 397.398.399.400.401.402.403.404.405.406. 407.408.409.410.411.412.413.414.415.416. 417.418.419.420.421.422.423.424.425.426. 427.428.429.430.431.432.433.434.435.436.

APPENDIX B (cont'd.).

437,438,439,440,441,442,443,444,445,446,
447,448,449,450,451,452,453,454,464,480,
482,492,493,495,515,516,517,624,629
Wheeler (Nebo Hill): 236,345,378,393
Norwood/Wheeler: 235,261,277,288,290,292,
317,320,331,341,343,344,352,353,354,355,
356,357,358,359,481
Stalling's Island: 6,89,109,186,190,213,214,
215,216,217,218,219,220,221,222,223,225,
226,228,229,256,257,258,300,301,306,307,
308,309,310,311,313,315,463,518,519,520,
521,522,523,524,525,526,527,528,529,531,
533,534,535,536,537,538,539,540,541,542,
543,544,545,546,547,548,549,550,552,553,
554,564,565,566,567,568,573,574,575,576,
577,578,579,580,581,582,583,584,585,586,
587,588,589,590,591,592,593,594,595,596,
597,598,599,600,601,602,603,604,605,606,
607,608,609,610,611,612,613,616,617,619,
620,621,623,627,628,630,631,632,633,634,
638,639,640,641,643,645,647,651,655,656,
657,658,659,660,661,662,663,664,665,666,
667,668,669,670,671,672,673,674,675,676,
677,678,679,680,681,682,683,684,685,686,
687,688,689,690,691,692,693,694,695,696,
697,698
Norwood/Stalling's Island: 5,21,22,27,29,90,
110,187,188,195,299,302,530,555,556,557,
558,559,560,561,563,637,646,648,649,650
Orange/Stalling's Island: 118,129,551,570,
571,572,614,625,636,652,653,654
Norwood/Orange/Stalling's Island: 91,224,
532,644

<u>Lithic Vessels</u>

Steatite fragments	Norwood: 3,20,23,46,47,51,69
	Orange: 7,8,98,100
"Boiling"	Norwood/Orange: 1,43,75,97,106,112
	Wheeler: 68,72,202,227,232,240,242,251,281, 304,316,324,330,335,341,342,362,363,382, 480,492,493,495,515
	Norwood/Wheeler: 481
	Stalling's Island: 213,258,315,518,533,534, 536,559,561,564,617,628,633
	Norwood/Stallings: 555
Sandstone fragments	Norwood/Orange: 112
"Boiling"	Wheeler:72,202,227,243,244,268,269,270, 273,286,287,289,293,294,331,335,341, 342,362,363

APPENDIX B (cont'd.).

	Norwood/Wheeler: 277,288,290,292,317
Limestone fragments "Boiling"	Norwood: 69 Orange: 173
Pecked sandstone disks "Frying"	Orange: 113 Wheeler: 227
Pitted sandstone slabs "Frying"	Orange: 7
<u>Shell Vessels and Utensils</u> "Boiling"	Norwood: 66 Orange: 98 Norwood/Orange: 97,106,112 Wheeler: 237 Orange/Stalling's Island: 104
<u>Elliott's Point Baked Clay Objects</u> "Baking"	Late Archaic/Elliott's Point: 196,198,199,200,201 Norwood: 20,23,77,79,80,86,87 Norwood/Orange: 43
<u>Poverty Point Baked Clay Objects</u> "Baking"	Late Archaic/PovertyPoint: 197,203,204,205,206,207,208,209,210,212,238,326,327,328,346,347,348,349,351,371,374,375,376,404,455,456,457,458,459,460,461,465,466,467,468,469,470,471,472,473,474,475,476,477,478,479,482,483,484,485,486,487,488,489,490,491,494,496,497,498,499,500,501,502,503,504,505,506,507,508,509,510,511,512,513,514,642 Norwood/Orange: 75,106,112 Wheeler: 12,57,63,68,72,165,202,211,232,237,304,305,324,330,334,339,350,380,381,382,383,384,385,438,480,492,493,495,515,516,517 Norwood/Wheeler: 235,354,355 Stalling's Island: 190,213,220,222,518,521,528,531,534,536,567,628 Norwood/Stalling's Island: 188,195 Orange/Stalling's Island: 572

Animal and Plant Food Processing Activity:

<u>Pestles,Abraders,Manos,Mullers, Discoidals</u> (lithic) "Grinding"	Wheeler: 72,202,240,243,244,246,249,331,341,344 Stalling's Island: 109,213,315 Norwood/Stalling's Island: 110,555

APPENDIX B (cont'd.).

<u>Mortars,Grindstones,Metates,</u>	Norwood: 3
<u>Milling Stones</u> (lithic)	Orange: 177
	Norwood/Orange: 97,106
"Grinding"	Wheeler: 72,202,232,240,259,260,270,273,289, 293,294,330,331,341,342,344,380,480,495,517
	Norwood/Wheeler: 277,292,317
	Stalling's Island: 109,315,521,536,585,617
	Norwood/Stalling's Island: 110
<u>Nutting stones, Pitted stones,</u>	Wheeler: 72,202,232,260,269,272,281,
<u>Anvil stones</u> (lithic)	324,330,331,341,342,344,380,480,495
	Norwood/Wheeler: 277,317
"Cracking"	Stalling's Island: 216,217,315,521,617
	Norwood/Stalling's Island: 110
<u>Choppers</u> (lithic)	Wheeler: 72,202,281,331,342,344
	Norwood/Wheeler: 277
"Chopping"	Stalling's Island: 533,620
	Norwood/Stalling's Island: 555
(shell)	Norwood/Orange: 106,112
	Wheeler: 324

Animal Food Procurement/Hunting Activity:

<u>Basally-Notched Projectile Points</u>	Norwood: 3,23,47
(lithic)	Orange: 7
	Norwood/Orange: 1,2,43,106,112
	Wheeler: 72,202,324,330,480
"Hunting"	Stalling's Island: 622
<u>Corner-Notched Projectile Points</u>	Orange: 7
(lithic)	Norwood/Orange: 1,2,17,43,106,112
	Wheeler: 72,202,227,243,244,245,246,247,249, 304,324,330,331,362,363,382,480,492,493,495
"Hunting"	Norwood/Wheeler: 235,317
	Stalling's Island: 521
<u>Side-Notched Projectile Points</u>	Orange: 7,10
(lithic)	Norwood/Orange: 106,112
	Wheeler: 72,227,239,275,277
"Hunting"	Stalling's Island: 109,315
<u>Stemmed Projectile Points</u>	Norwood: 3,23,39,46,47
(lithic)	Orange: 7,8,10,113,173,174,177
	Norwood/Orange: 1,2,17,43,97,106,112,
	Wheeler: 72,202,227,237,239,243,244,245,
"Hunting"	246,247,248,249,259,260,269,270,271,272, 275,281,282,291,304,316,318,319,324,330, 331,332,335,341,342,343,344,360,361,362, 363,366,480
	Norwood/Wheeler: 235,277,288,292,317, 355,356,359

APPENDIX B (cont'd.).

	Stalling's Island: 109,190,213,315,518,519, 520,521,528,529,531,533,534,536,537,617, 619,620,621,622,623,628,639
	Norwood/Stalling's Island: 110,555
Bi-Pointed or Socketed Projectile Points (bone)	Norwood: 66
	Orange: 98,166,174
	Norwood/Orange: 2,74,75,106,112
"Hunting"	Wheeler: 227,237,243,244,246,247,248,250, 324,362
	Stalling's Island: 109,213
	Norwood/Stalling's Island: 110
	Orange/Stalling's Island: 104
(antler)	Orange: 98,173
	Norwood/Orange: 97,106
	Wheeler: 72,227,237,243,244,246,247,248,249, 250,324,343,363,366
	Stalling's Island: 213,216,306,640
	Norwood/Stalling's Island: 110
Shaft Straighteners/Wrenches (antler)	Wheeler: 227,243,247,361
"Hunting"	
Atlatl Weights (lithic)	Orange: 7,99
Winged and Prismatic Bannerstones,	Norwood/Orange: 106,112
Boatstones, Sub-rectangular Bars, and Tablets	Wheeler: 72,202,211,227,232,237,240,243,246, 275,324,331,382,480,495,517
	Stalling's Island: 109,213,628
"Hunting"	Norwood/Stalling's Island: 110
(shell) (Composit weights)	Wheeler: 246
(antler)	Norwood/Orange: 1
Atlatl Hooks (antler)	Wheeler: 72,227,243,244
	Stalling's Island: 213,306
"Hunting"	Norwood/Stalling's Island: 110

Aquatic Resource Harvesting Activity:

Hoes (lithic)	Wheeler: 72,202,243,330,344,362,516
	Stalling's Island: 213
"Digging"	Norwood/Stalling's Island: 555
(shell)	Wheeler: 343,344

APPENDIX B (cont'd.).

Net Sinkers (lithic) (includes perforated steatite slabs and notched steatite pebbles) "Netting"	Norwood: 3 Norwood/Orange: 74,106 Stalling's Island: 109,190,213,533,534,616 Norwood/Stalling's Island: 110
(shell)	Norwood/Orange: 74,112
Fishhooks (bone) "Fishing"	Norwood/Orange: 75,106,112 Wheeler: 227,243,244,246,247,249,331,341,343,344 Norwood/Stalling's Island: 110
(shell)	Wheeler: 343,344

ACTIVITY CATEGORY: TECHNOLOGY

Ceramic Technology Activity:

Hollow Tubes (bone) (cut and polished bird bone) "Decorating"	Orange: 173 Norwood/Orange: 97 Wheeler: 227 Stalling's Island: 109,213 Norwood/Stalling's Island: 110
Polished,Faceted Pebbles (lithic) "Polishing"	Stalling's Island: 109,617

Lithic Technology Activity:

Cores (lithic) [Microlithic Industry] "Flaking"	Norwood/Orange: 43 Wheeler: 72,202,232,304,324,330,331,341,342,343,344,390,480,492,515,517

Bone Technology Activity:

Whetstones, Grooved Stones, Abraders, Hones (lithic) "Whetting"	Orange: 175,183 Norwood/Orange: 43,73,74 Wheeler: 72,202,227,244,324 Stalling's Island: 617,639 Norwood/Stalling's Island: 110
Sandstone Abraders (lithic) "Whetting"	Norwood: 23 Norwood/Orange: 43,74 Wheeler: 72,247,324 Stalling's Island: 533,613,617

APPENDIX B (cont'd.).

Sandstone Saws (lithic)	Wheeler: 72,202,237,324,330,341,495
	Stalling's Island: 315
"Sawing"	
Pumice or Scoria Polishers (lithic)	Norwood/Orange: 43,75
	Wheeler: 72,324
"Polishing"	
Gravers (lithic)	Orange:8
	Wheeler:72,270,275,318,331,341
"Engraving"	Norwood/Wheeler:317
	Stalling's Island:213,521
Reamers (lithic)	Wheeler:72,324,331,341,342,344
"Reaming"	
(antler)	Wheeler: 227
Wedges (lithic)	Wheeler:331,341,342,344
"Splitting"	
(antler)	Wheeler:324

Wood Technology Activity:

Chipped and Polished Adzes (lithic)	Wheeler: 72,202,232,324,330,331,341,344, 366,480,517
"Dressing"	Norwood/Wheeler: 317
	Stalling's Island: 109
	Norwood/Stallings: 555
(shell; Strombus)	Norwood: 3
	Orange: 98
	Norwood/Orange: 97,106
[Adze-like] Gouges (lithic)	Orange: 8,174
	Norwood/Orange: 1,9
"Gouging"	Wheeler: 72,366
Gouges (shell; Busycon)	Norwood: 3,66,69
	Orange: 98,99,172,174,175,177
"Gouging"	Norwood/Orange: 75,106
	Wheeler: 237
	Stalling's Island: 190,531,613
(bone)	Wheeler: 239
	Stalling's Island: 613
	Norwood/Stalling's Island: 110

APPENDIX B (cont'd.).

3/4 Grooved Axes (lithic)	Orange: 167 Wheeler: 243 Stallings: 109,213 Norwood/Stallings: 110
Fully Grooved Axes (lithic)	Wheeler: 202,227,240,243,259 Norwood/Stallings: 110
Chipped Axes or Celts (lithic) "Chopping"	Wheeler: 72,324,362 Stalling's Island: 213,215,521
Polished Ground Celts (lithic) "Chopping"	Orange: 166 Wheeler: 72,202,211,227,232,240,243,247,248, 304,324,330,331,341,382,480,495,517 Norwood/Stalling's Island: 555
(shell: Strombus or Busycon)	Norwood: 23,66 Orange: 98,99,113,172,173,175,183,184 Norwood/Orange: 74,75,97,106,112 Orange/Stalling's Island: 104
Chipped stone drills (winged, cruciform, stemmed, expanded base types)	Norwood:3 Orange: 7,173 Norwood/Orange: 2,9,43,97,106,112 Wheeler: 72,202,227,244,249,259,269,270,271, 272,275,289,291,318,324,331,341,342, 344,361,366 Norwood/Wheeler: 277,317 Stalling's Island:109,213,315,520,521,536,617, 623 Norwood/Stalling's Island: 110,555
Spokeshaves (lithic) "Planing"	Wheeler: 72,259,283,318 Norwood/Wheeler: 277 Stalling's Island: 315,519,521,533,536
Denticulates (lithic) "Sawing"	Wheeler: 72,318
Hammers (shell; Busycon, Melongena, Fasciolaria, Strombus) "Hammering"	Norwood: 66,69 Orange: 98 Norwood/Orange: 15,74,75,106,112,114,191
Picks (shell; Busycon) "Picking"	Norwood: 66 Orange: 98,163,166,172,177 Norwood/Orange: 1,15,17,74,75,106,112

APPENDIX B (cont'd.).

Chisels/Punches (lithic)	Stallings Island: 555
"Chiseling" (shell; Fasciolaria and worked Columella)	Norwood: 66 Orange: 98,173,175 Norwood/Orange: 1,74,75,106,112 Wheeler: 237 Orange/Stalling's Island: 104
(bone)	Wheeler: 343,344 Stalling's Island: 213 Norwood/Stallings Island: 110
(antler)	Wheeler: 246,324

Hide Technology Activity:

[Microlithic Industry]

- Lamellar blades "Cutting"	Wheeler: 72,202,324,331,341,342,343,344,480, 492,515,517
- Endscrapers "Scraping"	Wheeler: 72,202,324
- Sidescrapers "Scraping"	Wheeler: 72,202,324
- Jaketown Perforators "Perforating"	Norwood/Orange: 43,112 Wheeler: 72,202,304,324,343
-Drills/Needles/Bads "Perforating"	Norwood/Orange: 43,112 Wheeler: 72,202,324,343
-Notched Blades "Stripping"	Wheeler: 72,202,324
-Gravers "Scoring"	Wheeler: 72,202,324,331,341,342,343,344

APPENDIX B (cont'd.).

ACTIVITY CATEGORY: ART

Lapidary Industry Activity:

<u>Perforated-2-Hole Bar Gorgets</u> (lithic) "Ornamenting"	Orange: 7 Norwood/Orange: 43 Wheeler: 72,202,227,232,240,243,244,246,247, 248,249,304,324,330,335,341,361,382,492, 493,495 Norwood/Stalling's Island: 110
<u>Gorgets</u> (shell) "Ornamenting"	Orange: 166 Wheeler: 227,237,324 Norwood/Stalling's Island: 110
(bone)	Wheeler: 227,247
(baked clay)	Norwood/Orange: 1,106
<u>Imitation Mammal Mandibles</u> (lithic) (decorated) "Ornamenting"	Norwood/Orange: 106,112
<u>Mammal Mandibles</u> (bone) (decorated by incision ,cut and polished) "Ornamenting"	Norwood/Orange: 106 Wheeler: 72,237,243,324,362 Norwood/Stalling's Island: 110
<u>Plummets</u> (lithic; including hematite, magnetite,steatite,limonite,galena, and sandstone: and may be either plain,decorated, grooved, or perforated) "Ornamenting"	Norwood: 3 Norwood/Orange: 43,106 Wheeler:72,202,227,232,304,305,324,330 380,381,382,480,492,493,495,517
(shell)	Norwood/Orange: 106,112
(baked clay)	Wheeler: 72,202
(copper)	Wheeler: 72
<u>Pendants</u> (lithic; includes plain, decorated, polished and perforated forms) "Ornamenting"	Norwood: 3 Norwood/Orange: 97,106 Wheeler: 72,232,237,246,324,382,493 Norwood/Stalling's Island: 555

APPENDIX B (cont'd.).

(shell)	Norwood/Orange: 106,112 Wheeler: 244,246,343,344 Norwood/Stalling's Island: 110
(bone)	Norwood/Orange: 97 Wheeler: 227,243,246,324,343,344 Norwood/Stalling's Island: 110
Discs (shell) "Ornamenting"	Orange: 98 Norwood/Orange: 74,106,112
Pins (bone) (plain or decorated by incision) "Ornamenting"	Norwood: 69 Orange: 98,99,113,167,173 Norwood/Orange: 1,2,74,75,97,106 Wheeler: 72,227,243,246,247,248,324,362 Stalling's Island: 109,213,215,216,217,220, 306,328,329,334,613 Norwood/Stalling's Island: 110
Daggers (bone) "Ornamenting"	Orange/Stalling's Island: 104
Altered Fish Bones (incised or decorated) "Ornamenting"	Norwood/Orange: 74,106,112 Wheeler: 324
Turtle/Terrapin Carapace (cut, perforated, incised or decorated) "Ornamenting"	Orange: 98 Norwood/Orange: 97,106 Wheeler: 227 Stalling's Island: 109
Raccoon and/or Otter Baculum (decorated) "Ornamenting"	Norwood/Orange: 106 Wheeler: 72,237

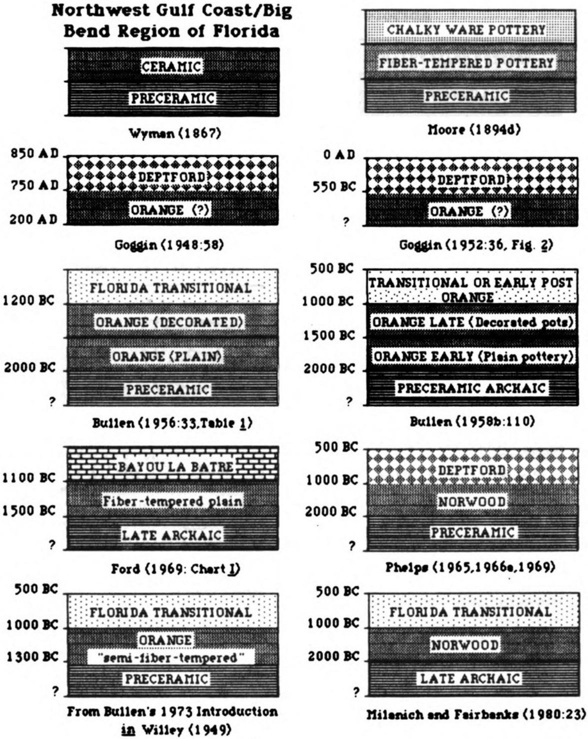
ACTIVITY CATEGORY: RELIGION

Ceremonial Paraphernalia Activity:

Tubular Pipes (lithic) (plain or decorated) "Smoking and/or curing"	Wheeler: 72,202,227,232,240,324,330,381
(baked clay)	Wheeler: 72,202,232,237,330,381

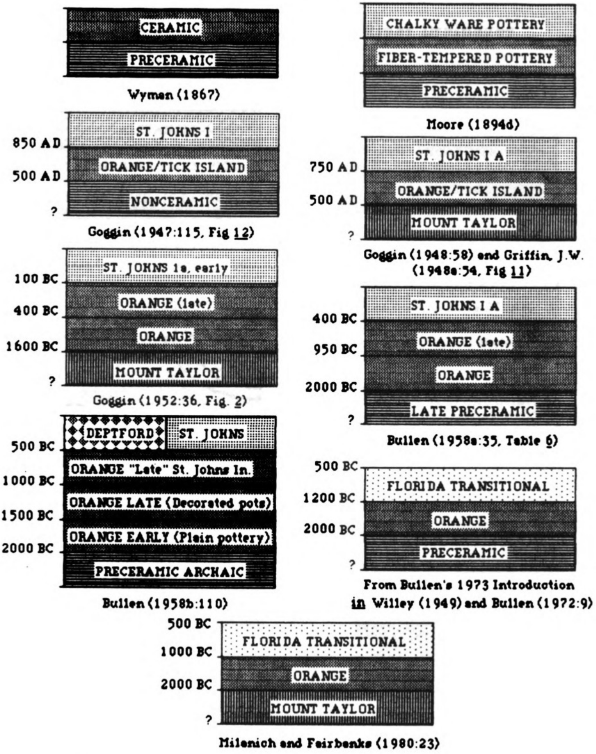
APPENDIX B (cont'd.).

(bone) (plain or decorated)	Orange: 173 Norwood/Orange: 97 Wheeler: 324
"Sucking"	
<u>Figurines</u> (baked clay) (anthropomorphic)	Wheeler: 72,232,324,495
"Divining"	



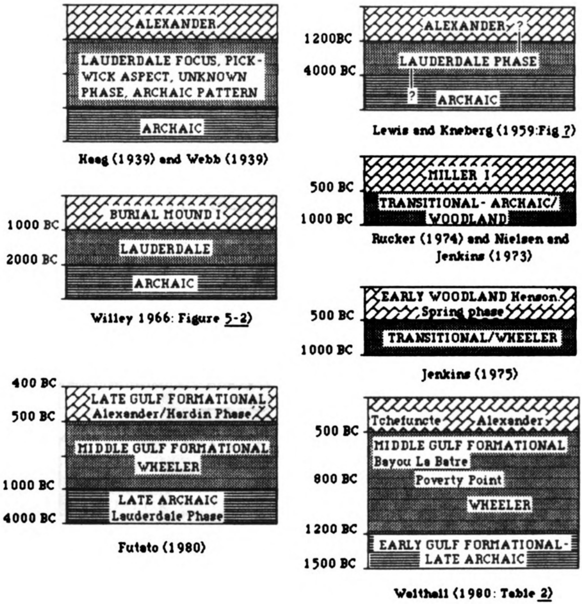
APPENDIX C. DEVELOPMENT OF NORWOOD CHRONOLOGY.

St. Johns Region of Florida



APPENDIX D. DEVELOPMENT OF ORANGE CHRONOLOGY.

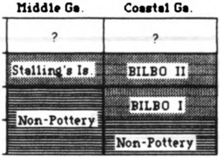
Tennessee and Tombigbee River Drainages



APPENDIX E. DEVELOPMENT OF WHEELER CHRONOLOGY.

Savannah River Valley of Georgia and South Carolina

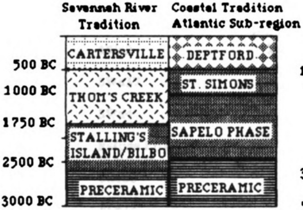
Fairbanks (1942)



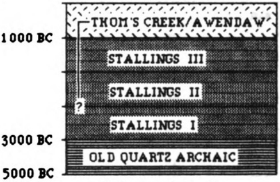
Waring circa 1945 <u>in</u> Williams (1977:100)

Williams (1977:318) Based on Waring's date and Caldwell (1952)

Ford (1969: <u>Chart 1</u>)



Milanich (1971a:154)



Stoltman (1974:4)

APPENDIX F. DEVELOPMENT OF STALLING'S ISLAND CHRONOLOGY.

APPENDIX G.

SUMMARY COMPARISON OF THE DISTRIBUTION OF NORWOOD TYPES AMONG "PURE" NORWOOD COMPONENTS.

Site No.	Site Name	NORWOOD * Plain	Incised	Punctate	Simple Stamped	Total sherds by site
		Norwood components				
3.	Battery Point	2	....	....	3	5
		(40.0)	....	....	(60.0)	....
11.	Marianna Caverns	X	....	....	....	n/a
		....	....	....	....	....
13.	Elmo's (Ullmore)	X	....	....	X	n/a
	Cove	....	....	....	....	....
16.	North side of	X	....	....	....	n/a
	Charlotte Harbor	....	....	....	....	....
19.	Suwannee	10	....	....	....	10
		(100.0)	....	....	....	....
20.	Oakland Mound	14	....	....	....	14
		(100.0)	....	....	....	....
23.	Tucker	217	....	....	41	258
		(84.0)	....	....	(16.0)	....
24.	8Wa2	X	....	....	....	n/a
		....	....	....	....	....
25.	8Wa37	X	....	....	....	n/a
		....	....	....	....	....
26.	8Wa4	X	....	....	....	n/a
		....	....	....	....	....
28.	Refuge Fire Tower	X	....	....	....	n/a
	Cemetery	....	....	....	....	....
30.	8Le23	X	....	....	....	n/a
		....	....	....	....	....
31.	8Le73	X	....	....	....	n/a
		....	....	....	....	....
32.	8Le15	X	....	....	....	n/a
		....	....	....	....	....
33.	8Le16	X	....	....	....	n/a
		....	....	....	....	....
34.	8Je15	X	....	....	....	n/a
		....	....	....	....	....
35.	8Je16	X	....	....	....	n/a
		....	....	....	....	....
36.	8Je14	X	....	....	....	n/a
		....	....	....	....	....

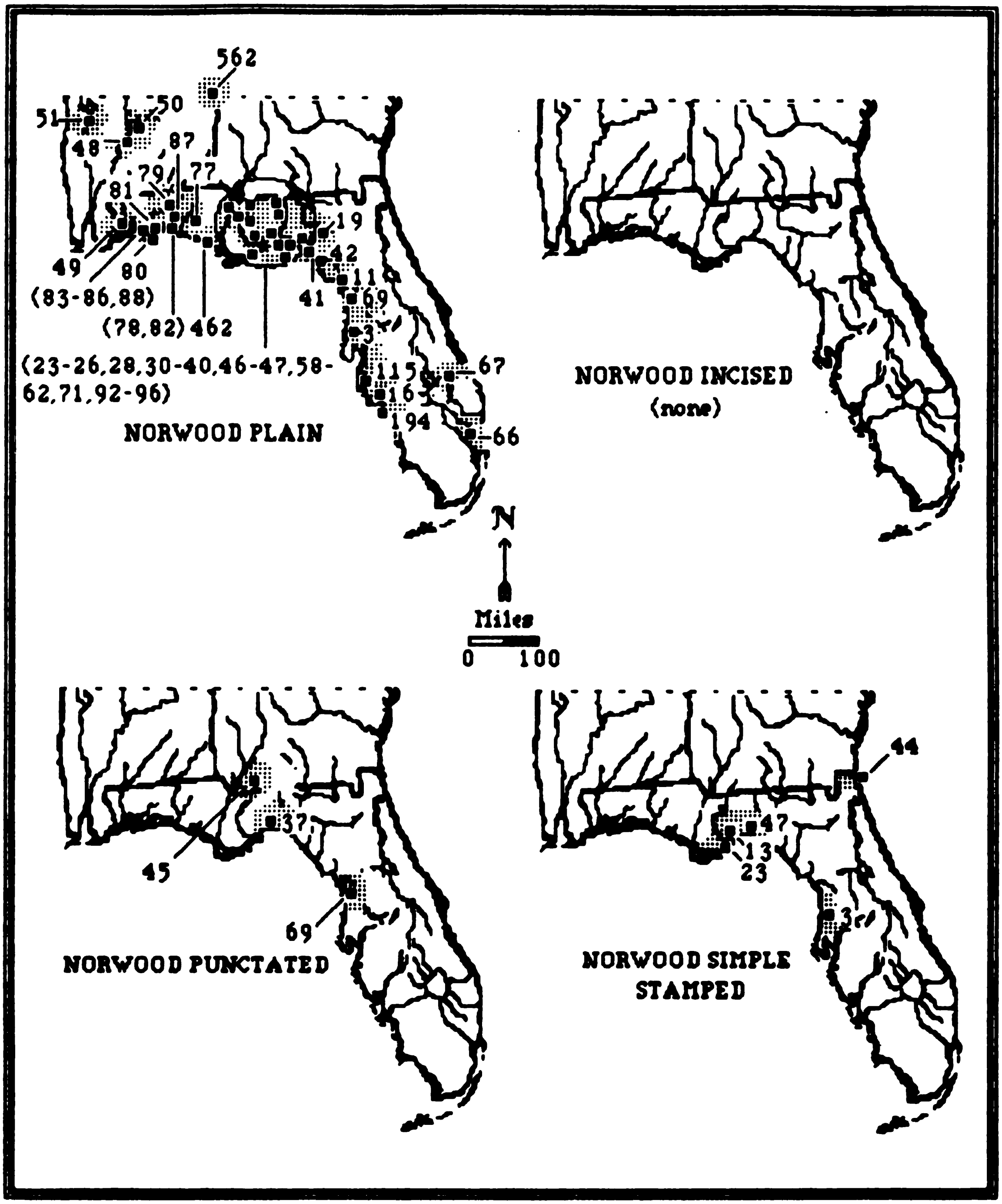
APPENDIX G (cont'd.).

37.	Lock	X	....	4	....	n/a
		....	....	....	....	....
38.	8Je52	X	....	....	....	n/a
		....	....	....	....	....
39.	Williams	X	....	....	....	n/a
		....	....	....	....	....
40.	8Ta35	X	....	....	....	n/a
		....	....	....	....	....
41.	8Ta13	X	....	....	....	n/a
		....	....	....	....	....
42.	8Ta10	X	....	....	....	n/a
		....	....	....	....	....
44.	Amelia Island	....	....	....	X	n/a
	(N36)	....	....	....	....	....
45.	Melrose	....	....	1	....	1
		....	....	(100.0)	....	....
46.	Stoutamire	X	....	....	....	n/a
		....	....	....	....	....
47.	Refuge Fire Tower	78	....	....	2	80
		(98.0)	....	....	(2.0)	....
48.	Lower Peach	1	....	....	....	1
	Tree Ferry	(100.0)	....	....	....	....
49.	Mulatto Bayou	1	....	....	....	1
		(100.0)	....	....	....	....
50.	Stallworth	2	....	....	....	2
		(100.0)	....	....	....	....
51.	M^cAlpin	3	....	....	....	3
		(100.0)	....	....	...	....
58.	8Le103	X	....	....	....	n/a
		....	....	....	....	....
59.	8Fr3	X	....	....	....	n/a
		....	....	....	....	....
60.	8Fr23	X	....	....	....	n/a
		....	....	....	....	....
61.	8Fr22	X	....	....	....	n/a
		....	....	....	....	....
62.	8Le24	X	....	....	....	n/a
		....	....	....	....	....
66.	Rolling Oaks II	2	....	....	....	2
		(100.0)	....	....	....	....
67.	NE corner of Lake	X	....	....	....	n/a
	Okeechobee	....	....	....	....	....
69.	Wash Island	4	....	1	....	5
		(80.0)	....	(20.0)	....	....
71.	Near St. Marks,	X	....	....	....	n/a
	(3837) Peabody Mus.	....	....	....	...	....
77.	Okaloosa-Walton	X	....	....	....	n/a
		....	....	....	....	....

APPENDIX G (cont'd.).

78.	McQuade Bayou	X	....	....	....	n/a
		....	....	....	....	....
79.	Eagle Creek	X	....	....	....	n/a
		....	....	....	....	....
80.	Florosa-Mary Esther	X	....	....	....	n/a
		....	....	....	....	....
81.	Ft. Walton Midden	X	....	....	....	n/a
		....	....	....	....	....
82.	Goodthing Lake	X	....	....	....	n/a
		....	....	....	....	....
83.	Bell	X	....	....	....	n/a
		....	....	....	....	....
84.	Golf Course I	X	....	....	....	n/a
		....	....	....	....	....
85.	Ruckel	X	....	....	....	n/a
		....	....	....	....	....
86.	Shirk Point	X	....	....	....	n/a
		....	....	....	....	....
87.	Indian Bayou, E.	X	....	....	....	n/a
		....	....	....	....	....
88.	W. Hulbert	X	....	....	....	n/a
		....	....	....	....	....
92.	8Li15	4	....	....	....	4
		(100.0)	....	....	....	....
93.	8Li44	5	....	....	....	5
		(100.0)	....	....	....	....
94.	8Li51	2	....	....	....	2
		(100.0)	....	....	....	....
95.	8Li56	15	....	....	....	15
		(100.0)	....	....	....	....
96.	Torreya	3	....	....	....	3
		(100.0)	....	....	....	....
115.	Palmer	11	....	....	....	11
	(Burial Mound)	(100.0)	....	....	....	....
194.	Cash Mound	2	....	....	....	2
		(100.0)	....	....	....	....
462.	Pk22	1	....	....	....	1
		(100.0)	....	....	....	....
562.	1Le17	29	....	....	....	29
		(100.0)	....	....	....	....
				Norwood sherd total		500

Key: [a] the Norwood taxon includes: semi-fiber-tempered; hybrid chalky-fiber-tempered; semi-chalky, semi-fiber-tempered; semi-fiber-tempered, semi-Pasco; Suwannee; and, Norwood types.
X means present, but number not given.
n/a means sherds of this series are reported, but the sample size is not available.
(Percentage occurrence by type given for each site in parentheses.)



APPENDIX H. SPATIAL DISTRIBUTION OF NORWOOD TYPES AMONG "PURE" NORWOOD COMPONENTS.

APPENDIX I.

SUMMARY COMPARISON OF THE DISTRIBUTION OF ORANGE TYPES AMONG "PURE" ORANGE COMPONENTS.

Site No.	Site Name	ORANGE Plain	ORANGE Incised	ORANGE Punc-tated	ORANGE Tick Island Incised	Total sherds by site
			Orange components			
7.	Tan Vat	8	....	....	....	8
		(100.0)	....	....	....	....
8.	Chattahoochee	185	1	....	....	186
	(J-5)	(99.5)	(.5)	....	....	....
10.	Chattahoochee	2	....	....	....	2
	(Ja 62)	(100.0)	....	....	....	....
14.	Neal	X	....	....	....	n/a
		....	....	....	....	....
98.	Cotton	736	206	....	....	942
		(78.1)	(21.9)	....	....	....
99.	Bluffton	807	56	....	48	911
		(88.6)	(6.1)	....	(5.3)	....
100.	Jones Creek	X	....	....	....	n/a
		....	....	....	....	....
101.	Shired Island	....	X	....	....	n/a
		....	....	....	....	....
102.	Bosquebello	X	....	....	....	n/a
	Cemetery	....	....	....	....	....
103.	Withlacoochee	X	....	....	....	n/a
	River	....	....	....	....	....
105.	Cayo Pelieu	X	....	....	....	n/a
		....	....	....	....	....
108.	Amelia Island	X	....	....	....	n/a
	N-24	....	....	....	....	....
113.	Ocala N.F.	2	....	....	....	2
	Midden No. 1	(100.0)	....	....	....	....
116.	Ft. San Carlos,	X	....	....	....	n/a
	Fernandina	....	....	....	....	....
117.	Ft. George	X	....	....	....	n/a
	Island Midden	....	....	....	....	....
119.	Shellbluff Land-	X	....	....	....	n/a
	ing, N. River	....	....	....	....	....
120.	Wrights Landing,	X	....	....	....	n/a
	N. River	....	....	....	....	....
121.	S. of Wrights	X	....	....	....	n/a
	Landing, N. River	....	....	....	....	....

APPENDIX 1 (cont'd.).

122.	Fountain of	X	....	....	....	n/a
	Youth	....	....	....	....	....
123.	Cresent Beach	X	....	....	....	n/a
	Ridge	....	....	....	....	....
124.	St. Johns Bluff	X	....	....	....	n/a
	Midden	....	....	....	....	....
125.	Ft. San Francisco	X	....	....	....	n/a
	de Pupo	....	....	....	....	....
126.	2 miles north of	X	....	....	....	n/a
	Palatka	....	....	....	....	....
127.	Palatka Midden	X	....	....	....	n/a
		....	....	....	....	....
128.	Rollestown	X	....	....	....	n/a
	(Charlotia)	....	....	....	....	....
130.	Spaulding's	X	....	....	....	n/a
	Lower Store	....	....	....	....	....
131.	1/2 Mile N of	X	....	....	....	n/a
	Horse Landing	....	....	....	....	....
132.	Mount Royal	....	....	....	X	n/a
		....	....	....	....	....
133.	Rocky Point	X	....	....	....	n/a
		....	....	....	....	....
134.	Georgetown	X	....	....	....	n/a
	Pu 46	....	....	....	....	....
135.	Georgetown	X	....	....	....	n/a
	Pu 47	....	....	....	....	....
136.	Midden 2, Salt	X	....	....	....	n/a
	Spring Run	....	....	....	....	....
137.	Midden 4, Salt	X	....	....	....	n/a
	Spring Run	....	....	....	....	....
138.	Silver Glen	....	1	....	....	1
	Spring	....	(100.0)	....	....	....
139.	Hitchens Creek	X	....	....	....	n/a
	Midden A	....	....	....	....	....
140.	Astor (Ft.	X	....	....	....	n/a
	Butler) Midden	....	....	....	....	....
141.	Lake Woodruff	X	....	....	....	n/a
		....	....	....	....	....
142.	De Leon Springs	X	....	....	....	n/a
		....	....	....	....	....
143.	Mound 1 mi. N.	X	....	....	....	n/a
	of Alexander Sp.	....	....	....	....	....
144.	Mosquito Grove	X	....	....	....	n/a
		....	....	....	....	....
145.	St. Francis	X	....	....	....	n/a
	(Old Town)	....	....	....	....	....
146.	Hawkinsville	X	....	....	....	n/a
		....	....	....	....	....

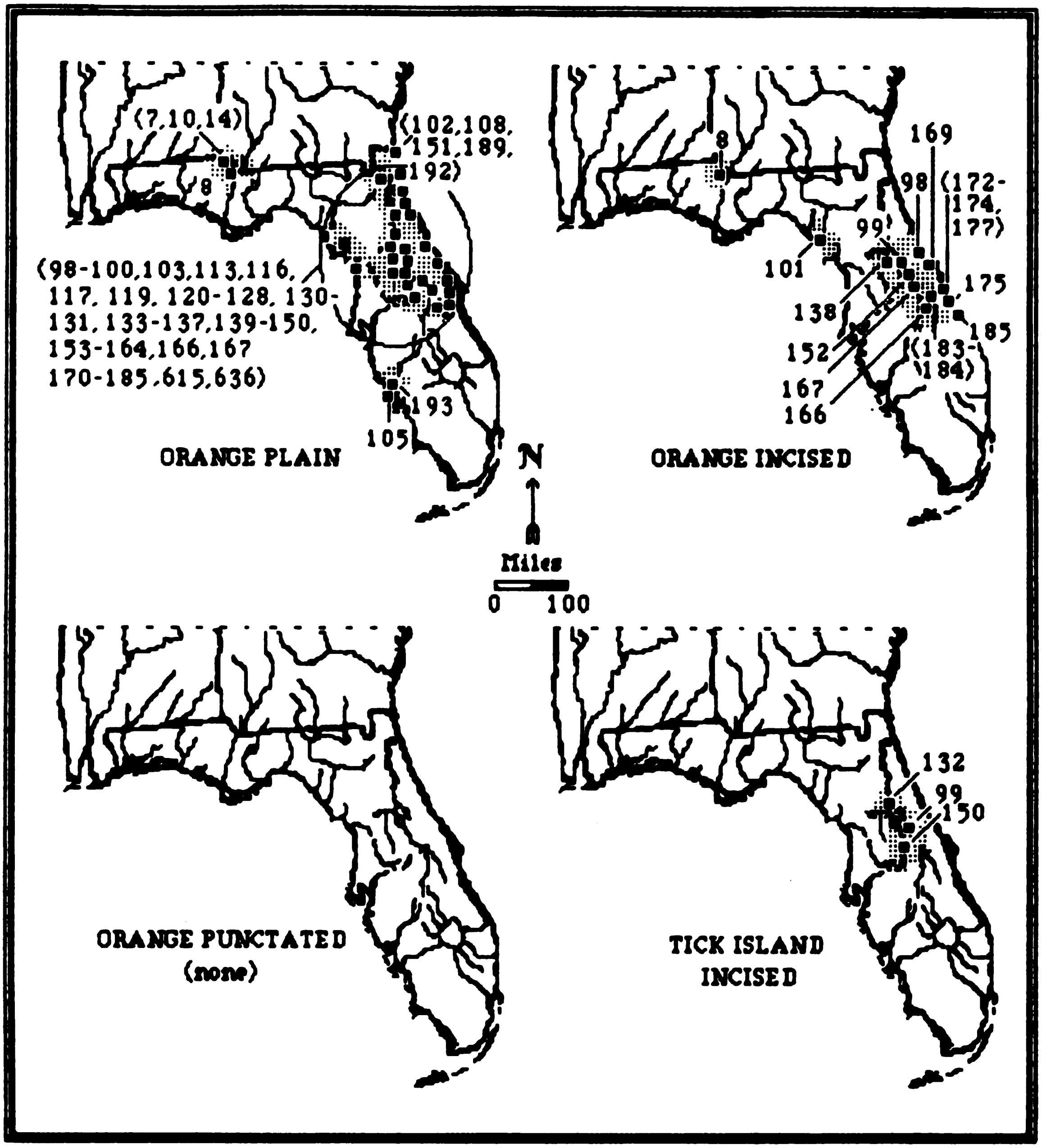
APPENDIX 1 (cont'd.).

147.	Ziegler Mound	X	....	....	....	n/a
		....	....	....	....	....
148.	Huntoon Island	X	....	....	....	n/a
		....	....	....	....	....
149.	Blue Springs	X	....	....	....	n/a
	Midden A	....	....	....	....	....
150.	Enterprise	X	....	....	X	n/a
		sample includes one complete Orange Plain vessel				
		....	....	....	....	....
151.	N-12	X	....	....	....	n/a
		....	....	....	....	....
152.	Black Hammock	....	X	....	....	n/a
		....	....	....	....	....
153.	Huntingdon's	X	....	....	....	n/a
	Midden	....	....	....	....	....
154.	Watson's	X	....	....	....	n/a
	Landing	....	....	....	....	....
155.	Cook's Ferry	X	....	....	....	n/a
	Midden	....	....	....	....	....
156.	Cook's Ferry	X	....	....	....	n/a
	Mound	....	....	....	....	....
157.	Rock House	X	....	....	....	n/a
	Mound	....	....	....	....	....
158.	South Canal	X	....	....	....	n/a
		....	....	....	....	....
159.	Old Site, Eaton	X	....	....	....	n/a
	Creek	....	....	....	....	....
160.	Eaton Creek, 1.25	X	....	....	....	n/a
	Mi. Scrub Lake	....	....	....	....	....
161.	Old Stroud Place,	X	....	....	....	n/a
	Site 1	....	....	....	....	....
162.	Priest Landing,	X	....	....	....	n/a
	Stroud Creek, #2	....	....	....	....	....
163.	Kauffman Island,	X	....	....	....	n/a
	Lake Kerr	....	....	....	....	....
164.	Ginns Grove,	X	....	....	....	n/a
	Midden B	....	....	....	....	....
166.	Mulberry Mound	8	24	....	....	32
	(Or9 and 10)	(25.0)	(75.0)	....	....	....
167.	Orange Mound	37	18	....	....	55
		(67.3)	(32.7)	....	....	....
169.	Ormond Beach	....	X	....	....	n/a
	Mound	....	....	....	....	....
170.	Burial Mound	X	....	....	....	n/a
	do.	....	....	....	....	....
171.	Rest Haven	2	....	....	....	2
		(100.0)	....	....	....	....
172.	Camp Glory	4	1	....	....	5
		(80.0)	(20.0)	....	....	....
173.	Palmer-Taylor/	53	2	....	....	55
	Shepfeld Mound	(96.4)	(3.6)	....	....	....

APPENDIX I (cont'd.).

174.	Buzzard's Roost	1	1	....	....	2
	(Heifer Mound)	(50.0)	(50.0)	....	....	....
175.	Long Bluff	1	4	....	....	5
		(20.0)	(80.0)	....	....	....
176.	Roulerson's 2	3	....	....	....	3
		(100.0)	....	....	....	....
177.	Arrowhead Ranch	66	9	....	....	75
		(88.0)	(12.0)	....	....	....
178.	Rattlesnake	1	....	....	....	1
	Hammock	(100.0)	....	....	....	....
179.	Middle Indian	3	....	....	....	3
	Field	(100.0)	....	....	....	....
180.	Br 25	X	....	....	....	n/a
		....	....	....	....	....
181.	Stuart Point	X	....	....	....	n/a
		....	....	....	....	....
182.	Bancroft	X	....	....	....	n/a
		....	....	....	....	....
183.	Herndl Beach	52	20	....	....	72
		(72.2)	(27.8)	....	....	....
184.	Bill Herndl	48	1	....	....	49
		(98.0)	(2.0)	....	....	....
185.	Br 133	40	1	....	....	41
		(97.6)	(2.4)	....	....	....
189.	Amelia Island	X	....	....	....	n/a
	N-43	....	....	....	....	....
192.	Amelia Island	X	....	....	....	n/a
	N-21	....	....	....	....	....
193.	Fish Camp	2	....	....	....	2
		(100.0)	....	....	....	....
615.	Wacissa River	X	....	....	....	n/a
		....	....	....	....	....
636.	Tischer Pond	2	....	....	....	2
		(100.0)	....	....	....	....
					Orange sherd total	2508

Key: X means present, but number not given.
n/a means sherds of this series are reported, but the sample size is not available.
(Percentage occurrence by type given for each site in parentheses.)



APPENDIX J. SPATIAL DISTRIBUTION OF ORANGE TYPES AMONG "PURE" ORANGE COMPONENTS.

APPENDIX K.

SUMMARY COMPARISON OF THE DISTRIBUTION OF NORWOOD AND ORANGE TYPES AMONG "MIXED" NORWOOD/ORANGE COMPONENTS.

	NORWOOD				ORANGE				Total sherds by site
Site No.	Pl.	In.	Punct.	Sim. St'd.	Pl.	In.	Punct.	Tick Is. In.	
					Norwood/Orange components				
1.	19	2	....	....	464	307	2	....	794
	(2.5)	(.25)	....	....	(59.0)	(38.0)	(.25)	....	....
2.	15	7	....	....	259	150	....	....	431
	(3.4)	(1.6)	....	....	(60.0)	(35.0)	....	....	....
4.	1	....	....	5	38	....	....	....	44
	(2.2)	....	....	(11.4)	(86.4)	....	....	....	....
9.	4	2	....	....	1	3	1	....	11
	(36.4)	(18.1)	....	....	(9.1)	(27.3)	(9.1)	....	....
15.	20	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
17.	....	....	....	1	2	3	....	....	6
	....	....	....	(16.6)	(33.4)	(50.0)	....	....	....
18.	6	....	....	....	61	15	....	....	82
	(7.3)	....	....	....	(74.4)	(18.3)	....	....	....
43.	15	....	....	....	396	....	....	....	411
	(4.0)	....	....	....	(96.0)	....	....	....	....
52.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
53.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
54.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
55.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
56.	3	....	....	....	73	23	....	1	100
	(3.0)	....	....	....	(73.0)	(23.0)	....	(1.0)	....
64.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
65.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
70.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
73.	1	....	....	....	8	....	....	....	9
	(11.1)	....	....	....	(88.9)	....	....	....	....
74.	3	....	....	....	14	9	....	....	26
	(11.6)	....	....	....	(53.9)	(34.6)	....	....	....

APPENDIX K (cont'd.).

75.	1	....	....	....	3395	1327	36	....	4759
	(.02)	....	....	....	(73.1)	(27.9)	(.76)	....	....
76.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
97.	X	2	....	....	8452	642	....	....	9096
	....	(.02)	....	....	(92.9)	(7.0)	....	....	....
106.	3	2	....	1	107	377	....	1	491
	(.61)	(.40)	....	(.20)	(21.8)	(76.8)	....	(.20)	....
112.	19	....	....	....	47	2	1	....	69
	(27.6)	....	....	....	(68.1)	(2.9)	(1.4)	....	....
114.	1	....	....	....	3	....	....	....	4
	(25.0)	....	....	....	(75.0)	....	....	....	....
191.	1	....	....	....	1	....	....	....	2
	(50.0)	....	....	....	(50.0)	....	....	....	....
	Norwood sherd total			134		Orange sherd total			16,221
				(.8)					(99.2)
					Norwood/Orange sherd total				16,355

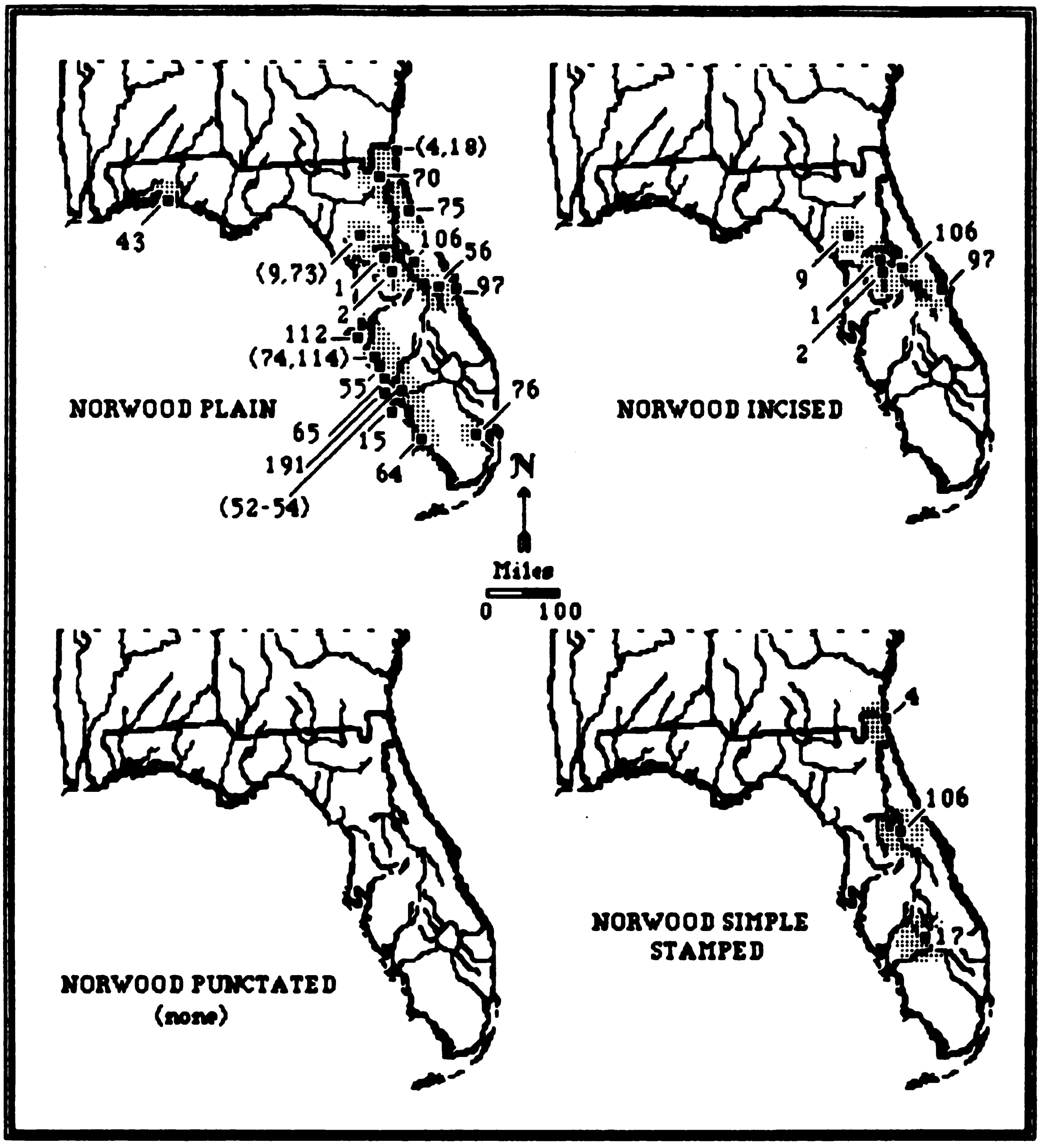
Key: Ceramic type abbreviations are as follows: Pl. means Plain, In. means Incised, Punct. means Punctate(d), Tick Is. In. means Tick Island Incised, and Sim. St'd. means Simple Stamped.

X means present, but number not given.

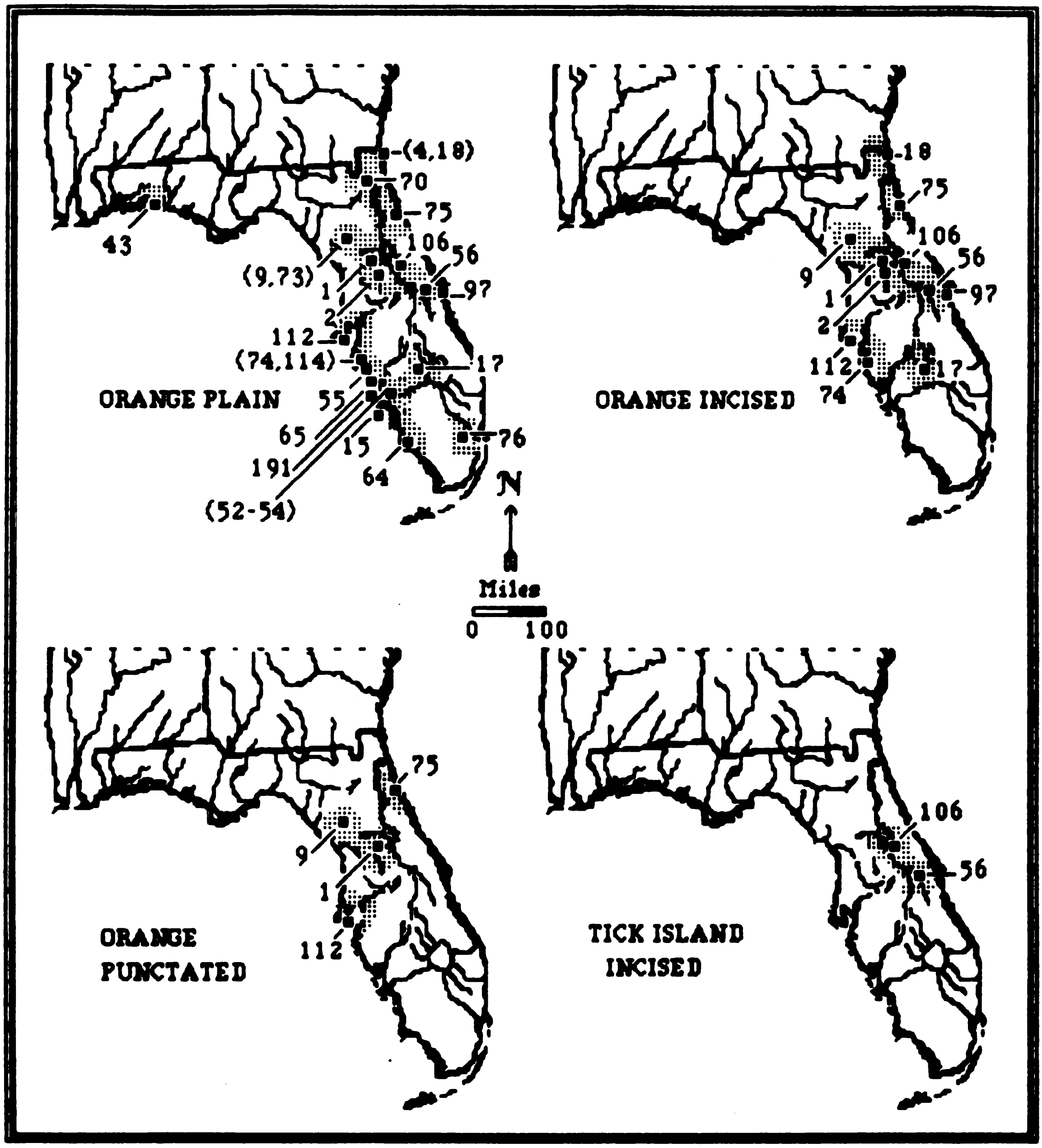
n/a means sherds of this series are reported but the sample size is not available. (Percentage occurrence by type given for each site in parentheses.)

Norwood/Orange sites:

1. Sunday Bluff
2. Colby
4. Old Town, Fernandina
9. Whitehurst, Bolen Bluff
15. Useppa Island
17. Fort Center
18. Amelia Island, N-44
43. Alligator Lake
52. Charlotte Harbor
53. Charlotte Harbor
54. Charlotte Harbor
55. Angers Shell Heap, Englewood
56. Paw Paw Midden
64. Marco Island
65. Midden South of Englewood
70. Near Jacksonville
73. Camp Ranch, Bolen Bluff
74. Palmer (Hill Cottage Midden)
75. Summer Haven
76. Peace Camp
97. South Indian Field
106. Tick Island Shell Mound
112. Canton Street
114. Palmer site (Varmo Midden)
191. Turtle Bay 2



APPENDIX L. SPATIAL DISTRIBUTION OF NORWOOD TYPES AMONG "MIXED" NORWOOD/ORANGE COMPONENTS.



APPENDIX M. SPATIAL DISTRIBUTION OF ORANGE TYPES AMONG "MIXED" NORWOOD/ORANGE COMPONENTS.

APPENDIX N.

SUMMARY COMPARISON OF THE DISTRIBUTION OF WHEELER TYPES AMONG "PURE" WHEELER COMPONENTS.

Site No.	Site Name	WHEELER				Total sherds by site
		Plain	Punctated	Simple Stamped	Dentate Stamped	
		Wheeler components				
12.	Bryant's	36	....	....	....	36
	Landing #3	(100.0)	....	....	....	....
57.	Wills	X	X	....	....	n/a
		....	....	....	....	....
63.	Bayou Jasmine	X	....	....	....	n/a
		....	....	....	....	....
68.	Linsley	1	....	....	....	1
		(100.0)	....	....	....	....
72.	Poverty Point	110	20	1	....	136
		(81.0)	(14.7)	(.7)	....	....
		(also; [1] incised in a triangle motif; [1] finger fluted; and [3] fabric impressed on the exterior and interior)				
165.	Bayou La Batre Midden	11	....	....	....	11
		(100.0)	....	....	....	....
202.	Jaketown	2	3	1	....	6
		(40.0)	(50.0)	(10.0)	....	....
211.	Garner	....	1	....	....	1
		....	(100.0)	....	....	....
227.	Perry	X	X	X	X	909
		....	....	....	....	....
230.	Withers	....	1	....	....	1
		....	....	....	....	....
231.	Yager	....	1	....	....	1
		....	....	....	....	....
232.	Norman	....	X	....	....	n/a
		....	....	....	....	....
233.	Wilnot	....	1	....	....	1
		....	....	....	....	....
234.	Fennel	X	....	....	....	n/a
		....	....	....	....	....
236.	Graham Cave	1	....	....	....	1
		(100.0)	....	....	....	....
237.	Little Woods Middens	6	....	....	....	6
		(100.0)	....	....	....	....

APPENDIX N (cont'd.).

239.	M^{c}Kelvey Mound	12	12	....	....	24
		(50.0)	(50.0)	....	....	....
240.	Smithsonia Landing	23	....	....	....	23
		(100.0)	....	....	....	....
241.	Seven Mile Island	1	....	....	....	1
		(100.0)	....	....	....	....
242.	Rhea County	X	....	....	....	n/a
		....	....	....	....	....
243.	Bluff Creek	234	166	24	232	657
		(35.6)	(25.3)	(3.6)	(35.5)	....
244.	O'Neal	X	....	....	X	12
		....	....	....	....	....
245.	Meander Scar	23	....	....	....	23
		(100.0)	....	....	....	....
246.	Long Branch	....	....	52	....	52
		....	....	(100.0)	....	....
247.	Union Hollow	46	....	....	....	46
		(100.0)	....	....	....	....
248.	Kroger's Island	42	....	....	....	42
		(100.0)	....	....	....	....
249.	Mulberry Creek	36	....	....	....	36
		(100.0)	....	....	....	....
250.	Georgetown Landing	10	....	....	....	10
		(100.0)	....	....	....	....
251.	Mg^{v}2	....	....	1	2	3
		....	....	(33.3)	(66.7)	....
252.	Lu^{o}86	15	X	9	27	51
		(29.4)	....	(17.6)	(52.9)	....
253.	Ct^{v}17	32	X	2	26	60
		(53.3)	....	(3.3)	(43.3)	....
254.	Walker Co., Ala.	X	....	....	....	n/a
		....	....	....	....	....
255.	Alexander Mound	X	....	....	....	n/a
		....	....	....	....	....
259.	22Mo510	X	....	....	....	42
		n/a	....	....	....	....
260.	22Mo548	X	....	....	....	77
		n/a	....	....	....	....
262.	22Mo608	2	....	....	....	2
		(100.0)	....	....	....	....
263.	22Mo640	X	....	....	....	14
		n/a	....	....	....	....
264.	22Mo650	X	....	....	....	74
		n/a	....	....	....	....
265.	22Mo656	X	....	....	....	14
		n/a	....	....	....	....
266.	22Mo710	X	....	....	....	194
		n/a	....	....	....	....
267.	22Mo728	2	....	....	....	2
		(100.0)	....	....	....	....

APPENDIX N (cont'd.).

268.	22Mo735	2	....	....	....	2
		(100.0)	....	....	....	....
269.	22Mo750	8	....	....	....	8
		(100.0)	....	....	....	....
270.	22Mo751	1	....	....	....	1
		(100.0)	....	....	....	....
271.	22Mo752	3	....	....	....	3
		(100.0)	....	....	....	....
272.	22Mo768	X	....	....	....	341
		n/a	....	....	....	....
273.	22Mo802	X	....	....	....	41
		n/a	....	....	....	....
274.	22Mo819	X	....	....	....	27
		n/a	....	....	....	....
275.	22Mo824	1	....	....	....	1
		(100.0)	....	....	....	....
276.	22Mo826	3	....	....	....	3
		(100.0)	....	....	....	....
278.	22Mo833	X	....	....	....	n/a
		....	....	....	....	....
279.	Lo553	X	....	....	....	335
		n/a	....	....	....	....
280.	Lo564	4	....	....	....	4
		(100.0)	....	....	....	....
281.	Lo682	1	....	....	....	1
		(100.0)	....	....	....	....
282.	Lo692	X	....	....	....	7
		n/a	....	....	....	....
283.	Lo703	X	....	....	....	5
		n/a	....	....	....	....
284.	Cl527	X	....	....	....	126
		n/a	....	....	....	....
285.	1Pi83	1	....	....	....	1
		(100.0)	....	....	....	....
286.	22Ja568	3	....	....	....	3
		(100.0)	....	....	....	....
287.	22Ja588	5	....	....	....	5
		(100.0)	....	....	....	....
289.	22Ja569	4	....	....	....	4
		(100.0)	....	....	....	....
291.	22Ja587	6	1	....	....	7
		(86.0)	(14.0)	....	....	....
293.	22Ja600	3	....	....	....	3
		(100.0)	....	....	....	....
294.	22Ja604	1	....	....	....	1
		(100.0)	....	....	....	....
295.	Pharr Mound (E)	4	....	....	....	4
		(100.0)	....	....	....	....

APPENDIX N (cont'd.).

296.	Pharr Mounds	1	....	....	....	1
	(Habitation area)	(100.0)	....	....	....	....
304.	A site near	X	X	....	....	n/a
	Pearlington	....	....	....	....	....
305.	Ruth Canal	X	....	....	....	n/a
		....	....	....	....	....
316.	1Ds53	36	....	....	....	36
		(100.0)	....	....	....	....
318.	Crump	35	3	....	16	54
		(65.0)	(5.0)	....	(30.0)	....
319.	Stucks Bluff	....	2	....	....	2
	Rock Shelter	....	(100.0)	....	....	....
321.	Snake Creek	X	....	....	....	n/a
		....	....	....	....	....
322.	Westmoreland-	X	....	....	....	n/a
	Barber	....	....	....	....	....
323.	Brans Camp	X	....	....	....	n/a
		....	....	....	....	....
324.	Claiborne	98	11	....	....	109
		(90.0)	(10.0)	....	....	....
325.	Spring Creek	X	....	....	....	n/a
		....	....	....	....	....
329.	MLe18	1	....	....	....	1
		(100.0)	....	....	....	....
330.	Teoc Creek	X	X	....	....	n/a
		....	....	....	....	....
332.	Stanfield-Worley	X	X	X	X	n/a
	Bluff shelter	....	....	....	....	....
333.	Little Bear Creek	X	....	....	....	n/a
		....	....	....	....	....
334.	Metzger	X	X	X	X	n/a
		....	....	....	....	....
335.	A site on Broken	X	....	....	....	n/a
	Pumpkin Creek	....	....	....	....	....
336.	MLe53	32	....	....	....	32
		(100.0)	....	....	....	....
337.	MLe56	8	....	....	....	8
		(100.0)	....	....	....	....
338.	MLe62	1	9	....	....	10
		(10.0)	(90.0)	....	....	....
339.	Miller	X	....	....	....	n/a
		....	....	....	....	....
340.	Womack Mound	5	....	....	....	5
		(100.0)	....	....	....	....
342.	1Gr50	4	....	....	....	6
		also [2] eroded				
		(66.6)	....	....	....	....
345.	Doherty	X	....	....	....	n/a
		....	....	....	....	....

APPENDIX N (cont'd.).

350.	Tchefuncte	X	....	....	....	n/a
		note: some fiber-tempered plain included in Tchefuncte Plain sherd count (Ford and Quimby 1945:69-70).				
		....	....	....	....	....
360.	Buzzard Roost	X	....	....	....	n/a
	Creek Bluff shelter	....	....	....	....	....
361.	A shell midden in	X	....	....	....	n/a
	Perry Co., Tenn.	note: [1] complete flat-based bowl.				
		....	....	....	....	....
362.	Whitesburg Bridge	58	....	1	1	60
		(97.0)	....	(1.5)	(1.5)	....
363.	Flint River	5	....	1	....	6
		(83.3)	....	(16.6)	....	....
364.	M^{c}Quorquodale Mound	5	....	....	....	5
		(100.0)	....	....	....	....
365.	40Sy40	2	....	....	....	2
		(100.0)	....	....	....	....
366.	Kays Landing	X	....	....	....	2
		....	....	....	....	....
367.	West Cuba Landing	X	....	....	....	4
		....	....	....	....	....
368.	40Hr203	X	....	....	....	n/a
		....	....	....	....	....
369.	40Hr205	X	....	....	....	n/a
		....	....	....	....	....
370.	40Hr206	X	....	....	....	n/a
		....	....	....	....	....
372.	1Pi15	X	....	....	....	n/a
		....	....	....	....	....
373.	Hobbs Island	X	....	....	....	n/a
		....	....	....	....	....
377.	Long Branch	X	....	....	....	n/a
		....	....	....	....	....
378.	Nebo Hill	85	....	....	....	85
		(100.0)	....	....	....	....
379.	Ft. Walton area site,	X	....	....	....	n/a
	60 mi. E. of Mobile Bay	....	....	....	....	....
380.	Stainback	X	....	....	....	n/a
		....	....	....	....	....
381.	Asack	X	....	....	....	n/a
		....	....	....	....	....
382.	Falls	X	....	....	....	n/a
		....	....	....	....	....
383.	Hill	X	....	....	....	n/a
		....	....	....	....	....
384.	Six Mile Bayou	X	....	....	....	n/a
		....	....	....	....	....
385.	Abby	1	....	....	....	1
		(100.0)	....	....	....	....

APPENDIX N (cont'd.).

386.	Ma^{v}10	X	....	....	X	n/a
		....	....	....	....	....
387.	Ja^{v}28A	10	....	1	....	11
		(91.0)	....	(9.0)	....	....
388.	Ja^{v}28	1	....	....	....	1
		(100.0)	....	....	....	....
389.	Ja^{0}176	1	....	....	....	1
		(100.0)	....	....	....	....
390.	Ja^{v}176A	1	....	....	....	1
		(100.0)	....	....	....	....
391.	Ma^{v}32	....	....	4	....	4
		....	....	(100.0)	....	....
392.	Ja^{v}102	4	....	....	....	4
		(100.0)	....	....	....	....
393.	Turner-Casey	X	....	....	....	n/a
		....	....	....	....	....
394.	40Hr212	X	....	....	....	n/a
		....	....	....	....	....
395.	40Hr219	X	....	....	....	n/a
		....	....	....	....	....
396.	40Hr220	X	....	....	....	n/a
		....	....	....	....	....
397.	40Hr221	X	....	....	....	n/a
		....	....	....	....	....
398.	40Hr223	X	....	....	....	n/a
		....	....	....	....	....
399.	40Hr225	X	....	....	....	n/a
		....	....	....	....	....
400.	40Hr236	X	....	....	....	n/a
		....	....	....	....	....
401.	40Hr240	X	....	....	....	n/a
		....	....	....	....	....
402.	40Hr258	X	....	....	....	n/a
		....	....	....	....	....
403.	Mingo Mound	X	....	....	....	n/a
		....	....	....	....	....
405.	22Mo661	1	....	....	....	1
		(100.0)	....	....	....	....
406.	22Mo669	2	....	....	....	2
		(100.0)	....	....	....	....
407.	22Mo675	1	....	....	....	1
		(100.0)	....	....	....	....
408.	22Mo700	1	....	....	....	1
		(100.0)	....	....	....	....
409.	22Mo746	2	....	....	....	2
		(100.0)	....	....	....	....
410.	22Mo774	1	....	....	....	1
		(100.0)	....	....	....	....

APPENDIX N (cont'd.).

411.	22Mo805	1	....	....	....	1
		(100.0)	....	....	....	....
412.	22Lo526b	X	....	....	....	33
		n/a	....	....	....	....
413.	22Lo530	1	....	....	....	1
		(100.0)	....	....	....	....
414.	22Lo538	1	....	....	....	1
		(100.0)	....	....	....	....
415.	22Lo543	1	....	....	....	1
		(100.0)	....	....	....	....
416.	22Lo544	1	....	....	....	1
		(100.0)	....	....	....	....
417.	22Lo551	1	....	....	....	1
		(100.0)	....	....	....	....
418.	22Lo559	1	....	....	....	1
		(100.0)	....	....	....	....
419.	22Lo580	X	....	....	....	6
		n/a	....	....	....	....
420.	22Lo599	X	....	....	....	10
		n/a	....	....	....	....
421.	22Lo600	X	....	....	....	313+
		n/a	....	....	....	....
422.	22Lo618	3	....	....	....	3
		(100.0)	....	....	....	....
423.	22Lo670	2	....	....	....	2
		(100.0)	....	....	....	....
424.	22Lo672	1	....	....	....	1
		(100.0)	....	....	....	....
425.	22Cl528	X	....	....	....	32
		n/a	....	....	....	....
426.	22Cl814	X	....	....	....	26
		n/a	....	....	....	....
427.	22Lo524	4	....	....	....	4
		(100.0)	....	....	....	....
428.	22Lo604	X	....	....	....	58
		n/a	....	....	....	....
429.	22Lo605	X	....	....	....	22
		n/a	....	....	....	....
430.	22Lo611	1	....	....	....	1
		(100.0)	....	....	....	....
431.	22Lo616	2	....	....	....	2
		(100.0)	....	....	....	....
432.	22Lo617	X	....	....	....	303
		n/a	....	....	....	....
433.	22It539	X	....	....	....	707
		n/a	....	....	....	....
434.	22It541	1	....	....	....	1
		(100.0)	....	....	....	....
435.	22It560	1	....	....	....	1
		(100.0)	....	....	....	....

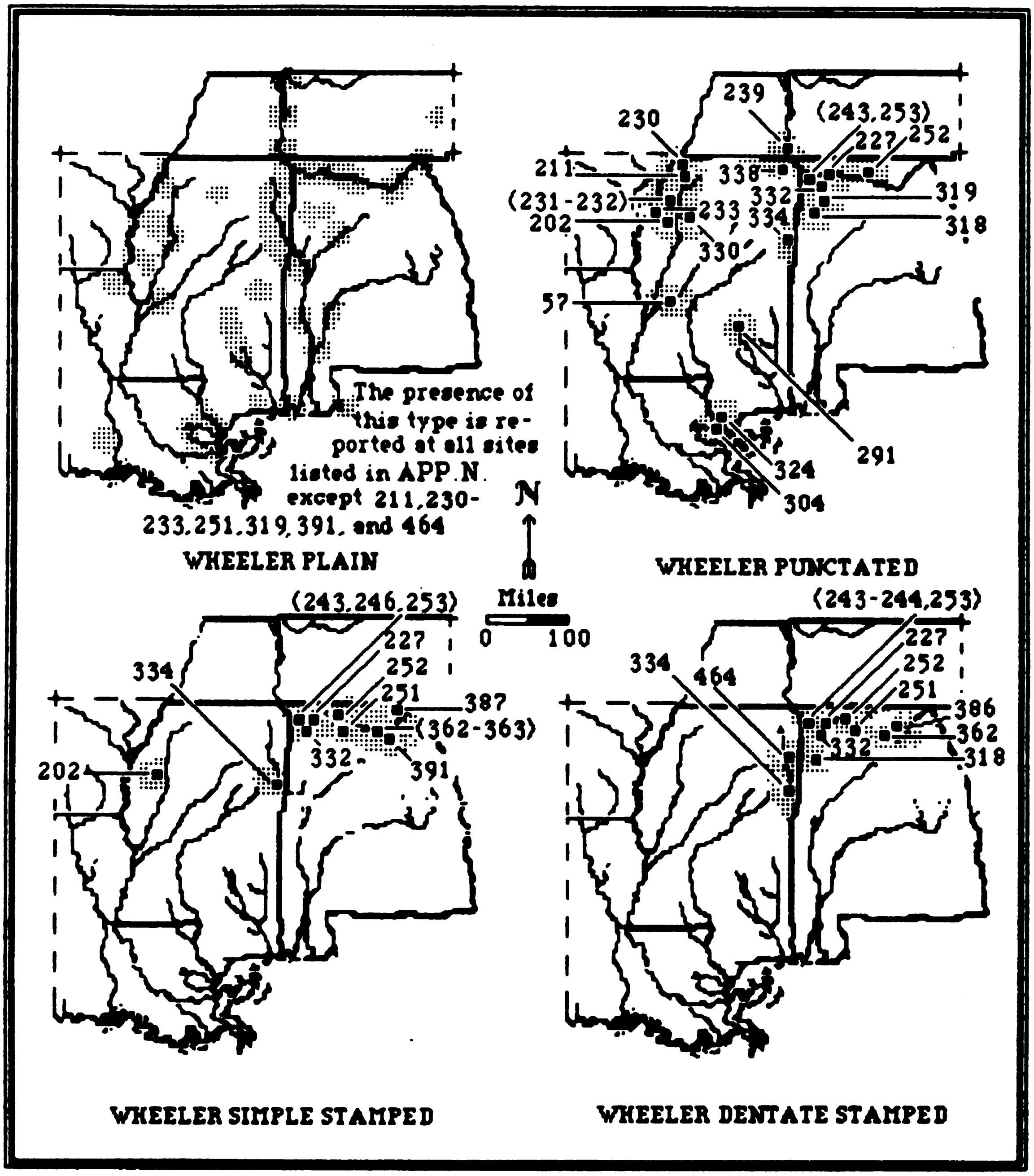
APPENDIX N (cont'd.).

436.	22It563	X	....	....	....	33
		n/a	....	....	....	....
437.	22It565	5	....	....	....	5
		(100.0)	....	....	....	....
438.	22It567	2	....	....	....	2
		(100.0)	....	....	....	....
439.	22It576	X	....	....	....	2,355
		n/a	....	....	....	....
440.	22It580	2	....	....	....	2
		(100.0)	....	....	....	....
441.	22It590	X	....	....	....	558
		n/a	....	....	....	....
442.	22It621	X	....	....	....	937
		n/a	....	....	....	....
443.	22It622	X	....	....	....	23
		n/a	....	....	....	....
444.	22It623	X	....	....	....	143
		n/a	....	....	....	....
445.	22It624	X	....	....	....	300
		n/a	....	....	....	....
446.	22Ts954	3	....	....	....	3
		(100.0)	....	....	....	....
447.	22Ts959	3	....	....	....	3
		(100.0)	....	....	....	....
448.	22Ts976	1	....	....	....	1
		(100.0)	....	....	....	....
449.	22Ts992	X	....	....	....	8
		n/a	....	....	....	....
450.	22Ts1006	3	....	....	....	3
		(100.0)	....	....	....	....
451.	22Ts578	1	....	....	....	1
		(100.0)	....	....	....	....
452.	22Ok549	1	....	....	....	1
		(100.0)	....	....	....	....
453.	22Ok580	X	....	....	....	7
		n/a	....	....	....	....
454.	1Pi503	X	....	....	....	20
		n/a	....	....	....	....
464.	MCa4	....	....	....	X	n/a
		....	....	....	....	....
480.	Neill	X	....	....	....	n/a
		....	....	....	....	....
482.	Hebe	X	....	....	....	n/a
		....	....	....	....	....
492.	McGary	X	....	....	....	n/a
		....	....	....	....	....
493.	Choctaw	X	....	....	....	n/a
	Poverty Point	....	....	....	....	....
495.	Tackett	X	....	....	....	n/a
		....	....	....	....	....

APPENDIX N (cont'd.).

515.	Joe George	X	....	....	....	n/a
		....	....	....	....	....
516.	Goss	X	....	....	....	n/a
		....	....	....	....	....
517.	Applestreet	X	....	....	....	n/a
		....	....	....	....	....
624.	Lu^{O} 85	X	....	....	....	n/a
		....	....	....	....	....
629.	Li^{V} 36	X	....	....	....	n/a
		....	....	....	....	....
					Wheeler sherd total	12,058

Key: X means present, but number not given.
n/a means sherds of this series are reported, but the sample size is not available.
(Percentage occurrence by type given for each site in parentheses.)



APPENDIX O. SPATIAL DISTRIBUTION OF WHEELER TYPES AMONG "PURE" WHEELER COMPONENTS.

APPENDIX P.

SUMMARY COMPARISON OF THE DISTRIBUTION OF NORWOOD AND WHEELER TYPES AMONG "MIXED" NORWOOD/WHEELER COMPONENTS.

	NORWOOD * 1				WHEELER * 2				Total sherds
Site No.	Pl.	In.	Punct.	Sim. St'd.	Pl.	Punct.	Sim. St'd.	Dentate Stamped	by site
				Norwood/Wheeler components					
235.	X	7	....	2	235	39	....	....	475
	also [192] indeterminate specimens								
	....	(1.5)	....	(.4)	(49.0)	(8.0)	....	....	....
261.	4	....	1	....	30	2	....	....	37
	(10.8)	....	(2.7)	....	(81.0)	(5.4)	....	....	....
277.	X	....	....	....	X	....	....	....	195
	....	....	....	....	....	....	....	....	....
288.	3	....	....	....	....	....	....	....	3
	(100.0)	....	....	....	....	....	....	....	....
290.	21	....	....	....	113	....	....	....	134
	(15.6)	....	....	....	(84.3)	....	....	....	....
292.	1	....	....	....	1	....	....	....	2
	(50.0)	....	....	....	(50.0)	....	....	....	....
317.	43	....	2	6	....	....	....	....	106
	also [47] indeterminate specimens								
	(40.6)	....	(1.8)	(5.6)	....	....	....	....	....
320.	1	....	....	....	....	....	....	....	1
	(100.0)	....	....	....	....	....	....	....	....
331.	63	1	11	23	281	....	....	23	869
	sample includes: [467] sherdlets and eroded specimens, and [1] reconstructable Wheeler Plain beaker.								
	(7.2)	(.1)	(1.2)	(2.6)	(32.3)	....	....	(2.6)	....
341.	32	....	....	....	89	....	....	....	318
	sample includes: [197] sherdlets								
	(10.0)	....	....	....	(28.0)	....	....	....	....
343.	9	....	....	....	7	....	....	....	16
	(56.3)	....	....	....	(43.7)	....	....	....	....
344.	190	....	9	....	219	....	....	2	866
	sample includes: [446] sherdlets and eroded sherds								
	(21.9)	....	(1.0)	....	(25.2)	....	....	(.2)	....
352.	8	....	....	....	....	....	....	....	13
	sample includes [5] indeterminate								
	(61.5)	....	....	....	....	....	....	....	....
353.	....	....	1	....	....	....	....	....	1
	....	....	(100.0)	....	....	....	....	....	....

APPENDIX P (cont'd.).

354.	10	....	....	....	....	....	....	....	15
	sample includes [5] indeterminate								
	(66.6)	....	....	....	....	....	....	....	....
355.	4	....	....	....	....	....	....	....	4
	(100.0)	....	....	....	....	....	....	....	....
356.	1	....	....	....	....	....	....	....	1
	(100.0)	....	....	....	....	....	....	....	....
357.	1	....	1	....	....	....	....	....	2
	(50.0)	....	(50.0)	....	....	....	....	....	....
358.	29	....	4	....	....	....	....	....	63
	sample includes [30] indeterminate								
	(46.0)	....	(6.3)	....	....	....	....	....	....
359.	1	....	....	....	....	....	....	....	1
	(100.0)	....	....	....	....	....	....	....	....
481.	1	....	....	....	....	....	....	....	n/a
	(100.0)	....	....	....	....	....	....	....	....

Norwood sherd total 485 (31.8)   Wheeler sherd total 1041 (68.2)

Norwood/Wheeler sherd total 1526

Key: Ceramic type abbreviations are as follows: Pl. means Plain, In. means Incised, Punct. means Punctate(d), and Sim. St'd. means Simple Stamped.

X means present, but number not given.

n/a means sherds of this series are reported but the sample size is not available.

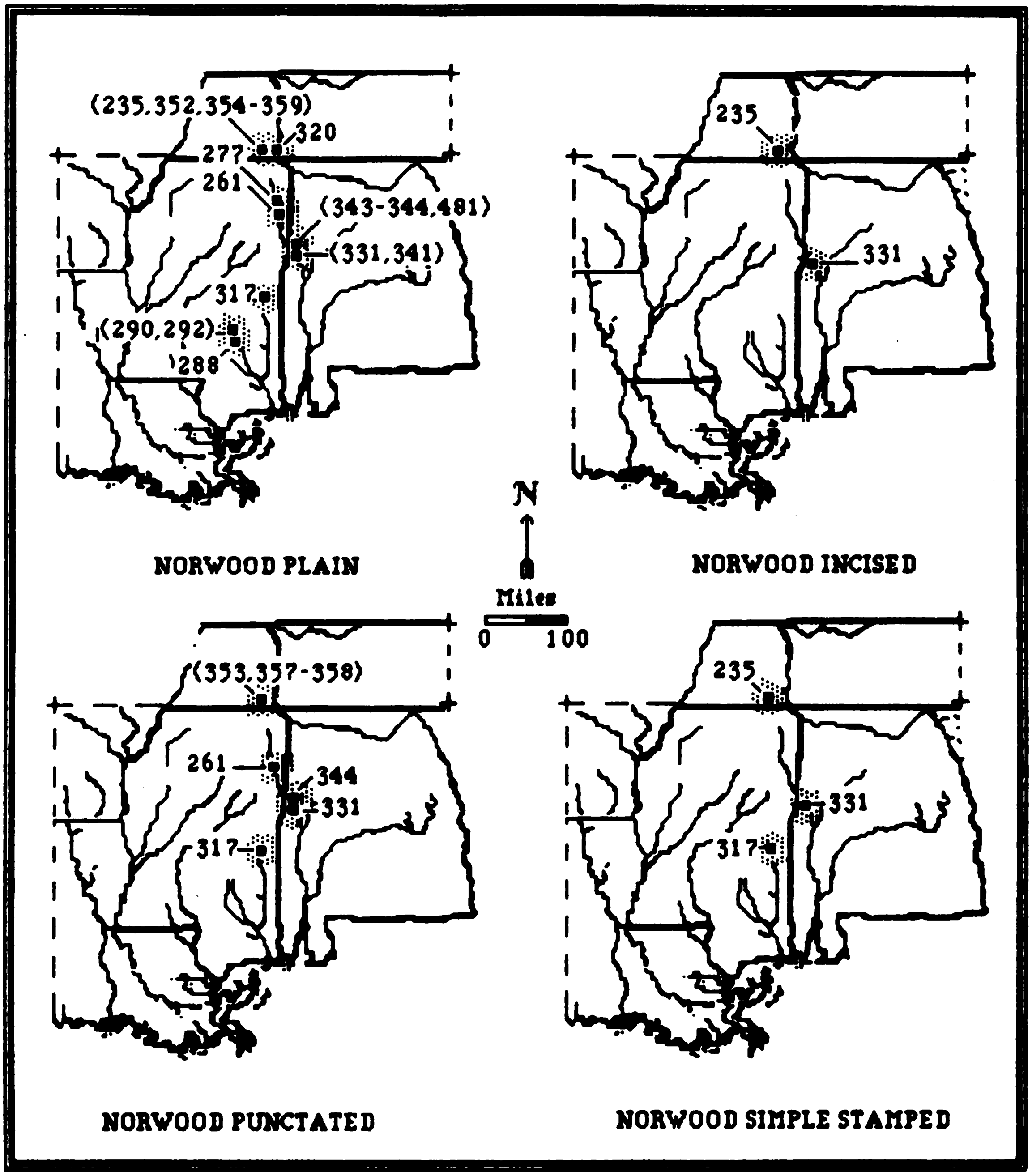
(Percentage occurrence by type given for each site in parentheses.)

* 1 Norwood category includes "sandy fiber-tempered", "Fiber/Sand tempered", "Fiber-sand tempered", Wheeler sherds with "very sandy paste", "Wheeler Plain Var. Noxubee", "Wheeler Punctated Vars. Dancy, and Panola ", "Wheeler Simple Stamped Var. Owl Creek ", and "semi-fiber-tempered" specimens.

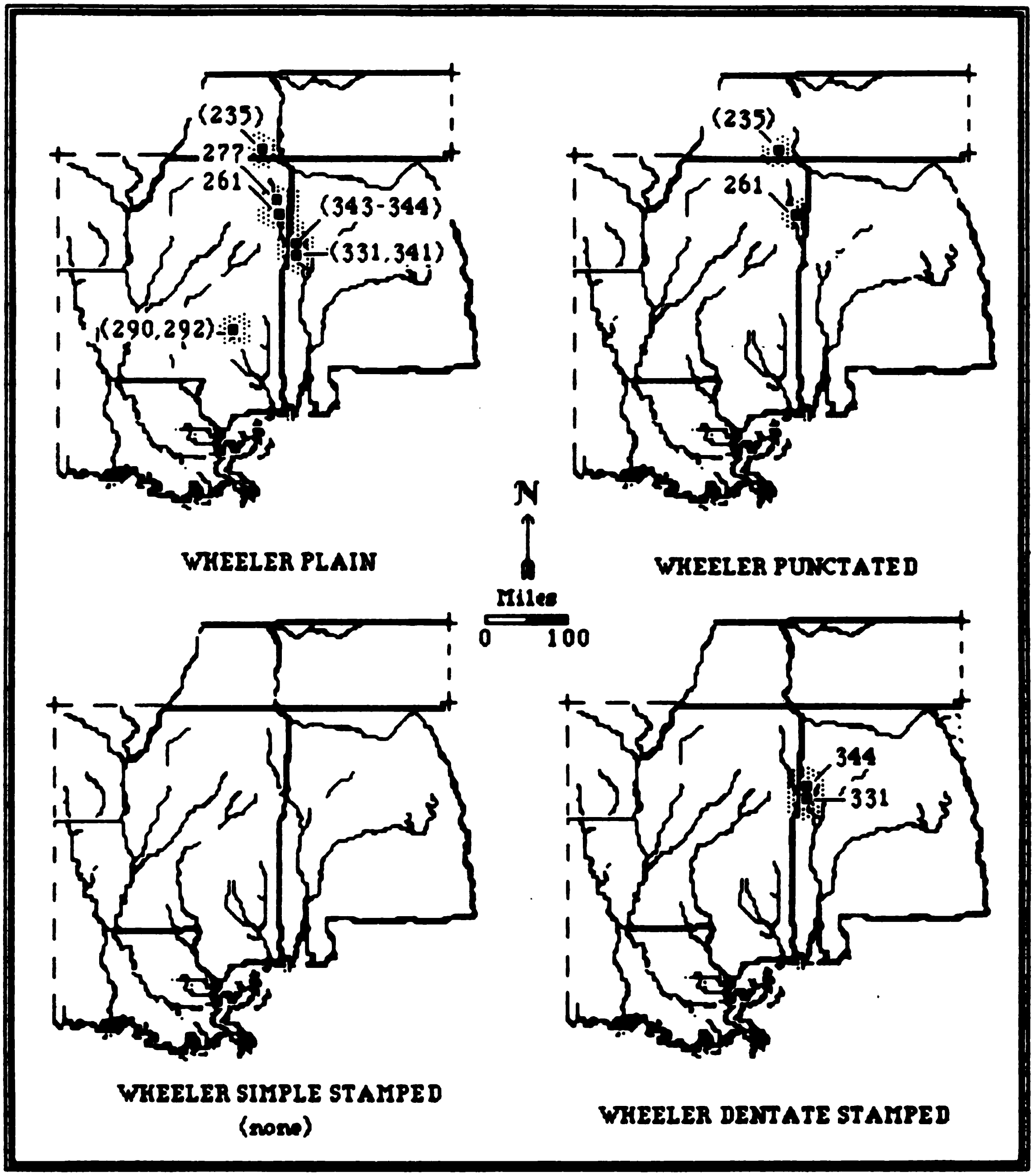
* 2 Wheeler category includes classic Wheeler types as defined by Sears and Griffin (1950), as well as Jenkins' (1981) types Wheeler Plain Var. Wheeler, and Wheeler Dentate Stamped Var. Warsaw specimens.

Norwood/Wheeler sites:

235. 40My5
261. Self
277. 22Mo829
288. 22Js582
290. 22Js572
292. 22Js594
317. 22Ld515
320. Sakti Chaha
331. 1Gr2
341. 1Gr1X1
343. 1Pi33
344. 1Pi61
352. 40My2
353. 40My3
354. 40My13
355. 40My22
356. 40My27
357. 40My33
358. 40My34
359. 40My37
481. Vaughn



APPENDIX Q. SPATIAL DISTRIBUTION OF NORWOOD TYPES AMONG "MIXED" NORWOOD/WHEELER COMPONENTS.



APPENDIX R. SPATIAL DISTRIBUTION OF WHEELER TYPES AMONG "MIXED" NORWOOD/WHEELER COMPONENTS.

APPENDIX S.

SUMMARY COMPARISON OF THE DISTRIBUTION OF STALLING'S ISLAND TYPES AMONG "PURE" STALLING'S ISLAND COMPONENTS.

		STALLING'S ISLAND *1				
Site No.	Site Name	Plain	Incised	Punctate *2	Simple Stamped	Total sherds by site
		Stalling's Island components				
6.	Upatoi	X	....	....	....	n/a
		....	....	....	....	....
89.	Halloca Creek	X	....	....	....	n/a
		....	....	....	....	....
109.	Rabbit Mount	3108	11	106	32	3257
		(95.4)	(0.3)	(3.3)	(1.0)	....
186.	Booger Bottom	X	....	....	....	n/a
		....	....	....	....	....
190.	Dulany	419	1	12	....	432
		(97.0)	(0.2)	(2.8)	....	....
213.	Lake Spring	127	X	X	....	176
		(72.2)	?	?	....	....
		also includes forms decorated by scratching and cord wrapped stick stamped				
214.	Turner	X	....	....	....	n/a
		....	....	....	....	....
215.	Lake Plantation	4	....	2	....	6
		(66.6)	....	(33.3)	....	....
216.	Chester Field	28	6	124	....	158
		(17.7)	(3.8)	(78.4)	....	....
217.	Jones' Island	X	....	....	....	n/a
		....	....	....	....	....
218.	Hilton Head	X	....	....	....	n/a
	Shell Ring	....	....	....	....	....
219.	Meldrim	X	....	....	....	n/a
		....	....	....	....	....
220.	Oemler Marsh	26	....	....	....	26
	Shell Ring	(100.0)	....	....	....	....
221.	Deptford	X	....	X	....	n/a
		....	....	....	....	....
222.	White's Mound	X	X	X	X	n/a
		....	....	....	....	....
223.	Irene	X	....	X	....	n/a
		....	....	....	....	....

APPENDIX S (cont'd.).

225.	Monroe County,	X	....	....	....	n/a
	Georgia	....	....	....	....	....
226.	Bartow County,	X	....	....	....	n/a
	Georgia	....	....	....	....	....
228.	Claflin's #6	X	X	....	....	n/a
		....	....	....	....	....
229.	Claflin's #5	X	....	X	....	n/a
		....	....	....	....	....
256.	Near Beaufort #1	X	....	....	....	n/a
		....	....	....	....	....
257.	Near Beaufort #2	X	....	....	....	n/a
		....	....	....	....	....
258.	Ocmulgee Bottoms	X	....	....	....	n/a
		....	....	....	....	....
300.	Cane Patch	500	67	286	....	853
		(58.6)	(7.8)	(33.5)	....	....
301.	St. Simon's	X	....	....	....	n/a
	Airport	....	....	....	....	....
306.	Pig Island #2	7	....	....	....	7
		(100.0)	....	....	....	....
307.	Skull Creek	X	....	....	....	n/a
	Shell Rings	....	....	....	....	....
308.	Guerard Point	X	....	....	....	n/a
		....	....	....	....	....
309.	Skidaway #9	X	....	....	....	n/a
		....	....	....	....	....
310.	Thom's Creek	2	....	....	....	2
		(100.0)	....	....	....	....
311.	Walthour	X	....	....	....	n/a
		....	....	....	....	....
313.	St. Catherines	X	....	....	....	n/a
		....	....	....	....	....
315.	Tensaw Creek	87	....	....	....	87
		(100.0)	....	....	....	....
463.	Price's Island	X	....	....	....	n/a
		....	....	....	....	....
518.	Mattassee Lake	4	....	....	....	4
	38BK226	(100.0)	....	....	....	....
519.	Mattassee Lake	1	....	....	....	1
	38BK229	(100.0)	....	....	....	....
520.	Rocky Ford	X	....	....	....	n/a
		....	....	....	....	....
		the presence of decorated ware is mentioned but not by type				
521.	Theriault	103	9	8	....	120
	"Boy Scout"	(85.8)	(7.5)	(6.6)	....	....
522.	Claflin's site #1	X	....	....	....	n/a
		....	....	....	....	....

APPENDIX S (cont'd.).

523.	Claflin's site #2	X	....	....	....	n/a
		....	....	....	....	....
524.	Claflin's site #3	X	....	....	....	n/a
		....	....	....	....	....
525.	Claflin's site #4	X	....	....	....	n/a
		....	....	....	....	....
526.	Claflin's site #7	X	....	....	....	n/a
		....	....	....	....	....
527.	Claflin's site #8	X	....	....	....	n/a
		....	....	....	....	....
528.	Large Ford Shell	X	....	X	....	n/a
	Ring	....	....	....	....	....
529.	Small Ford Shell	....	....	X	....	n/a
	Ring	....	....	....	....	....
531.	Pagan Plum Point	X	....	....	....	n/a
		....	....	....	....	....
533.	Cal Smoak	36	....	....	....	36
		(100.0)	....	....	....	....
534.	Daw's Island	X	....	....	....	n/a
	Shell Ring	....	....	....	....	....
535.	Horse Island	X	....	X	....	n/a
		....	....	....	....	....
536.	Lover's Lane	34	....	1	....	35
		(97.1)	....	(2.9)	....	....
537.	Taylor's Hill	X	....	....	....	n/a
		....	....	....	....	....
538.	Cat Island	X	....	....	....	n/a
		....	....	....	....	....
539.	Swift Creek	X	....	....	....	n/a
		....	....	....	....	....
540.	One Mile Track	X	....	....	....	n/a
		....	....	....	....	....
541.	Shell Rock Cave	X	....	....	....	n/a
		....	....	....	....	....
542.	Stubb's Mound	X	....	....	....	n/a
		....	....	....	....	....
543.	Stubb's Village	X	....	....	....	n/a
		....	....	....	....	....
544.	Wilke's County,	X	....	....	....	n/a
	Georgia	....	....	....	....	....
545.	Ossabaw Island,	X	....	X	....	n/a
	Georgia	....	....	....	....	....
546.	Valona	X	....	....	....	n/a
		....	....	....	....	....
547.	Glynn County, Ga.	X	....	....	....	n/a
		....	....	....	....	....
548.	1 Ho 22	X	....	....	....	n/a
		....	....	....	....	....

APPENDIX S (cont'd.).

549.	1 Ho 24	X	....	....	....	n/a
		....	....	....	....	....
550.	Omussee Creek	X	....	....	....	n/a
		....	....	....	....	....
552.	38 Bu 66	X	....	....	....	n/a
		....	....	....	....	....
553.	38 Bu 67	X	....	....	....	n/a
		....	....	....	....	....
554.	38 Bu 92	X	....	....	....	n/a
		....	....	....	....	....
564.	Sand Pit	X	....	....	....	n/a
		....	....	....	....	....
565.	9 Me 214	4	....	....	....	4
		(100.0)	....	....	....	....
566.	Light House	X	....	....	....	n/a
		....	....	....	....	....
567.	Sewee Bay	X	....	....	....	n/a
		....	....	....	....	....
568.	Yough Hall	X	....	....	....	n/a
	(Auld) Shell Ring	....	....	....	....	....
573.	34°10'N/79°10'W	X	....	....	....	n/a
		....	....	....	....	....
574.	34°10'N/79°50'W	X	....	....	....	n/a
		....	....	....	....	....
575.	Brunswick	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
576.	Brunswick	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
577.	Brunswick	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
578.	Brunswick	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
579.	New Hanover	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
580.	New Hanover	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
581.	New Hanover	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
582.	Pender	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
583.	Bladen	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
584.	Weyman Creek	2	....	....	....	2
		(100.0)	....	....	....	....
585.	Little River	X	....	....	....	n/a
		....	....	....	....	....

APPENDIX S (cont'd.).

586.	Hoke	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
587.	Cumberland	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
588.	Onslow	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
589.	Onslow	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
590.	Onslow	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
591.	Onslow	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
592.	Duplin	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
593.	Carteret	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
594.	Wayne	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
595.	Wayne	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
596.	Wayne	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
597.	Wayne	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
598.	Wayne	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
599.	Wayne	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
600.	Wayne	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
601.	Wayne	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
602.	Wayne	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
603.	Wayne	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
604.	Wayne	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
605.	Greene	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
606.	Greene	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
607.	Pitt	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
608.	Edgecombe	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
609.	Edgecombe	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....

APPENDIX S (cont'd.).

610.	Bertie	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
611.	Chowan	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
612.	Gates	X	....	....	....	n/a
	County, N.C.	....	....	....	....	....
613.	Refuge	87	....	2	....	89
		(97.8)	....	(2.2)	....	....
616.	Great Kiokee	X	....	....	....	n/a
	Creek	....	....	....	....	....
617.	Clear Mount	38	1	10	1	50
		(76.0)	(2.0)	(20.0)	(2.0)	....
619.	Gaylord's	21	....	1	....	22
	Crossing	(95.4)	....	(4.6)	....	....
620.	Ivanhoe Dam	2	1	....	....	3
		(66.6)	(33.3)	....	....	....
621.	Pasley	....	....	1	....	1
		....	....	(100.0)	....	....
622.	Ivanhoe Finger	7	....	....	....	7
		(100.0)	....	....	....	....
623.	Martin's Bluff	2	....	2	....	4
		(50.0)	....	(50.0)	....	....
626.	Waccamaw Neck	X	....	....	....	n/a
		....	....	....	....	....
627.	Colonel's	X	....	....	....	n/a
	Island	....	....	....	....	....
628.	Charlestowne	X	....	....	....	n/a
		....	....	....	....	....
630.	Allatoona	X	....	....	....	n/a
	Reservoir	....	....	....	....	....
631.	34°10'N/79°55'W	X	....	....	....	n/a
		....	....	....	....	....
632.	Jordan Rock	X	....	....	....	n/a
	Shelter	....	....	....	....	....
633.	Allendale	X	....	....	....	n/a
		....	....	....	....	....
634.	34°10'N/79°55'W	X	....	....	....	n/a
		....	....	....	....	....
638.	Butler Point	X	....	....	....	n/a
		....	....	....	....	....
639.	Second Refuge	15	....	2	....	17
		(88.2)	....	(11.8)	....	....
640.	Creighton	X	....	....	....	n/a
	Island	....	....	....	....	....
641.	Old Still	X	....	....	....	n/a
		....	....	....	....	....
643.	Waverly Creek	X	....	....	....	n/a
		....	....	....	....	....
645.	WFW	X	....	....	....	n/a
		....	....	....	....	....

APPENDIX S (cont'd.).

647.	WSP	X	....	....	....	n/a
		....	....	....	....	....
651.	34°10'N/80°10'W	X	....	....	....	n/a
		....	....	....	....	....
655.	34°05'N/79°30'W	X	....	....	....	n/a
		....	....	....	....	....
656.	34°07'N/79°30'W	X	....	....	....	n/a
		....	....	....	....	....
657.	33°55'N/79°20'W	X	....	....	....	n/a
		....	....	....	....	....
658.	33°50'N/81°00'W	X	....	....	....	n/a
		....	....	....	....	....
659.	33°45'N/81°25'W	X	....	....	....	n/a
		....	....	....	....	....
660.	33°35'N/81°40'W	X	....	....	....	n/a
		....	....	....	....	....
661.	33°35'N/80°30'W	X	....	....	....	n/a
		....	....	....	....	....
662.	33°35'N/80°30'W	X	....	....	....	n/a
		....	....	....	....	....
663.	33°35'N/80°25'W	X	....	....	....	n/a
		....	....	....	....	....
664.	33°55'N/80°20'W	X	....	....	....	n/a
		....	....	....	....	....
665.	33°25'N/80°20'W	X	....	....	....	n/a
		....	....	....	....	....
666.	33°20'N/80°20'W	X	....	....	....	n/a
		....	....	....	....	....
667.	33°20'N/81°15'W	X	....	....	....	n/a
		Decorated sherds (with punctations, incising, finger-pinching and simple stamping) are present but are not listed by percentage.				
		....	....	....	....	....
668.	33°30'N/81°30'W	X	....	....	....	n/a
		Decorated sherds (with punctations, incising, finger-pinching and simple stamping) are present but are not listed by percentage.				
		....	....	....	....	....
669.	33°15'N/81°50'W	X	....	....	....	n/a
		....	....	....	....	....
670.	33°10'N/80°50'W	X	....	....	....	n/a
		....	....	....	....	....
671.	33°10'N/80°50'W	X	....	....	....	n/a
		....	....	....	....	....
672.	33°10'N/80°50'W	X	....	....	....	n/a
		....	....	....	....	....

APPENDIX S (cont'd.).

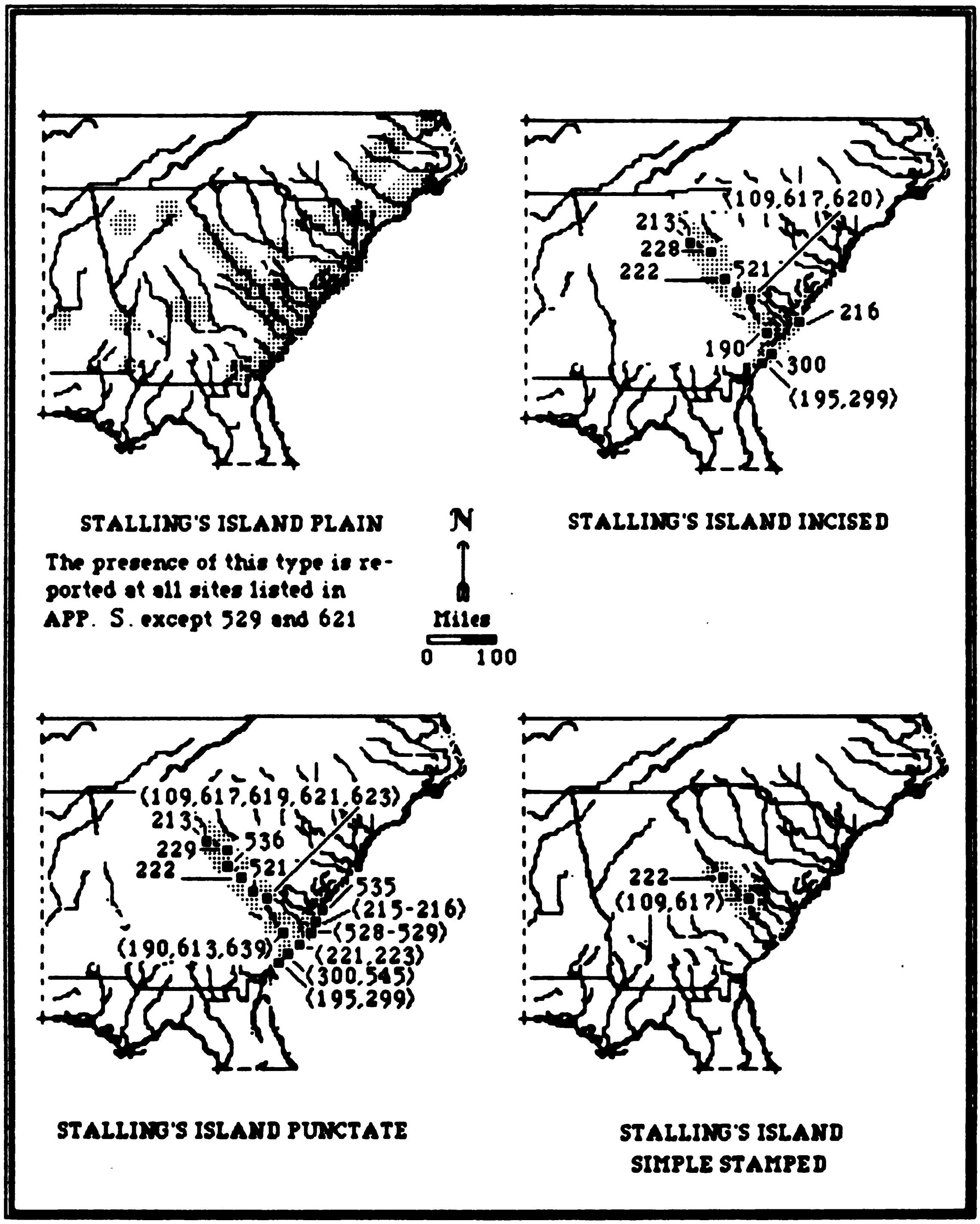
673.	33°10'N/80°50'W	X	....	....	....	n/a
		....	....	....	....	....
674.	33°10'N/80°50'W	X	....	....	....	n/a
		Decorated sherds (with punctations, incising, finger-pinching and simple stamping) are present but are not listed by percentage.				
		....	....	....	....	....
675.	33°10'N/80°50'W	X	....	....	....	n/a
		Decorated sherds (with punctations, incising, finger-pinching and simple stamping) are present but are not listed by percentage.				
		....	....	....	....	....
676.	33°10'N/80°50'W	X	....	....	....	n/a
		Decorated sherds (with punctations, incising, finger-pinching and simple stamping) are present but are not listed by percentage.				
		....	....	....	....	....
677.	33°10'N/80°50'W	X	....	....	....	n/a
		....	....	....	....	....
678.	33°10'N/80°50'W	X	....	....	....	n/a
		....	....	....	....	....
679.	33°10'N/80°50'W	X	....	....	....	n/a
		....	....	....	....	....
680.	33°10'N/80°50'W	X	....	....	....	n/a
		....	....	....	....	....
681.	33°10'N/80°50'W	X	....	....	....	n/a
		....	....	....	....	....
682.	33°10'N/80°50'W	X	....	....	....	n/a
		....	....	....	....	....
683.	33°10'N/80°50'W	X	....	....	....	n/a
		....	....	....	....	....
684.	32°50'N/81°15'W	X	....	....	....	n/a
		....	....	....	....	....
685.	32°55'N/81°20'W	X	....	....	....	n/a
		....	....	....	....	....
686.	32°55'N/81°20'W	X	....	....	....	n/a
		....	....	....	....	....
687.	33°00'N/81°20'W	X	....	....	....	n/a
		Decorated sherds (with punctations, incising, finger-pinching and simple stamping) are present but are not listed by percentage.				
		....	....	....	....	....
688.	33°00'N/81°10'W	X	....	....	....	n/a
		....	....	....	....	....
689.	33°00'N/81°10'W	X	....	....	....	n/a
		....	....	....	....	....

APPENDIX S (cont'd.).

690.	$33^o00'N/81^o10'W$	X	....	....	....	n/a
		....	....	....	....	....
691.	$33^o00'N/81^o10'W$	X	....	....	....	n/a
		....	....	....	....	....
692.	$33^o00'N/81^o20'W$	X	....	....	....	n/a
		Decorated sherds (with punctations, incising, finger-pinching and simple stamping) are present but are not listed by percentage.				
		....	....	....	....	....
693.	$33^o00'N/81^o20'W$	X	....	....	....	n/a
		Decorated sherds (with punctations, incising, finger-pinching and simple stamping) are present but are not listed by percentage.				
		....	....	....	....	....
694.	Burbon Field	X	....	....	....	n/a
		....	....	....	....	....
695.	Pine Harbor	X	....	....	....	n/a
		....	....	....	....	....
696.	Harris Neck	X	....	....	....	n/a
		....	....	....	....	....
697.	Princes Pond I	X	....	....	....	n/a
		....	....	....	....	....
698.	Tuft Springs I	X	....	....	....	n/a
		....	....	....	....	....

Stalling's Island sherd total 5570

Key: X means present, but number not given.
n/a means sherds of this series are reported, but the sample size is not available.
(Percentage occurrence by type given for each site in parentheses.)
*1 This class includes sherds classified as Stalling's, St. Simon's, and Bilbo.
*2 The "Punctate type" includes sherds with stab-and-drag, individual, and linear punctate designs, as well as punctate with incised designs.
? means percentage cannot be determined from available information.



STALLING'S ISLAND PLAIN

The presence of this type is reported at all sites listed in APP. S. except 529 and 621

STALLING'S ISLAND INCISED

STALLING'S ISLAND PUNCTATE

STALLING'S ISLAND SIMPLE STAMPED

APPENDIX T. SPATIAL DISTRIBUTION OF STALLING'S ISLAND TYPES AMONG "PURE" STALLING'S ISLAND COMPONENTS.

APPENDIX U.

SUMMARY COMPARISON OF THE DISTRIBUTION OF NORWOOD AND STALLING'S ISLAND TYPES AMONG "MIXED" NORWOOD/STALLING'S ISLAND COMPONENTS.

	NORWOOD *1				STALLING'S ISLAND *2				Total sherds by site
Site No.	Pl.	In.	Punct.	Sim. St'd.	Pl.	In.	Punct.	Sim. St'd.	
				Norwood/Stalling's Island components					
5.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
21.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
22.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
27.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
29.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
90.	5	2	....	....	4	....	....	....	11
	also one incised rim with red paint								
	(45.5)	(18.1)	....	....	(36.4)	....	....	....	....
110.	X	....	....	....	469	82	873	16	1457
	also some miscellaneous descorated forms characterized by scratching, rocker stamping, brushing, plain twined fabric marked, cord marked, and checker board incised motif.								
	(?)	....	....	....	(32.2)	(5.6)	(59.9)	(1.1)	....
187.	X	....	....	....	174	X	X	....	n/a
	[4] unspecified Bilbo decorated specimens included above								
	....	....	....	....		....	....	....	....
188.	X	....	....	....	1808	104	624	....	2536
	(?)	....	....	....	(71.3)	(4.0)	(24.5)	....	....
195.	X	....	....	....	1138	4	12	....	1154
	(?)	....	....	....	(98.5)	(0.4)	(1.0)	....	....
299.	X	....	....	....	517	18	28	1	564
	also includes an example of checker-board incising motif								
	....	....	....	....	(91.5)	(3.1)	(5.0)	(0.2)	....
302.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
530.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
555.	X	....	....	....	X	....	X	....	n/a
	....	....	....	....	....	....	....	....	....

APPENDIX U (cont'd.).

556.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
557.	X	....	....	....	X	X	X	....	n/a
	....	....	....	....	....	....	....	....	....
558.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
559.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
560.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
561.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
563.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
637.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
646.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
648.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
649.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....
650.	X	....	....	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....

Norwood sherd total 32 (.5)

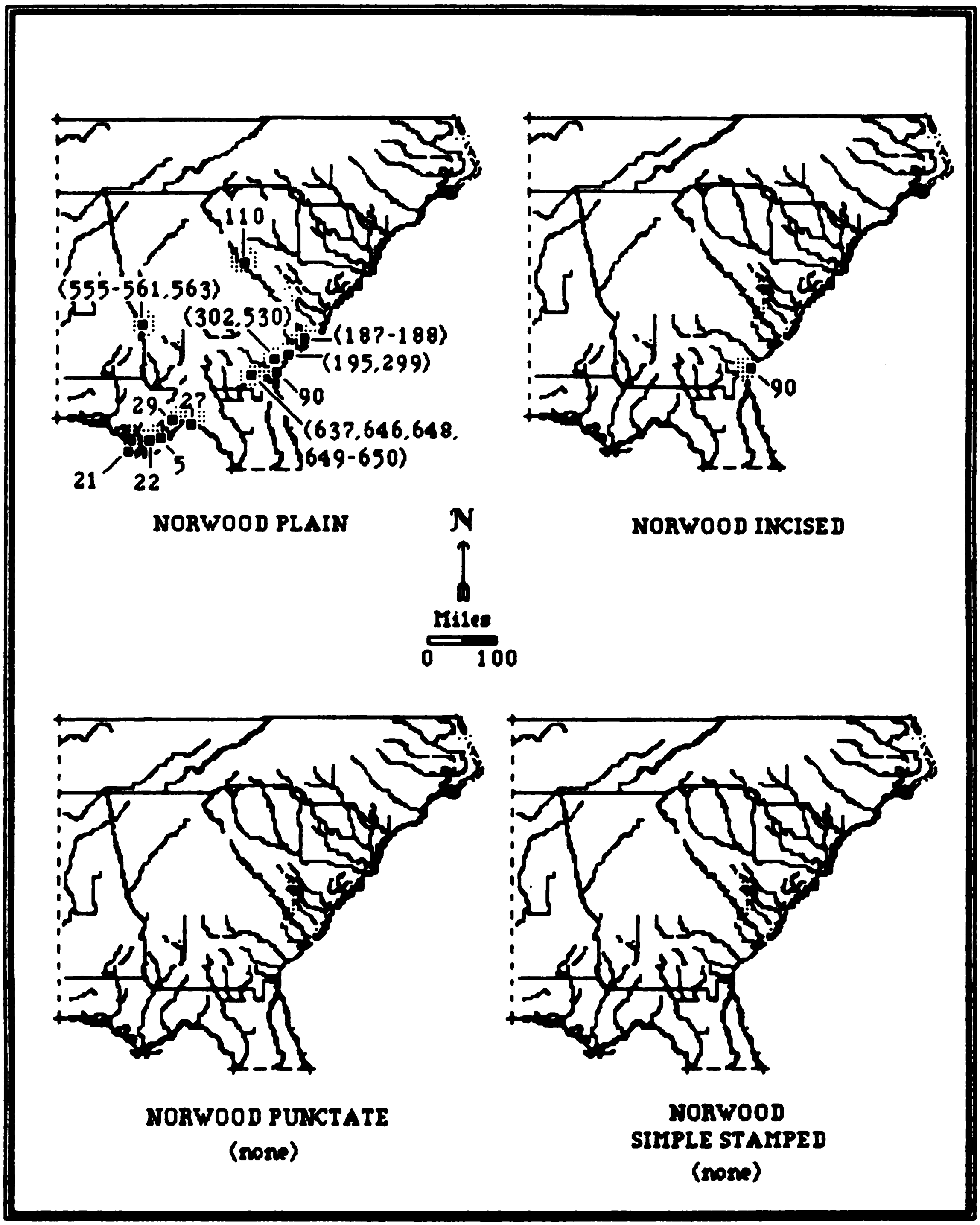
Stalling's Island sherd total 5913 (93.5)

Norwood/Stalling's Island sherd total 5945

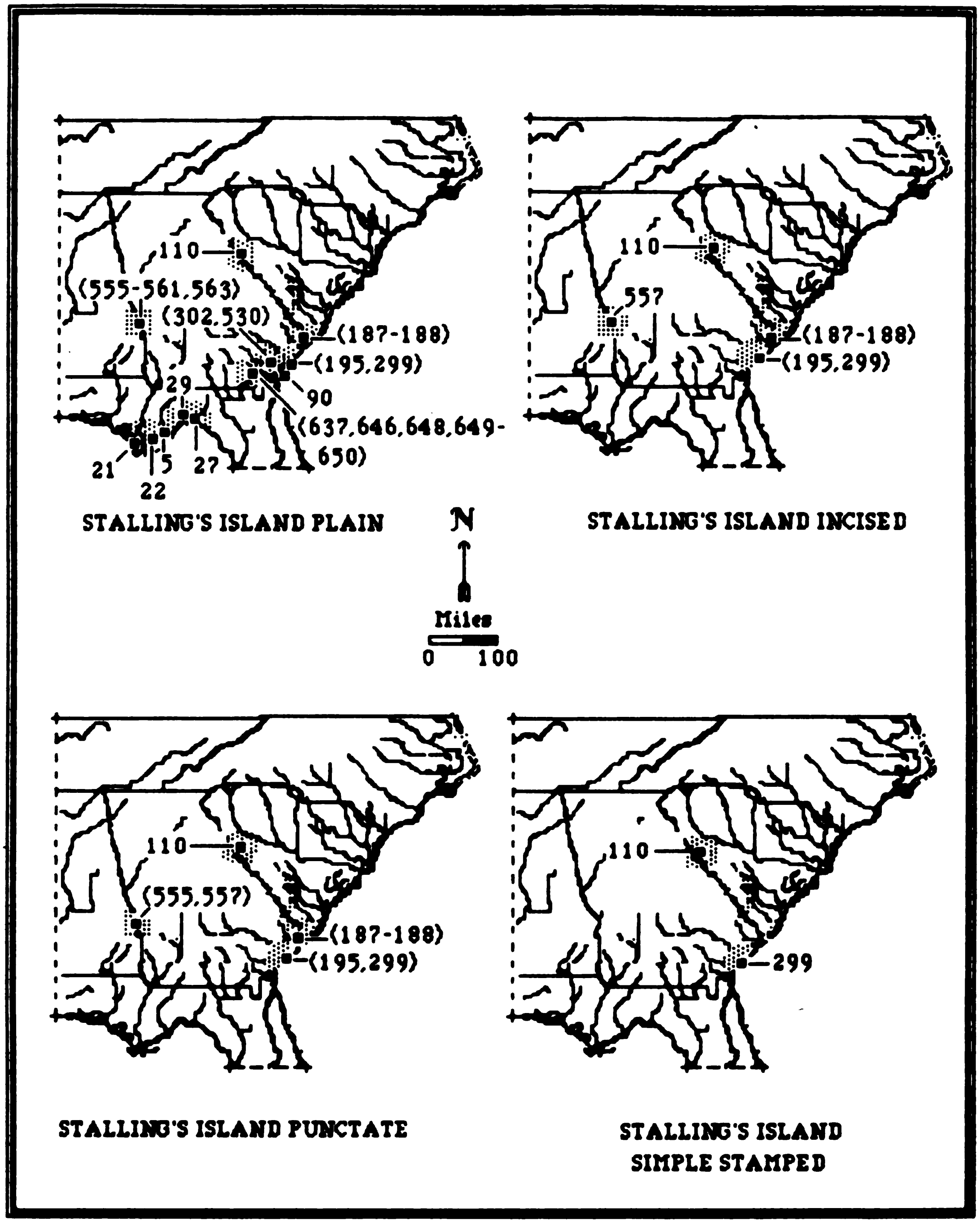
Key: Ceramic type abbreviations are as follows: Pl. means Plain, In. means Incised, Punct. means Punctate(d), and Sim. St'd. means Simple Stamped.
X means present, but number not given.
n/a means sherds of this series are reported but the sample size is not available.
(Percentage occurrence by type given for each site in parentheses.)

*1 Norwood category includes sherds classified as; "sandy fiber-tempered", sandy paste fiber-tempered pottery with some grit, "semi-fiber-tempered", and Norwood specimens.

*2 Stalling's Island category includes sherds classified as; "Stalling's", "St. Simons", and or "Bilbo".



APPENDIX V. SPATIAL DISTRIBUTION OF NORWOOD TYPES AMONG "MIXED" NORWOOD/STALLING'S ISLAND COMPONENTS.



APPENDIX W. SPATIAL DISTRIBUTION OF STALLING'S ISLAND TYPES AMONG "MIXED" NORWOOD/STALLING'S ISLAND COMPONENTS.

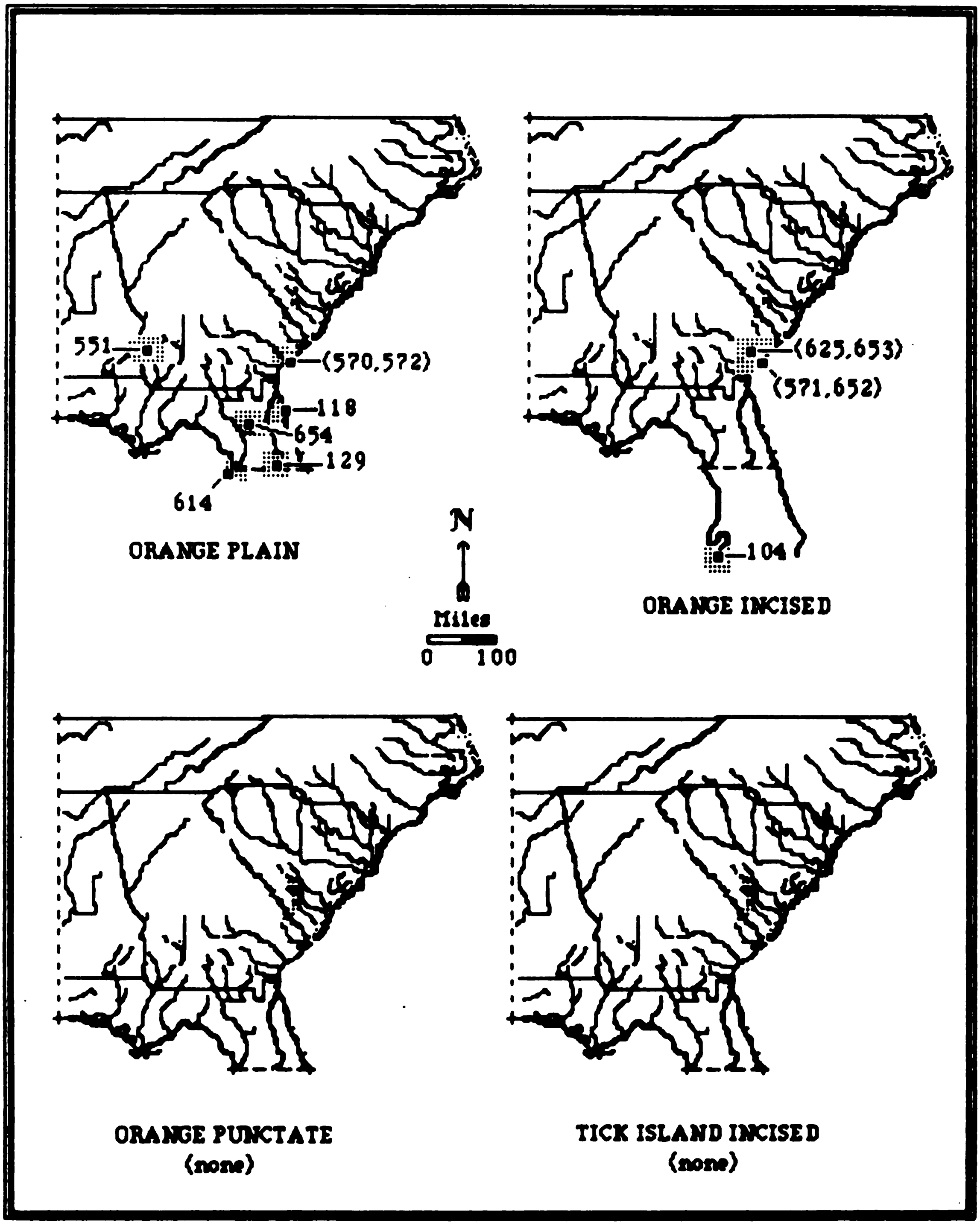
APPENDIX X.

SUMMARY COMPARISON OF THE DISTRIBUTION OF ORANGE AND STALLING'S ISLAND TYPES AMONG "MIXED" ORANGE/STALLING'S ISLAND COMPONENTS.

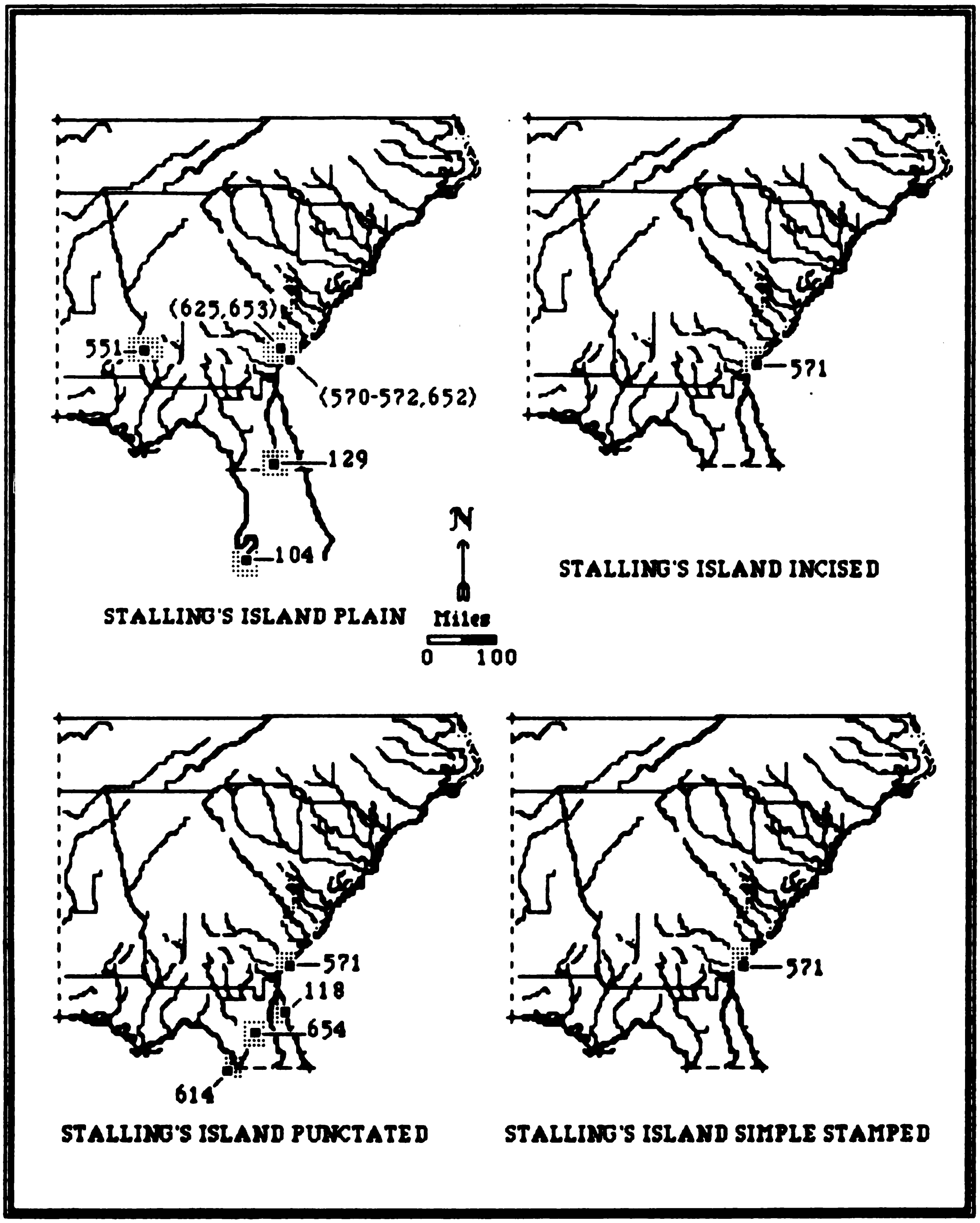
Site No.	ORANGE Pl.	In.	Punct.	Tick Is. In.	STALLING'S ISLAND * Pl.	In.	Punct.	Sim. St'd.	Total sherds by site
				Orange/Stalling's Island components					
104.	....	1	....	....	14	....	....	....	15
118.	X	....	....	....	....	....	X	....	n/a
129.	X	....	....	....	X	....	....	....	n/a
551.	X	....	....	....	X	....	....	....	n/a
570.	X	....	....	....	X	....	....	....	n/a
571.	....	X	....	....	598	X	X	X	602
572.	X	....	....	....	X	....	....	....	n/a
614.	X	....	....	....	....	....	X	....	n/a
625.	....	X	....	....	X	....	....	....	n/a
652.	....	X	....	....	X	....	....	....	n/a
653.	....	X	....	....	X	....	....	....	n/a
654.	X	....	....	....	....	....	X	....	n/a
	Orange sherd total			12 (2.0)	Stalling's Island sherd total				625 (98.0)
					Orange/Stalling's Island sherd total				637

Key: Ceramic type abbreviations are as follows: Pl. means Plain, In. means Incised, Punct. means Punctate(d), and Sim. St'd. means Simple Stamped. X means present, but number not given. n/a means sherds of this series are reported but the sample size is not available. (Percentage occurrence by type given for each site in parentheses.)

* means Stalling's Island category includes sherds classified as; "Stalling's", "St. Simons", and/or "Bilbo".



APPENDIX Y. SPATIAL DISTRIBUTION OF ORANGE TYPES AMONG "MIXED" ORANGE/STALLING'S ISLAND COMPONENTS.



APPENDIX Z. SPATIAL DISTRIBUTION OF STALLING'S ISLAND TYPES AMONG "MIXED" ORANGE/STALLING'S ISLAND COMPONENTS.

APPENDIX A1.

SUMMARY COMPARISON OF THE DISTRIBUTION OF NORWOOD, ORANGE, AND STALLING'S ISLAND TYPES AMONG "MIXED" NORWOOD/ORANGE/STALLING'S ISLAND COMPONENTS.

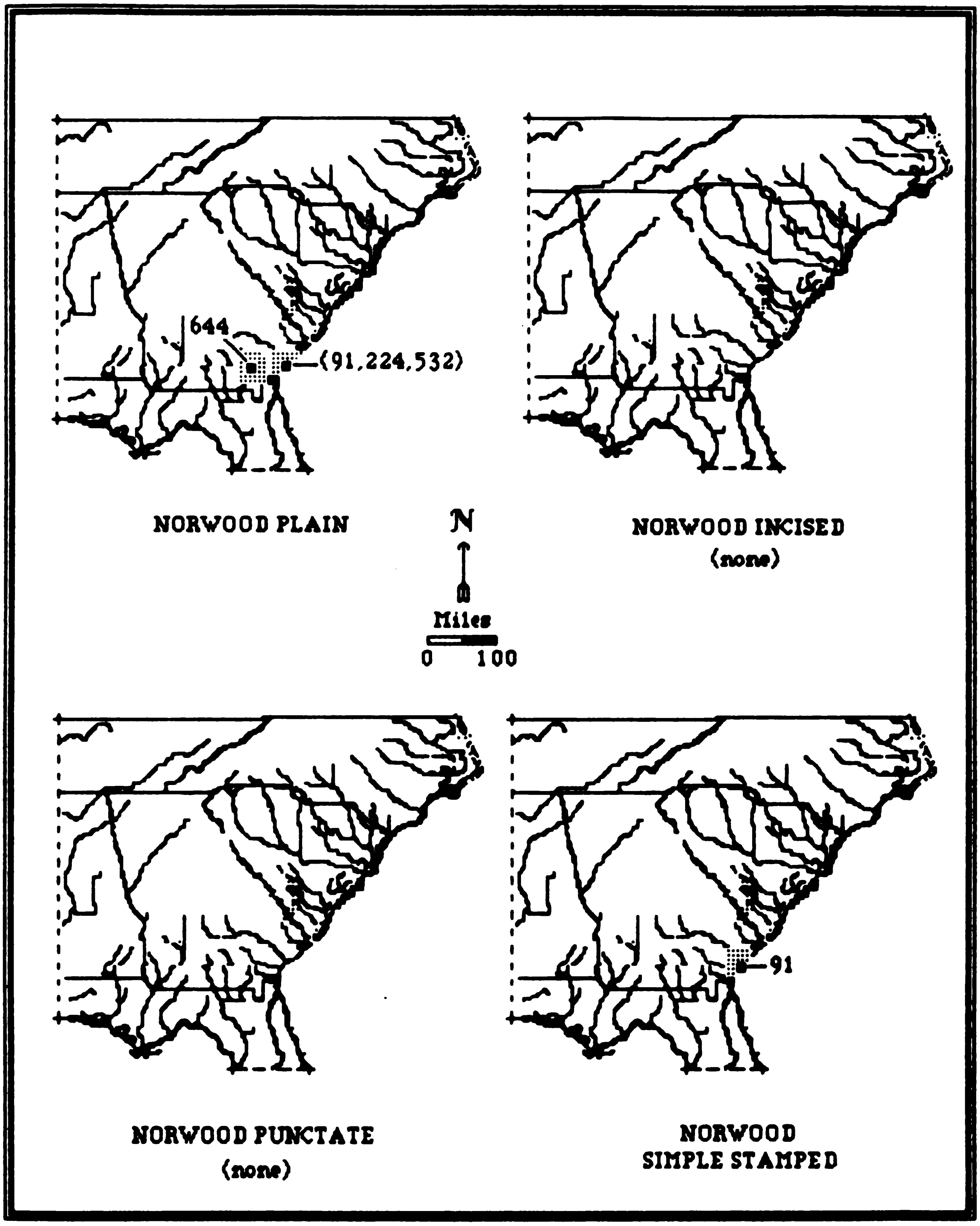
Site No.	NORWOOD *1			ORANGE		STALLINGS *2				Total sherds by site
	Pl.	In.	Sim. St'd.	Pl.	In.	Pl.	In.	Pun.	Sim. St'd.	
				Norwood/Orange/Stalling's Island components						
91.	31	....	1	....	2	13	....	....	1	49
	sample includes one check stamped specimen									
	(63.2)	....	(2.0)	....	(4.0)	(26.5)	....	....	(2.0)	....
224.	X	....	....	....	X	X	X	X	X	n/a
	sample includes one specimen with checker board incising motif									
	....	....	....	....	....	....	....	....	....	....
532.	X	....	....	....	X	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....	....
644.	X	....	....	X	....	X	....	....	....	n/a
	....	....	....	....	....	....	....	....	....	....
	Norwood total		35	Orange total	5	Stalling's Island total			20	
			(60.0)		(7.0)				(33.0)	
				Norwood/Orange/Stalling's Island sherd total						60

Key: Ceramic type abbreviations are as follows: Pl. means Plain, In. means Incised, Pun. means Punctate(d), and Sim. St'd. means Simple Stamped.
X means present, but number not given.
n/a means sherds of this series are reported but the sample size is not available.
(Percentage occurrence by type given for each site in parentheses.)

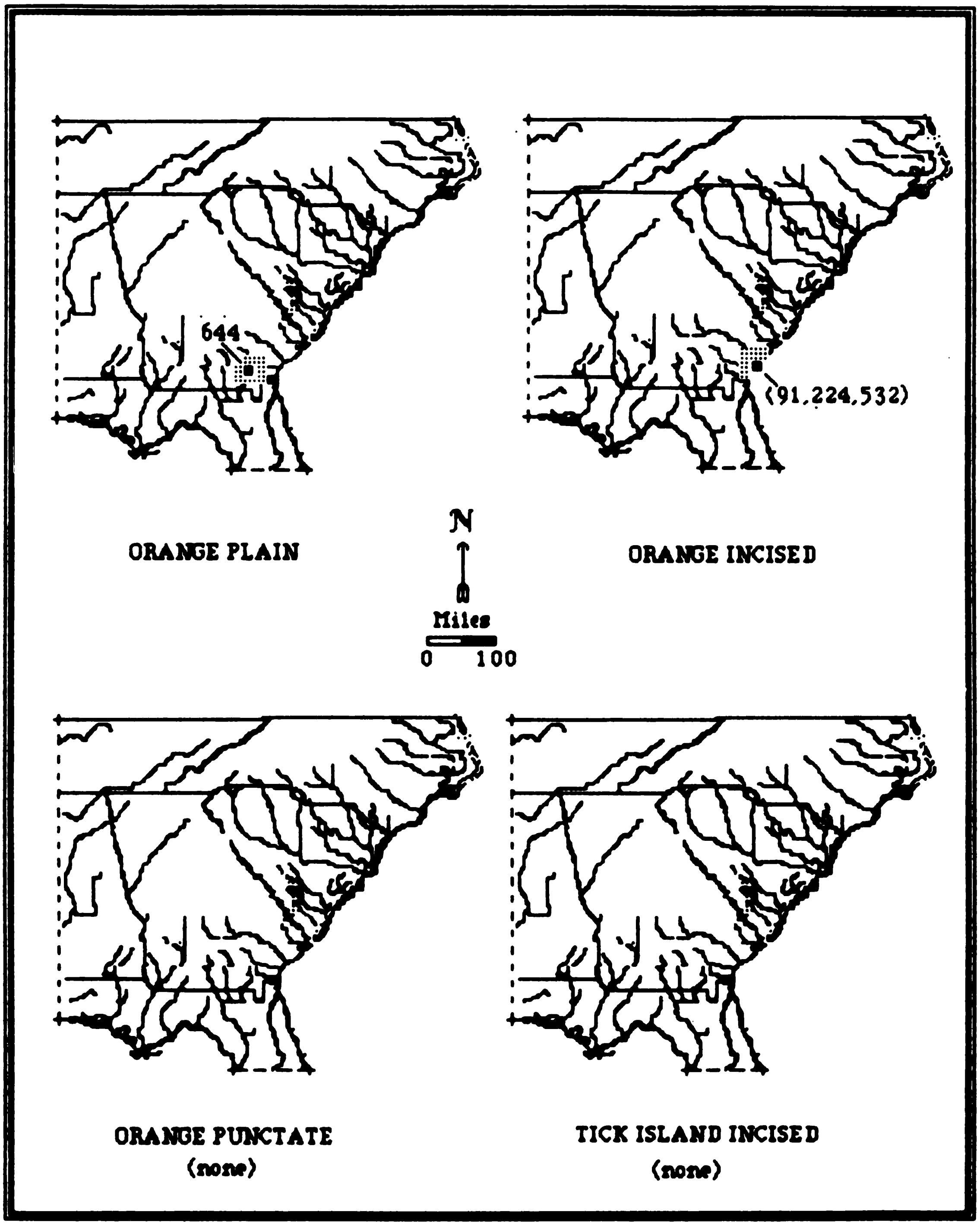
*1 Norwood class includes sherds classified as either Norwood, very sandy-fiber-tempered, or semi-fiber-tempered wares.

*2 Stallings class includes sherds classified as either Stalling's Island, St. Simon's, Bilbo, fiber-tempered, or Kelly's delta ware.

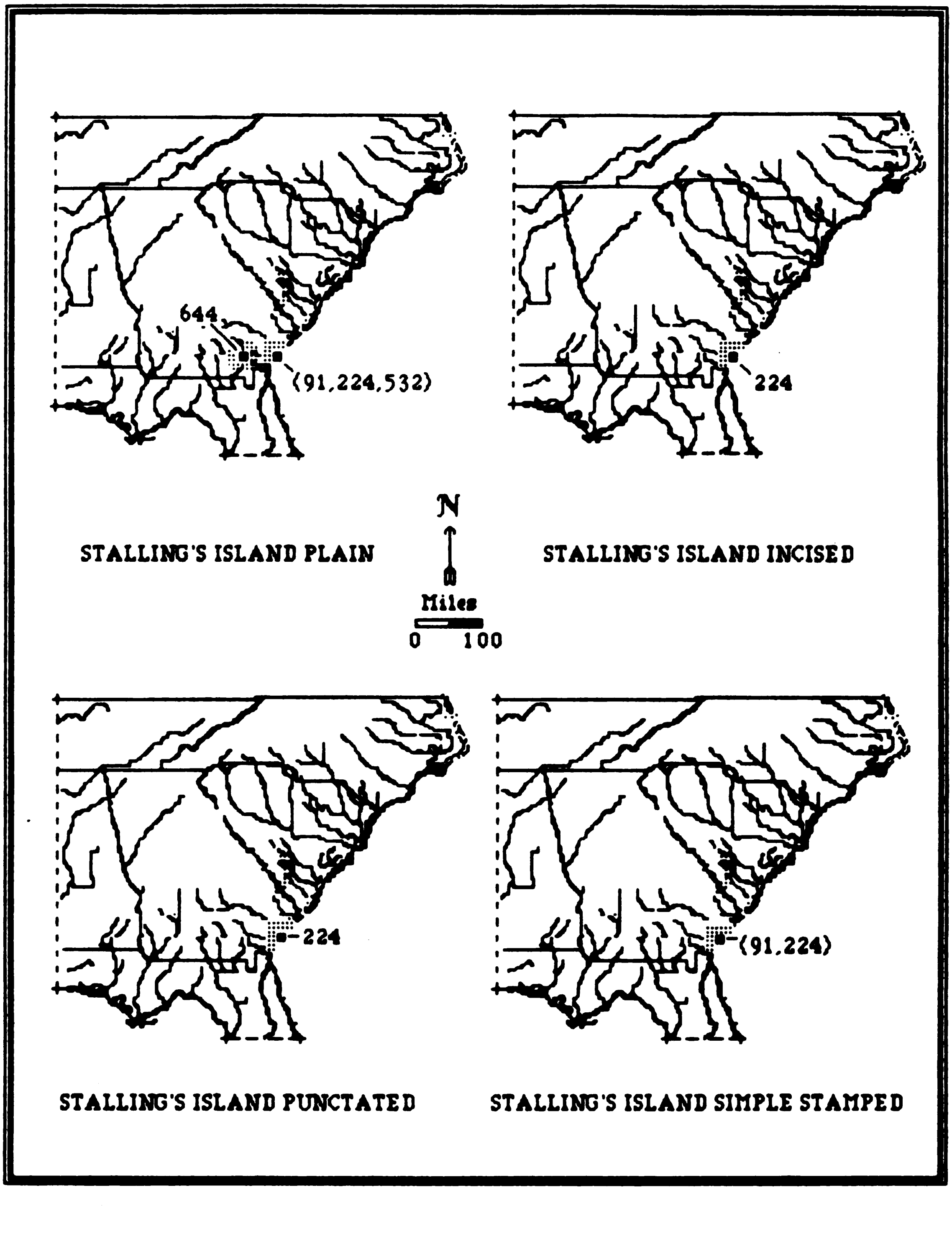
Norwood/Orange/Stalling's Island sites:
91. Table Point Shell Ring
224. Charlie King
532. Cannon's Point
644. EFW



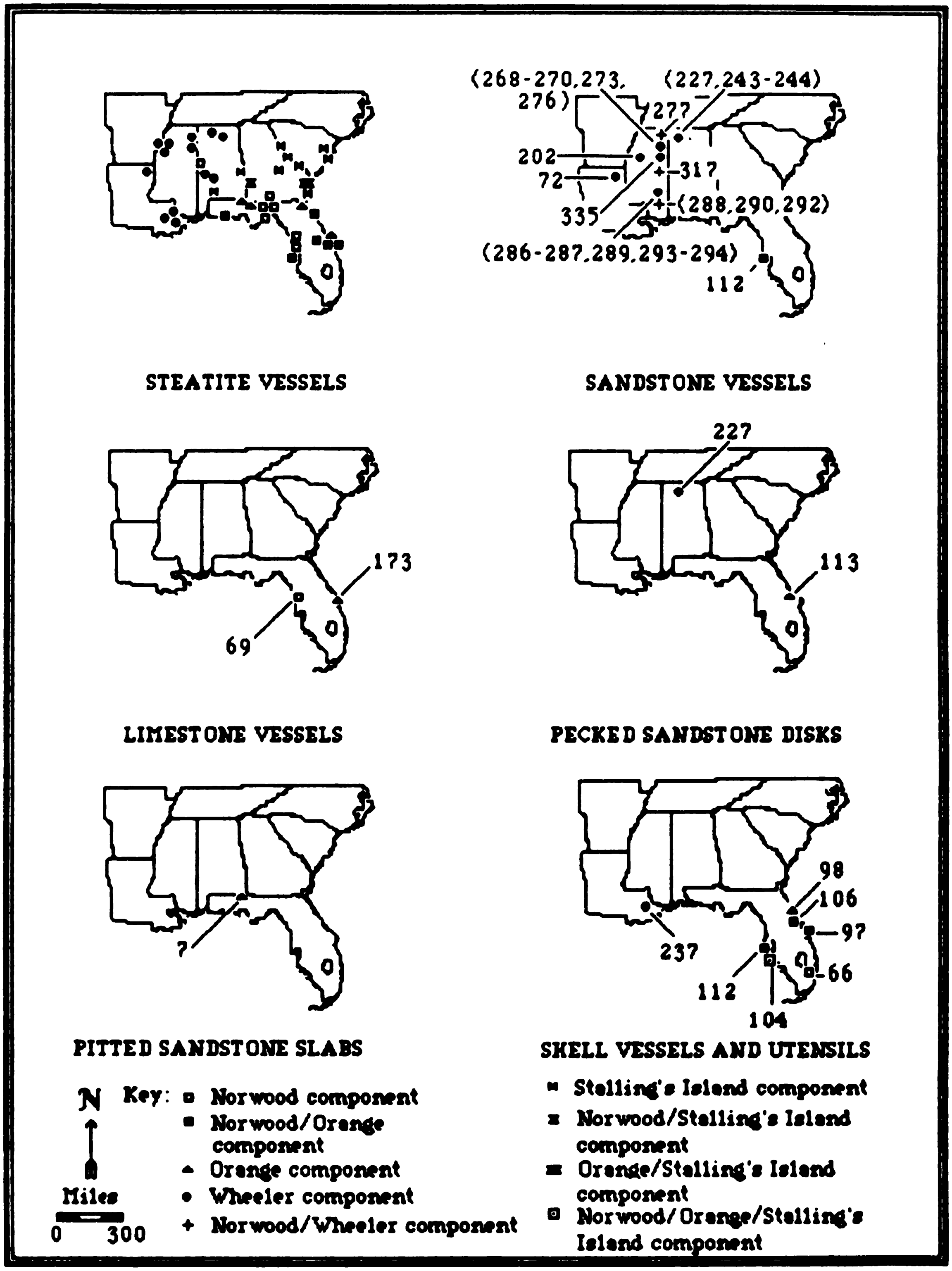
APPENDIX B1. SPATIAL DISTRIBUTION OF NORWOOD TYPES AMONG "MIXED" NORWOOD/ORANGE/STALLING'S ISLAND COMPONENTS.



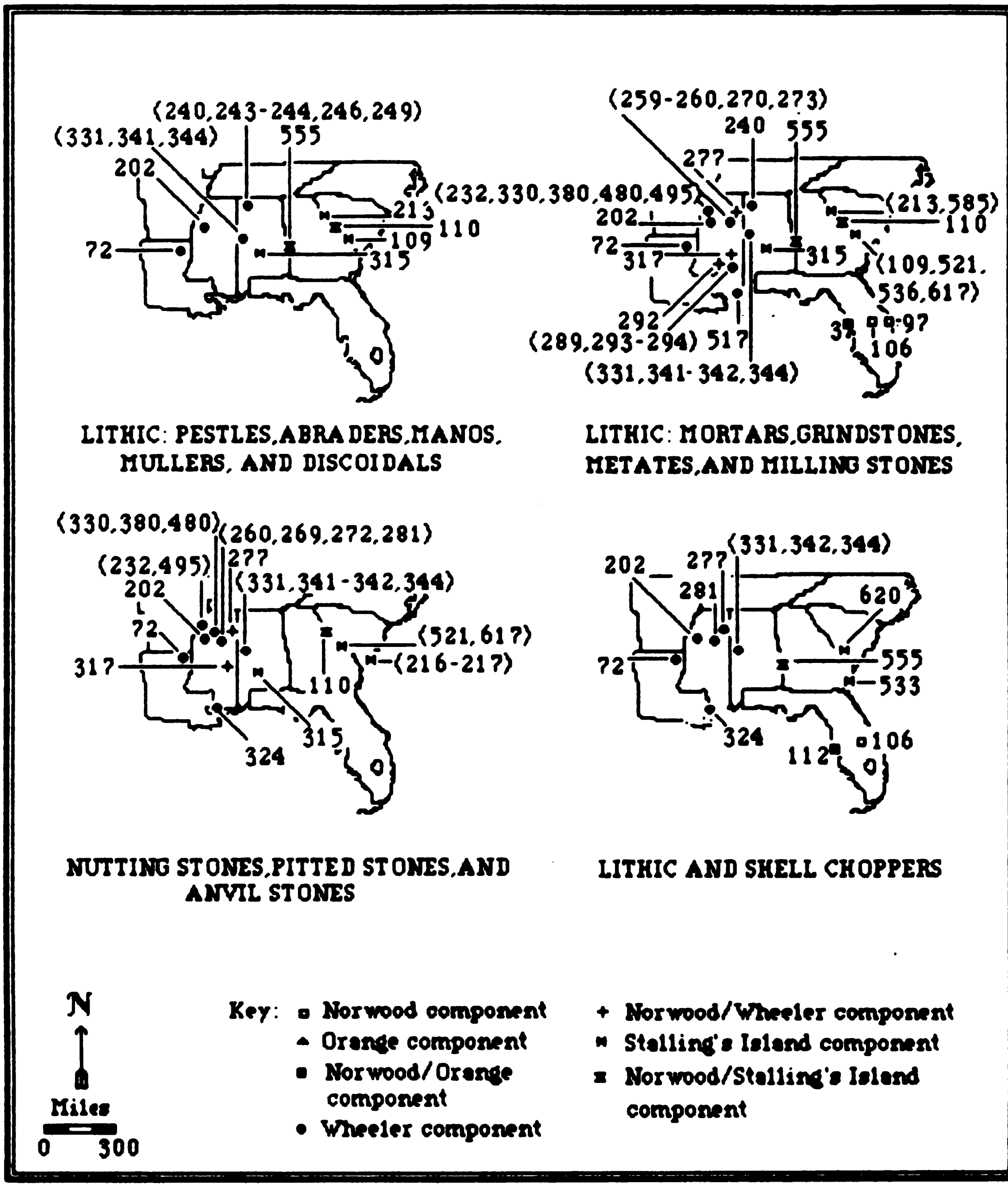
APPENDIX C1. SPATIAL DISTRIBUTION OF ORANGE TYPES AMONG "MIXED" NORWOOD/ORANGE/STALLING'S ISLAND COMPONENTS.



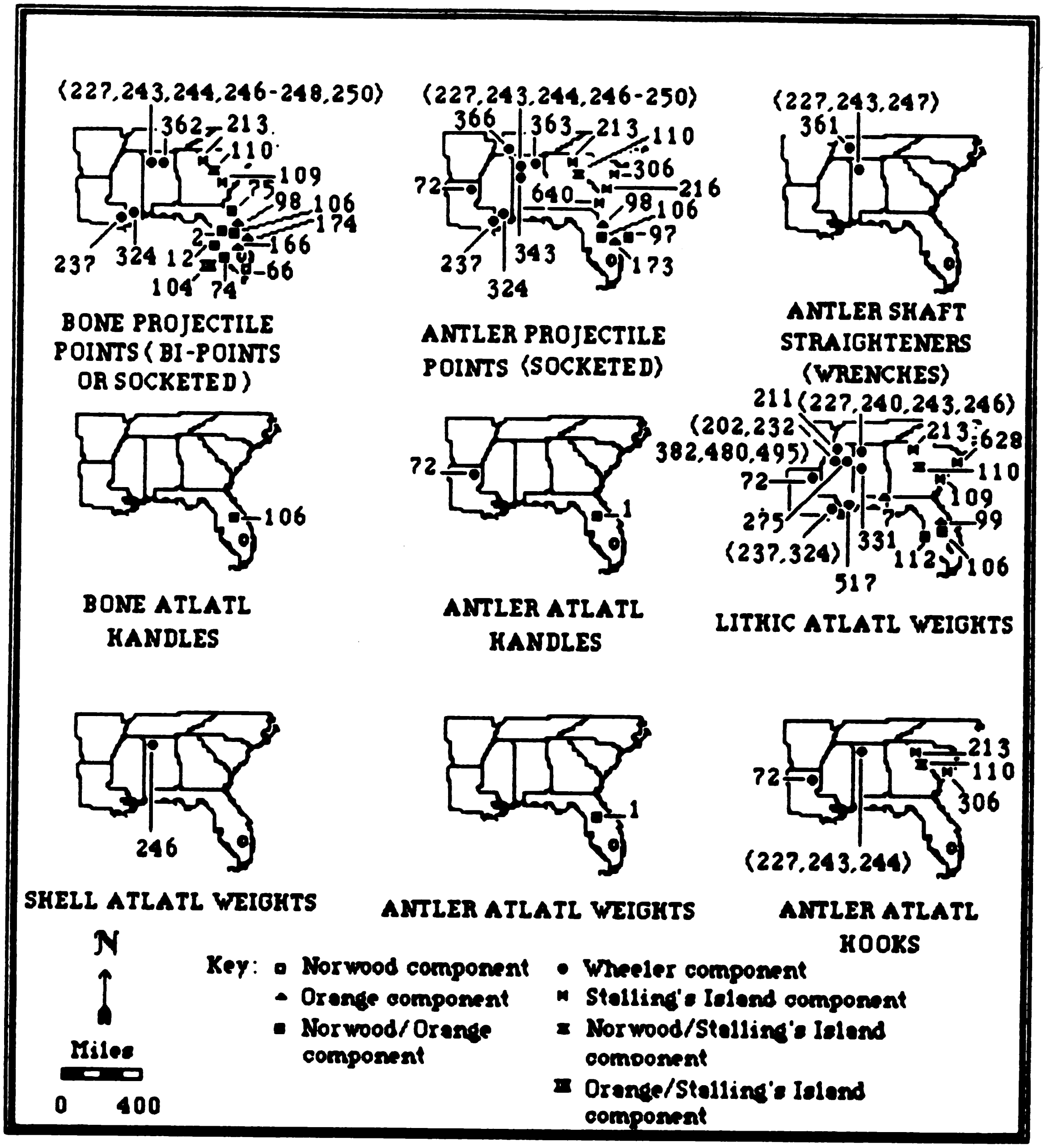
APPENDIX D1. SPATIAL DISTRIBUTION OF STALLING'S ISLAND TYPES AMONG "MIXED" NORWOOD/ORANGE/STALLING'S ISLAND COMPONENTS.



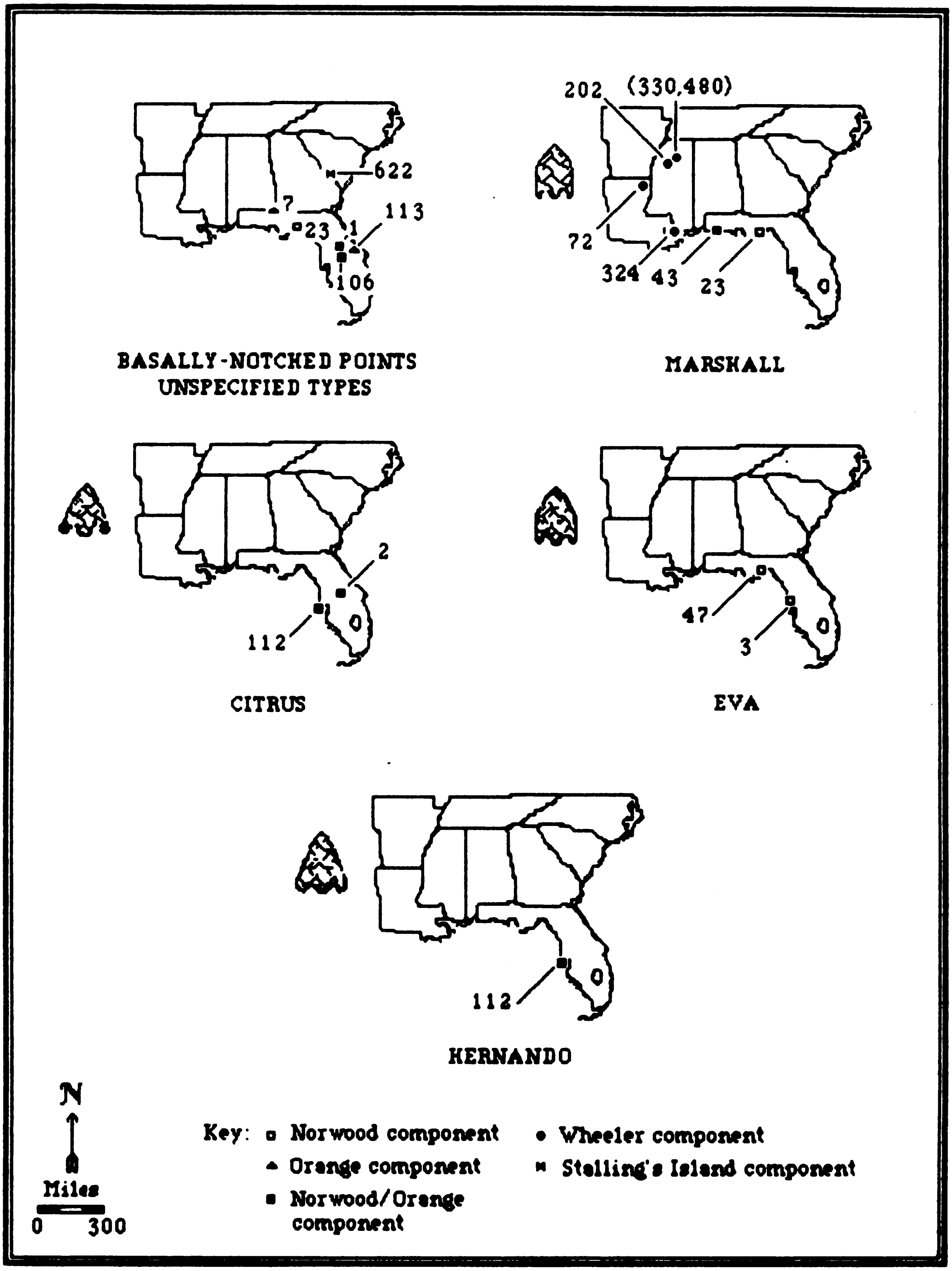
APPENDIX E1. SPATIAL DISTRIBUTION OF LITHIC AND SHELL COOKING VESSELS AND UTENSILS AMONG SFT SITES.



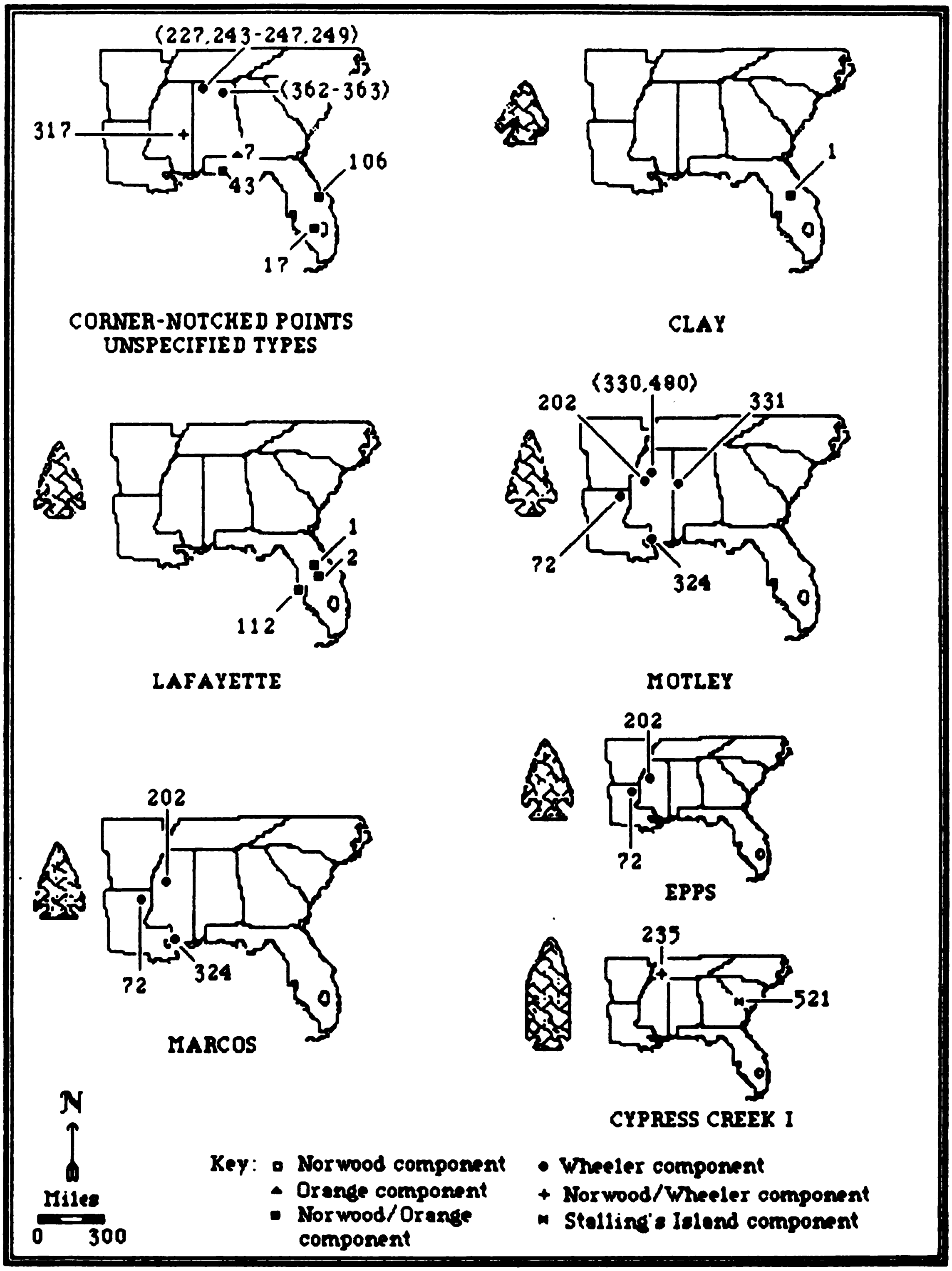
APPENDIX F1. SPATIAL DISTRIBUTION OF SFT MATERIAL CULTURE ASSOCIATED WITH PLANT AND ANIMAL FOOD PROCESSING.



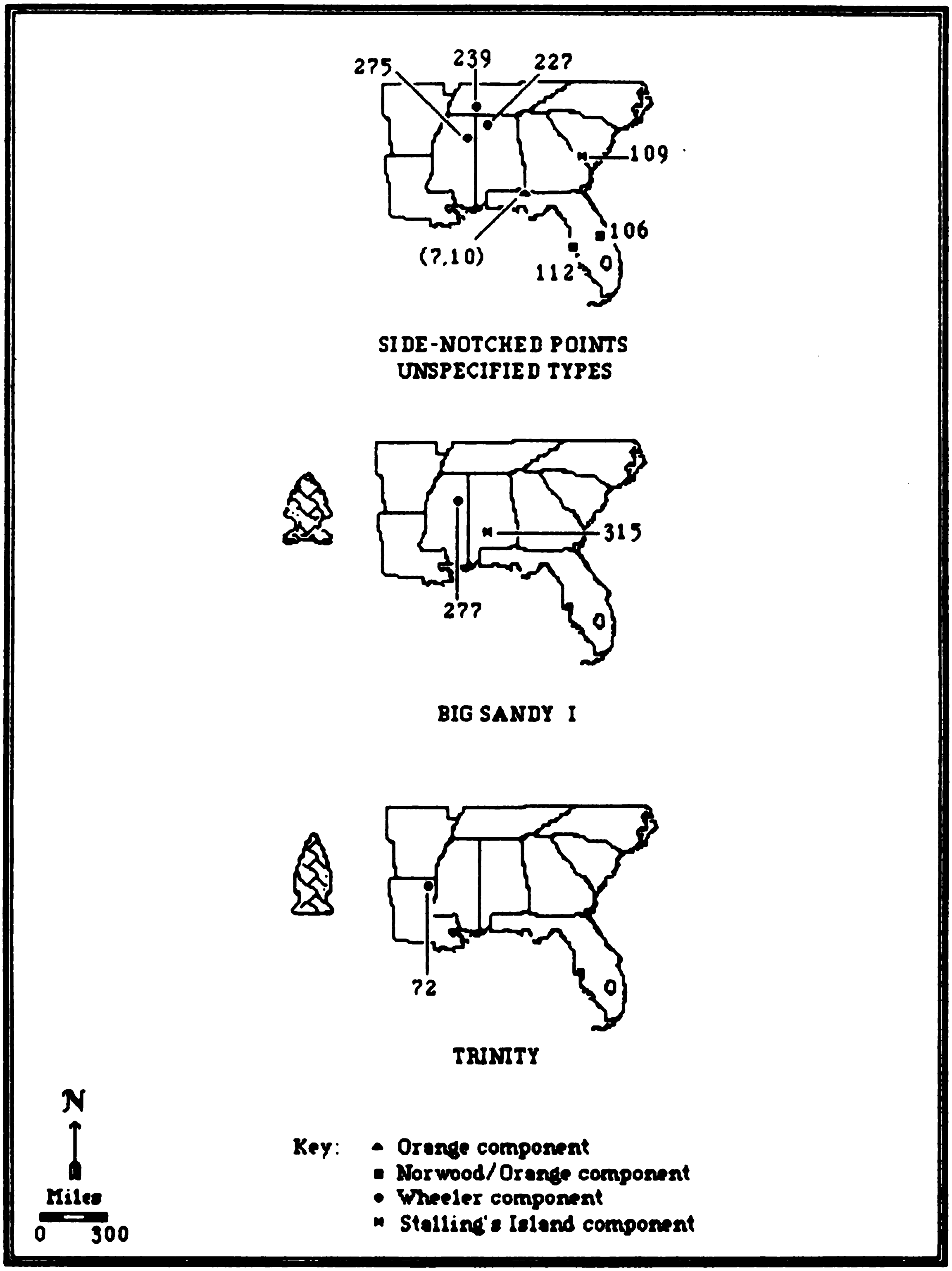
APPENDIX G1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE ATLATL AMONG SFT SITES.



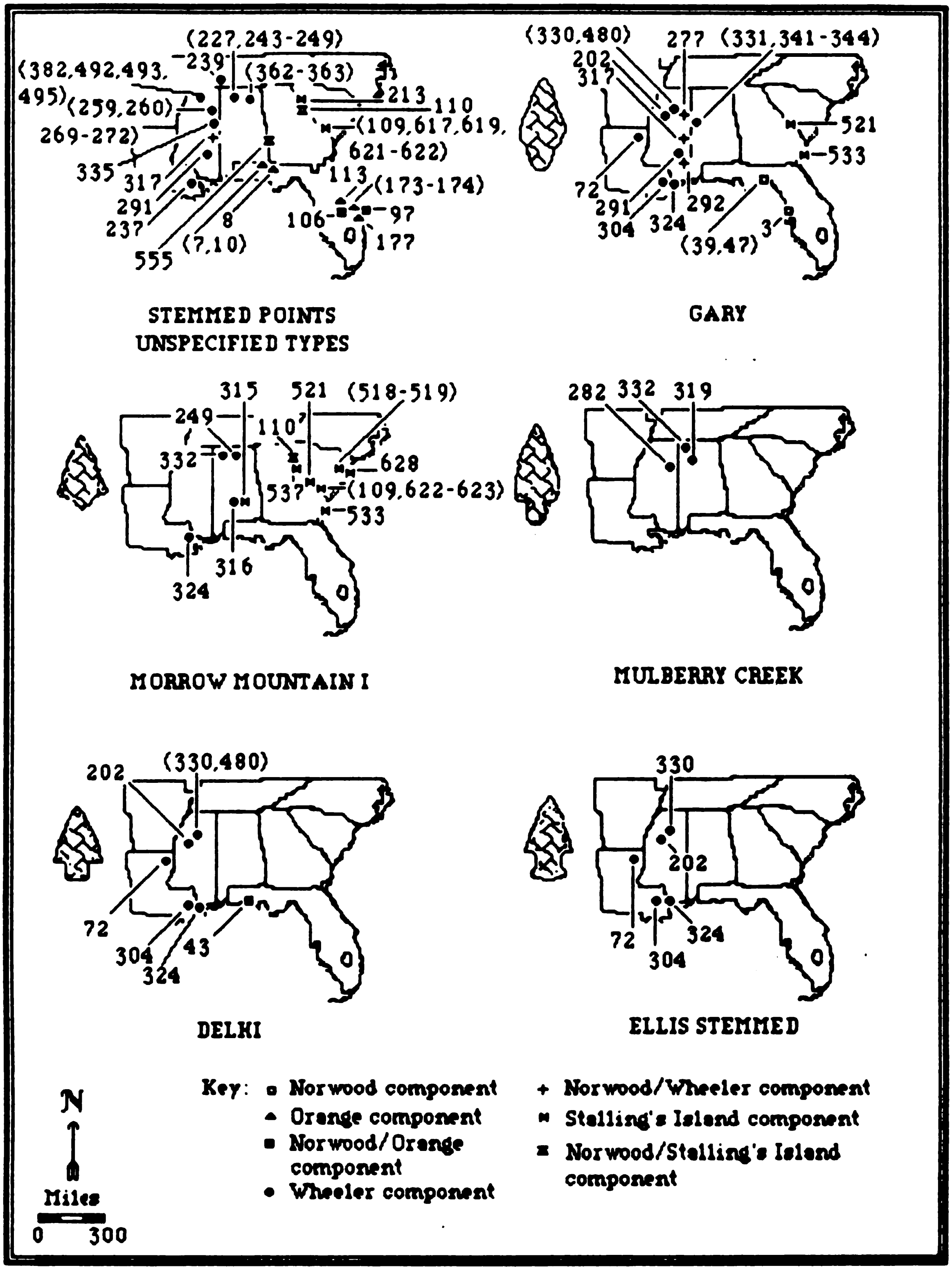
APPENDIX H1. SPATIAL DISTRIBUTION OF "BASALLY-NOTCHED" PROJECTILE POINTS AMONG SFT SITES.



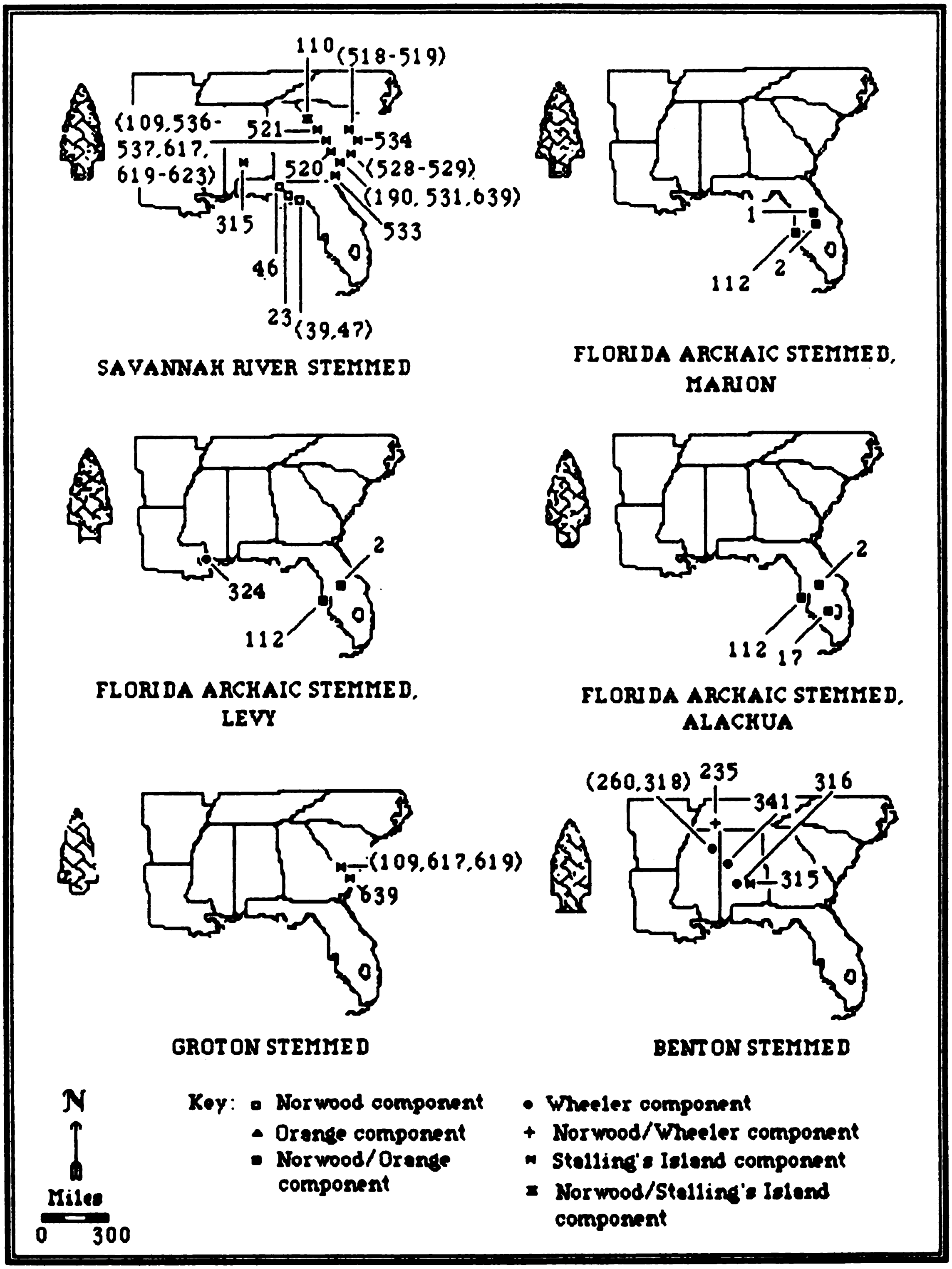
APPENDIX I1. SPATIAL DISTRIBUTION OF "CORNER-NOTCHED" PROJECTILE POINTS AMONG SFT SITES.



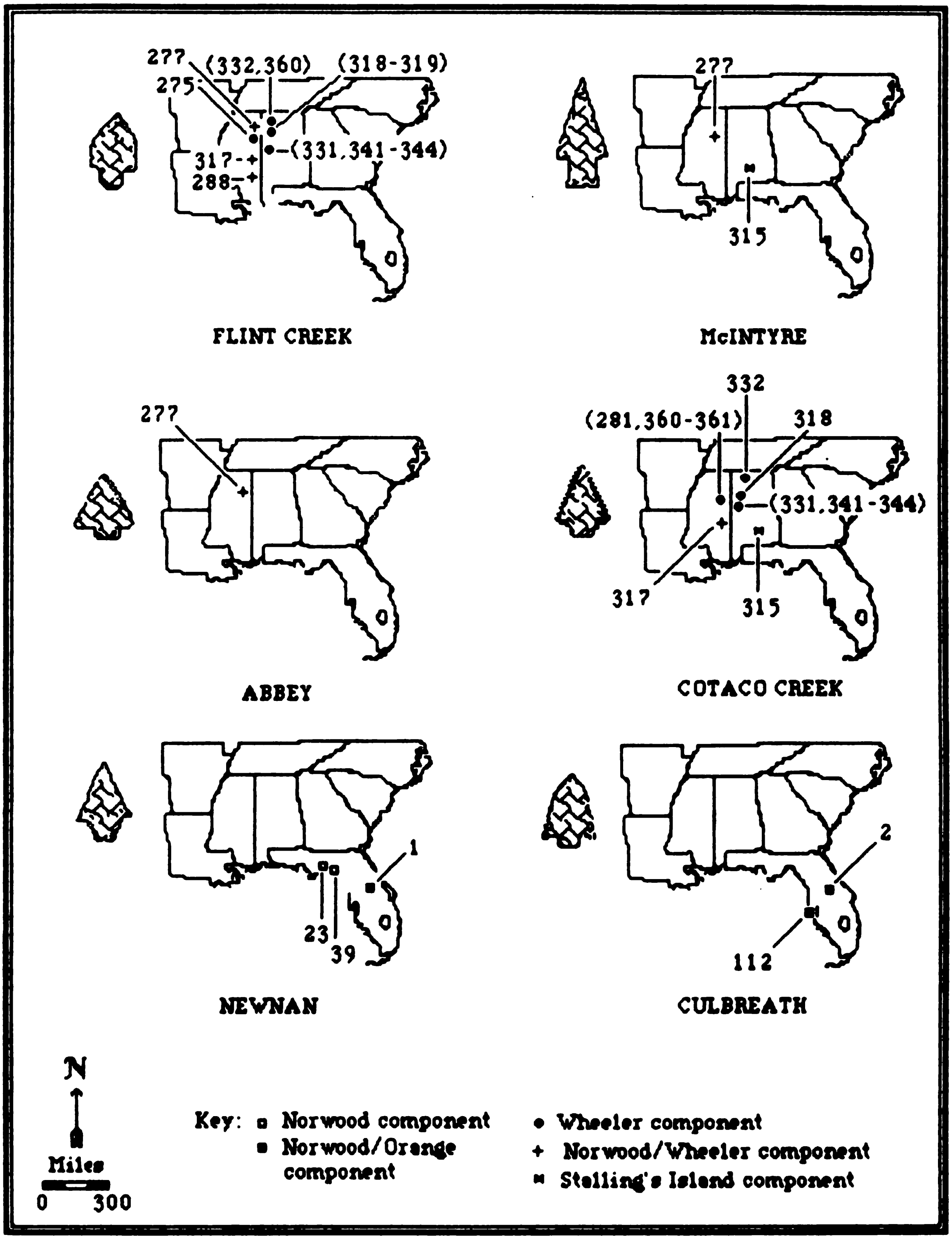
APPENDIX J1. SPATIAL DISTRIBUTION OF "SIDE-NOTCHED" PROJECTILE POINTS AMONG SFT SITES.



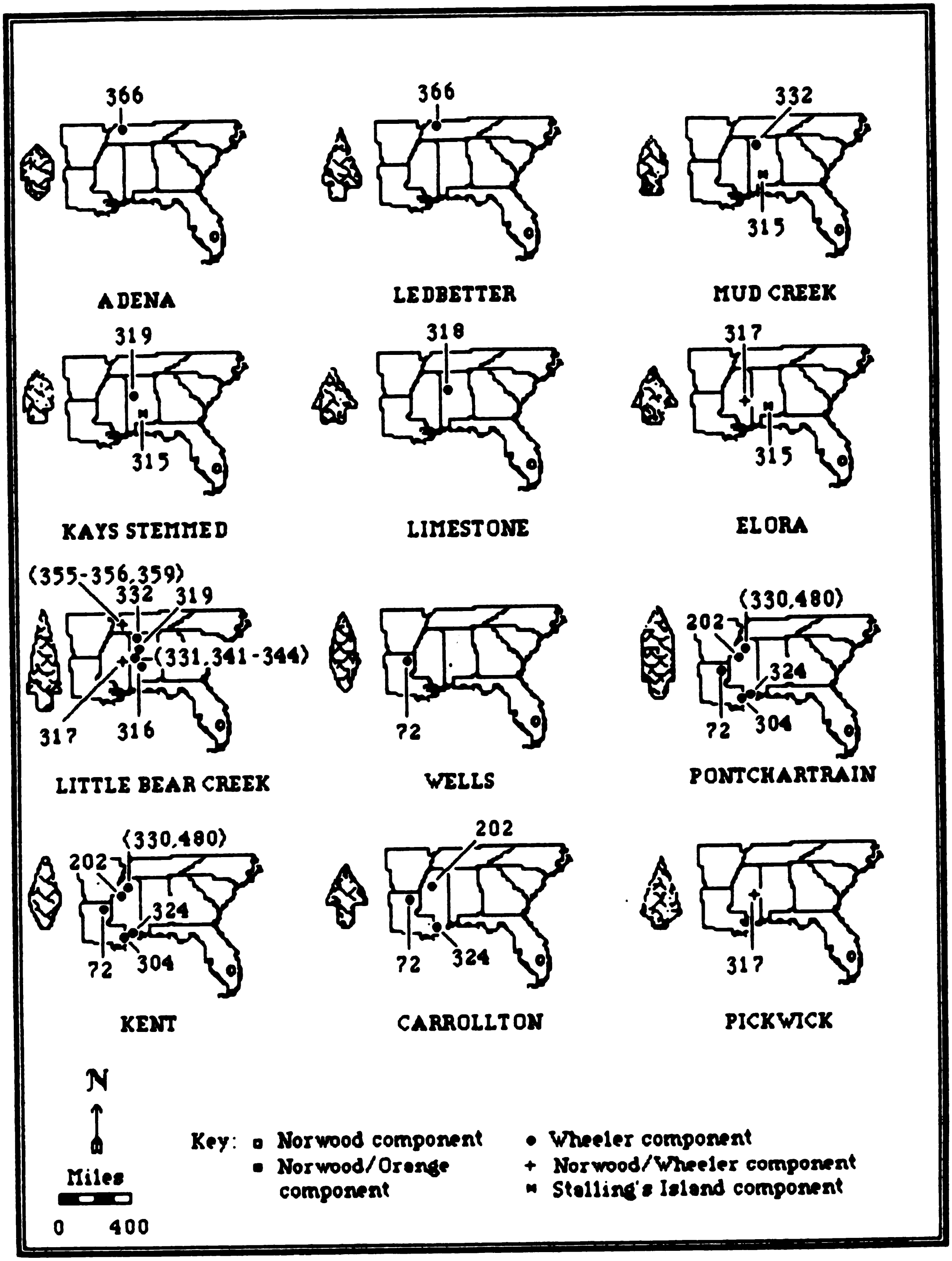
APPENDIX K1. SPATIAL DISTRIBUTION OF "STEMMED" PROJECTILE POINTS AMONG SFT SITES.



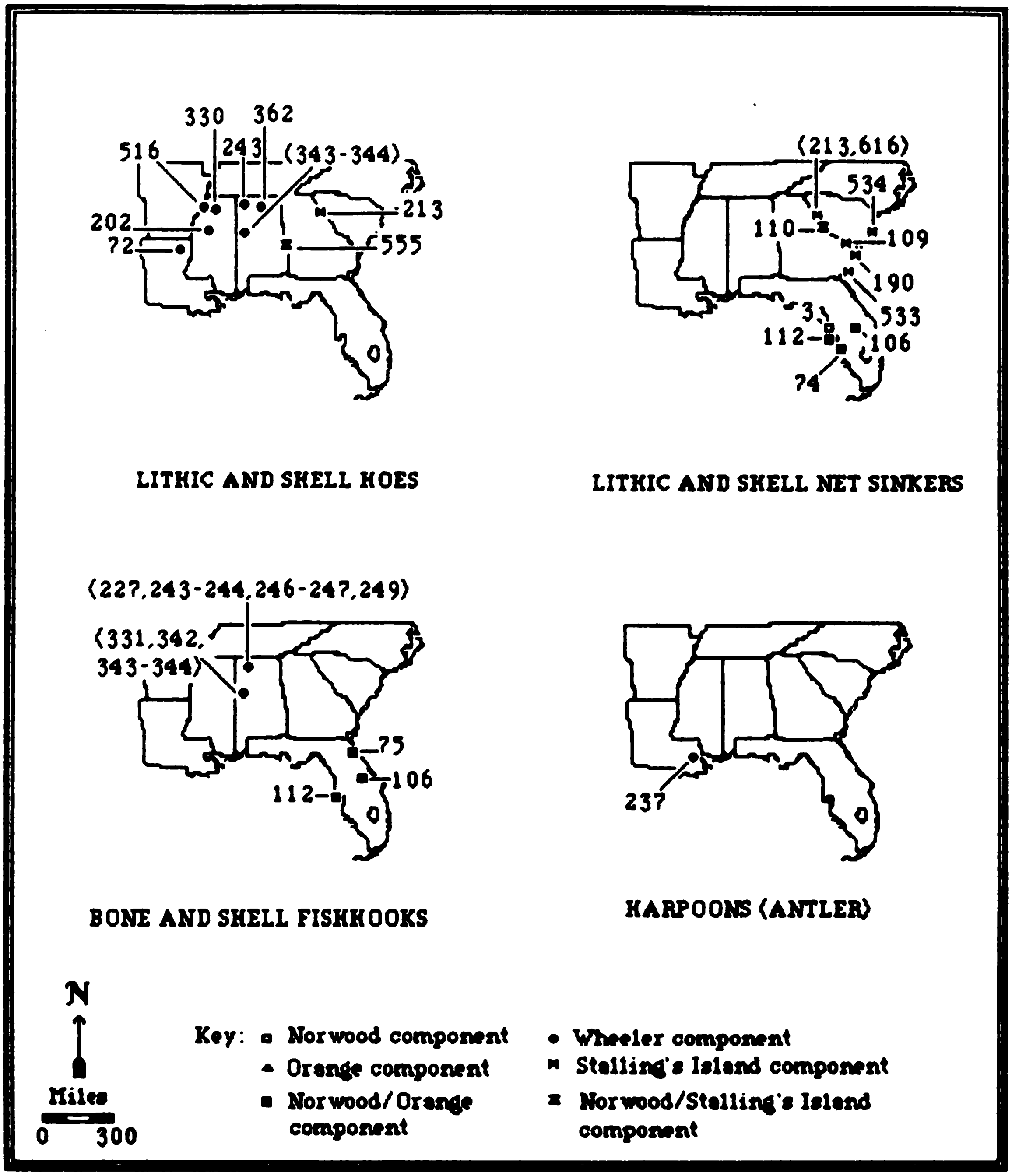
APPENDIX L1. SPATIAL DISTRIBUTION OF "STEMMED" PROJECTILE POINTS AMONG SFT SITES (cont'd.).



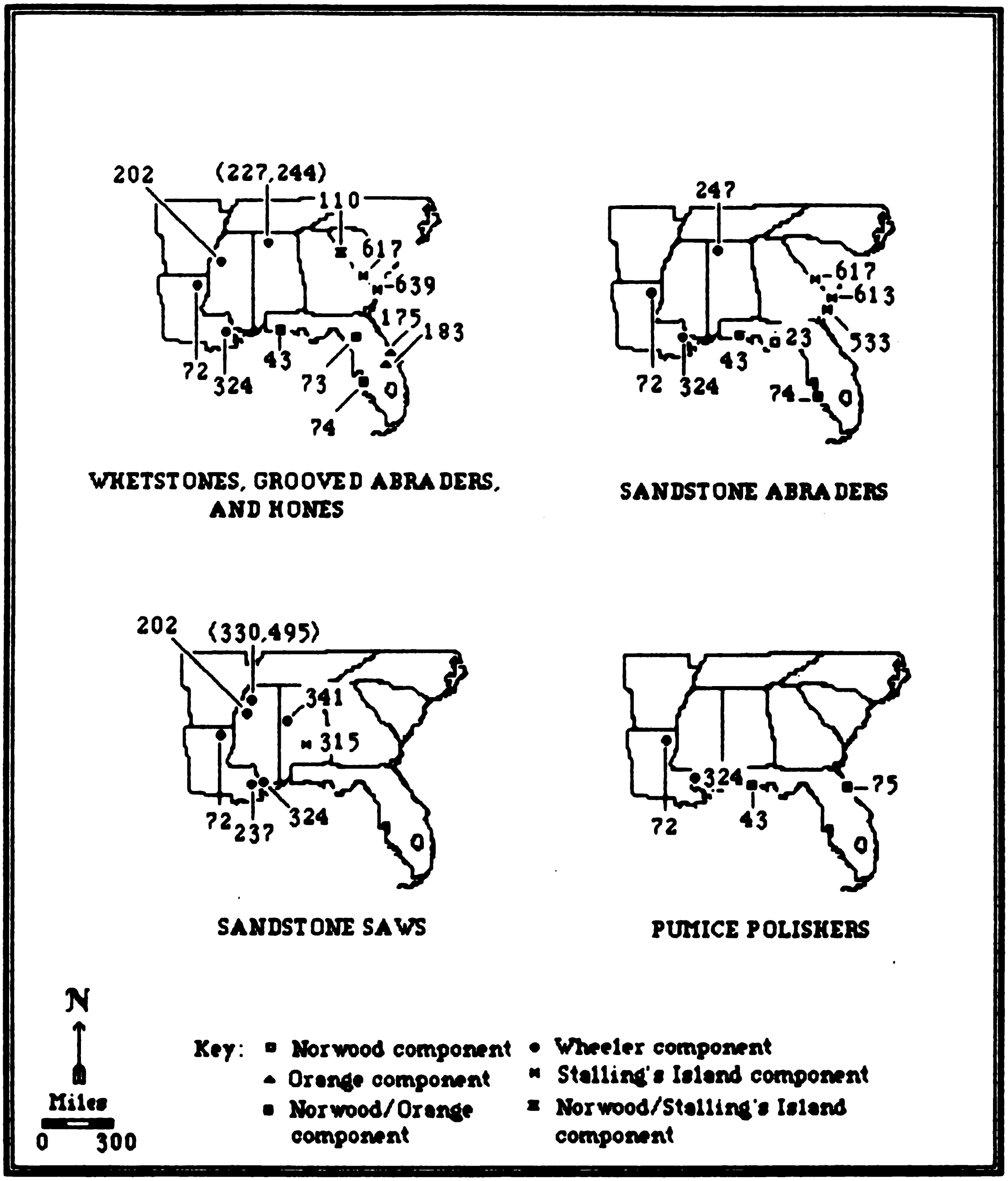
APPENDIX M1. SPATIAL DISTRIBUTION OF "STEMMED" PROJECTILE POINTS AMONG SFT SITES (cont'd.).



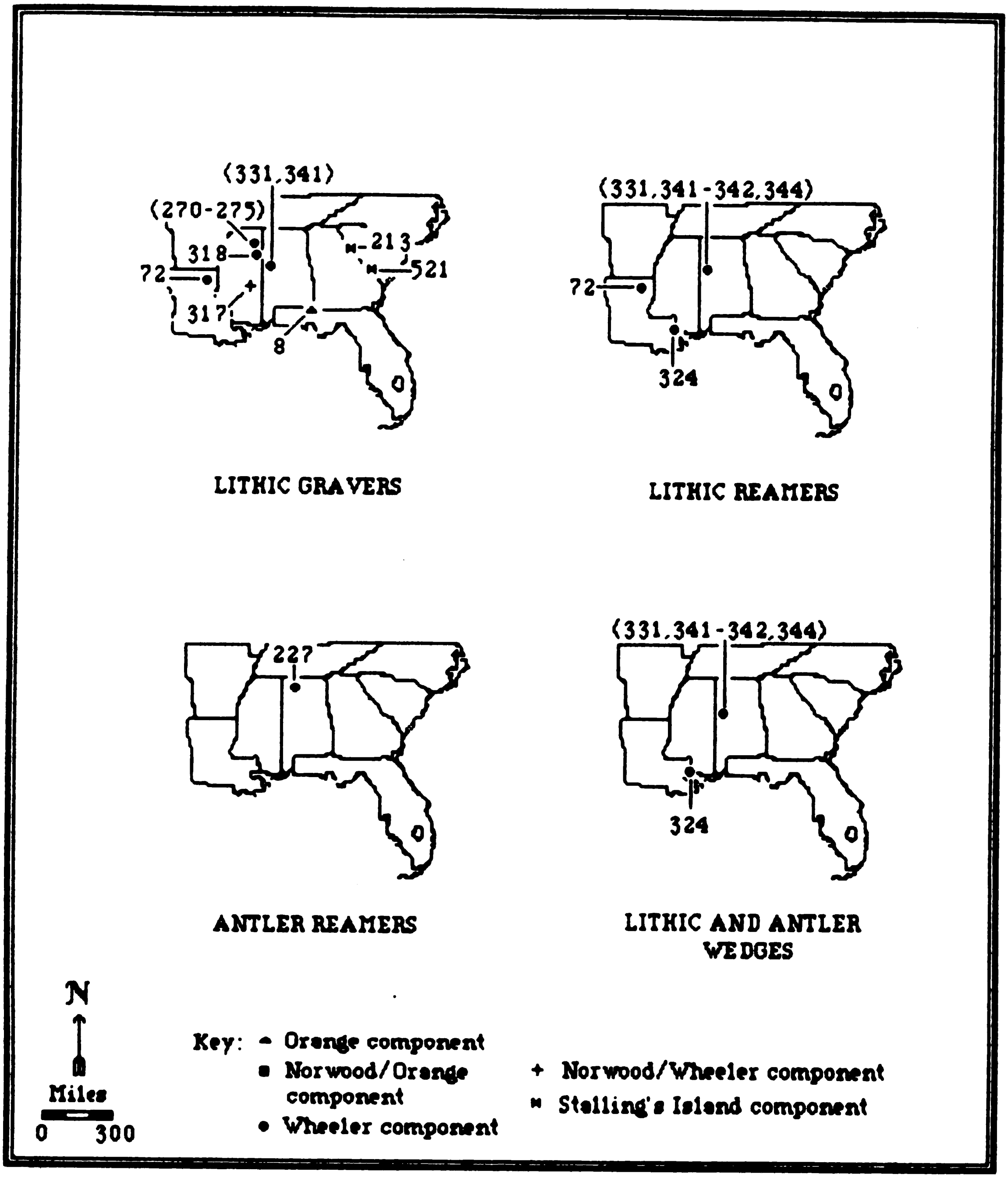
APPENDIX N1. SPATIAL DISTRIBUTION OF "STEMMED" PROJECTILE POINTS AMONG SFT SITES (cont'd.).



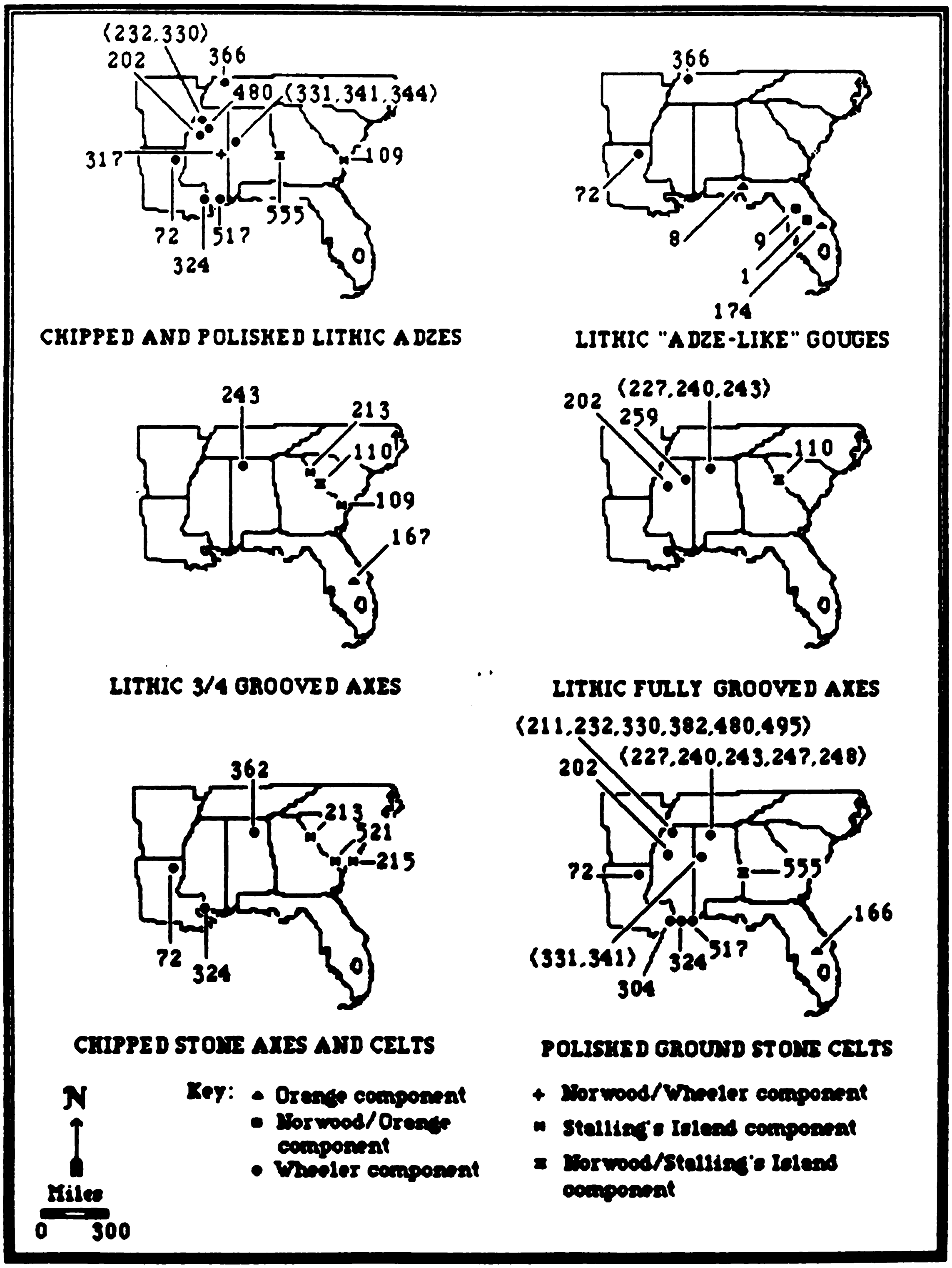
APPENDIX 01. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH AQUATIC RESOURCE HARVESTING AMONG SFT SITES.



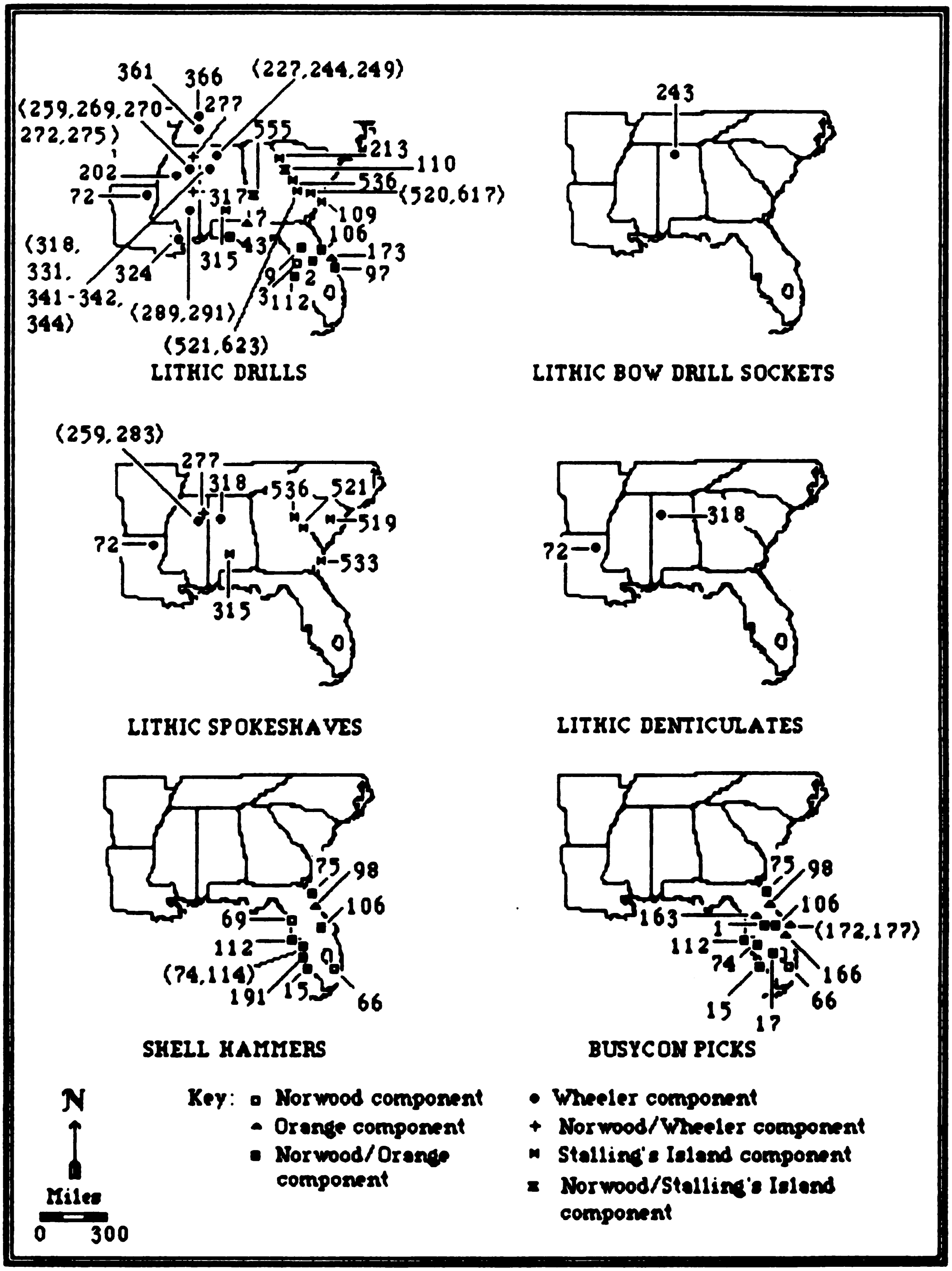
APPENDIX P1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE MANUFACTURE OF BONE ARTIFACTS AMONG SFT SITES.



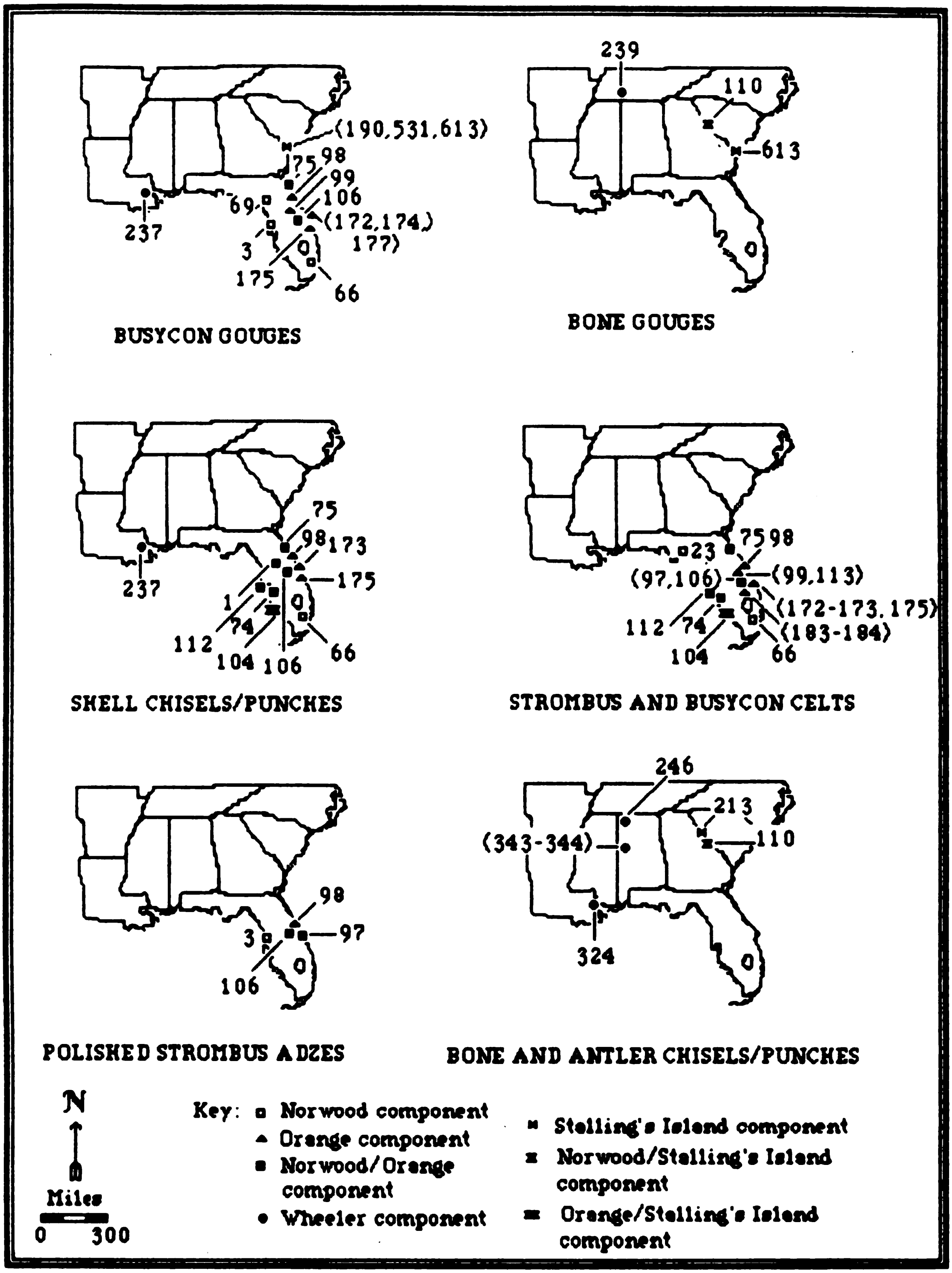
APPENDIX Q1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE MANUFACTURE OF BONE ARTIFACTS AMONG SFT SITES (cont'd.).



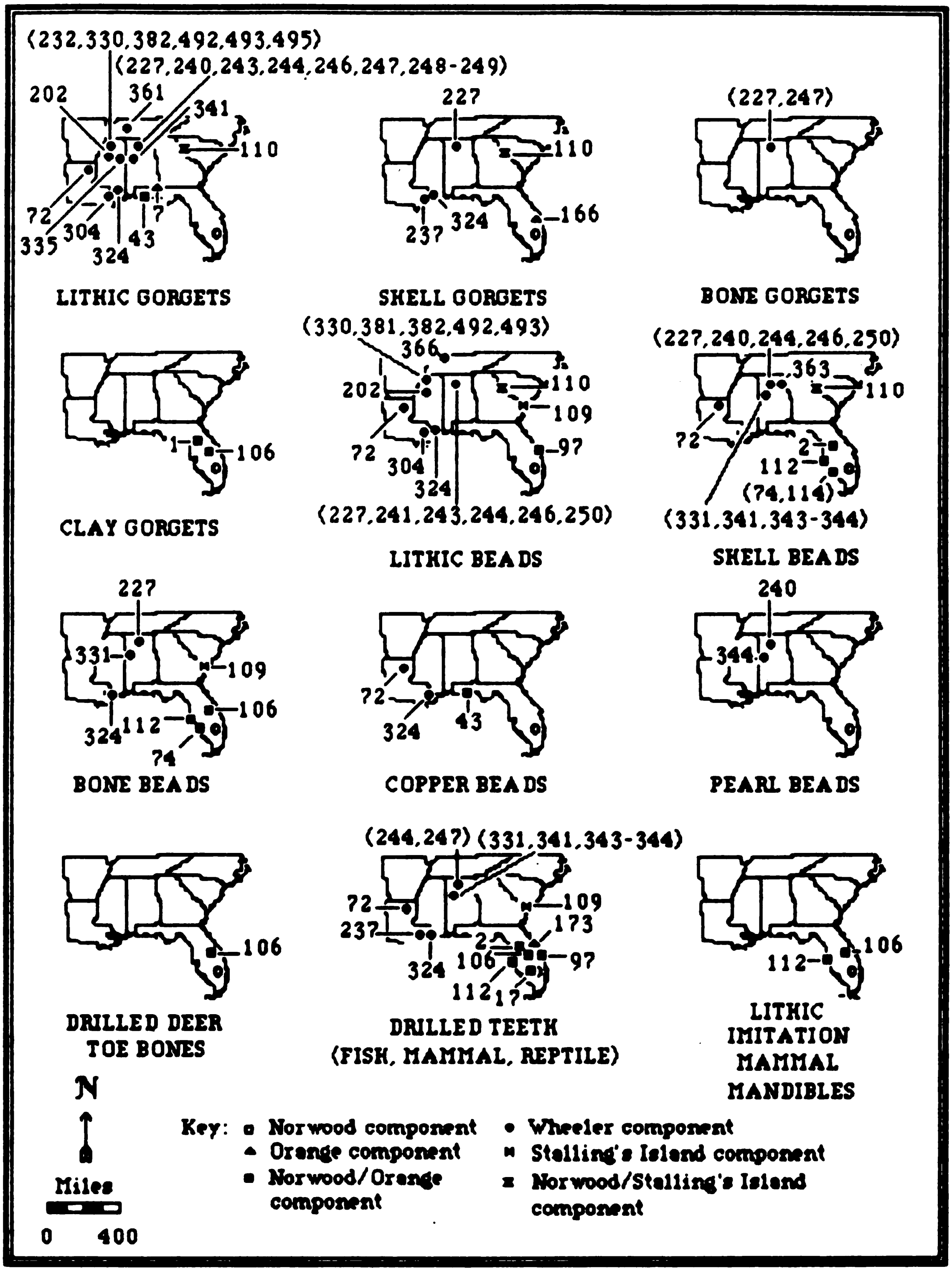
APPENDIX R1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE MANUFACTURE OF WOODEN ARTIFACTS AMONG SFT SITES.



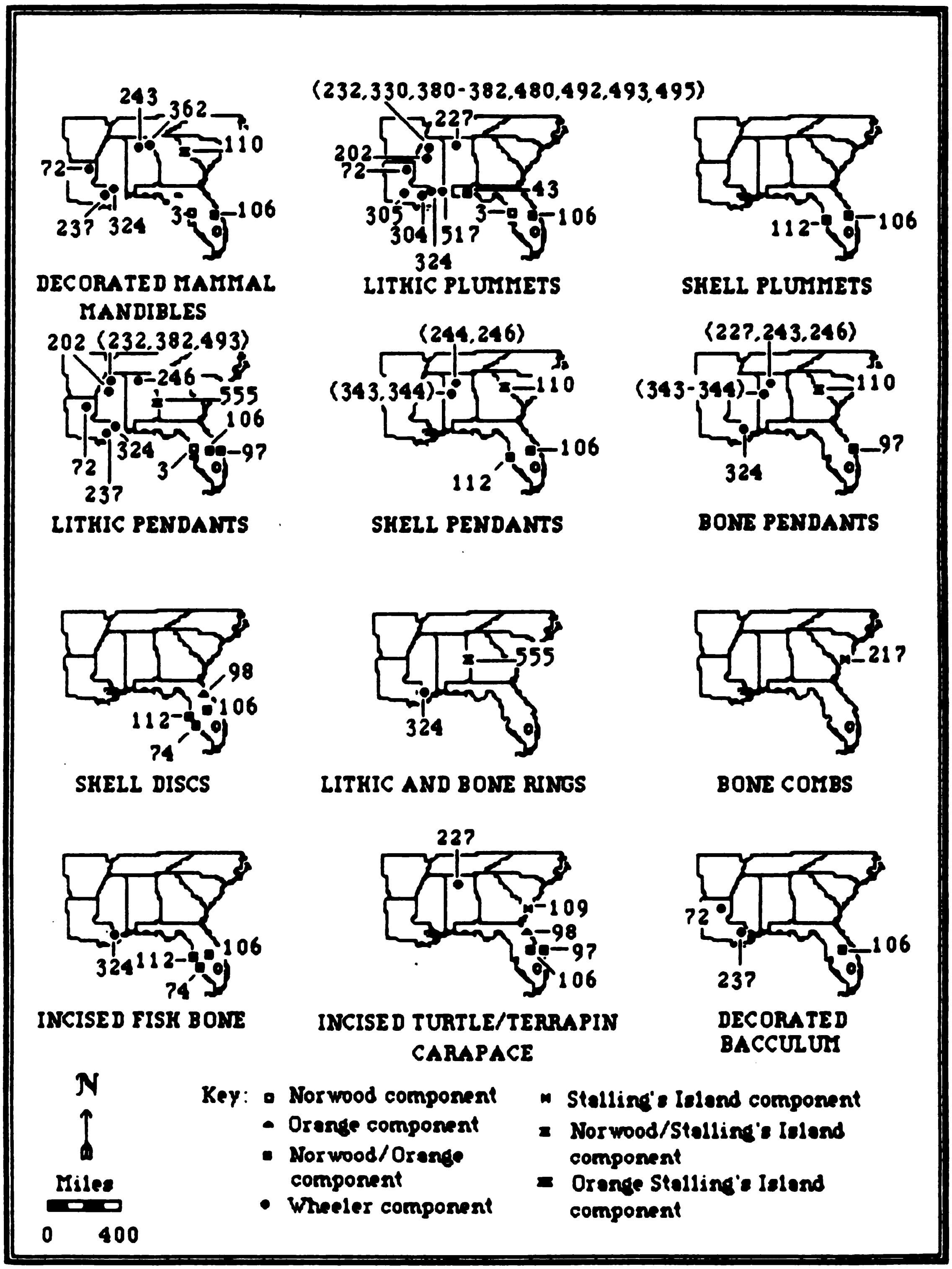
APPENDIX S1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE MANUFACTURE OF WOODEN ARTIFACTS AMONG SFT SITES (cont'd.).



APPENDIX T1. SPATIAL DISTRIBUTION OF MATERIAL CULTURE ASSOCIATED WITH THE MANUFACTURE OF WOODEN ARTIFACTS AMONG SFT SITES (cont'd.).



APPENDIX U1. SPATIAL DISTRIBUTION OF ORNAMENTAL PARAPHERNALIA AMONG SFT SITES.



APPENDIX VI. SPATIAL DISTRIBUTION OF ORNAMENTAL PARAPHERNALIA AMONG SFT SITES (cont'd.).

BIBLIOGRAPHY

BIBLIOGRAPHY

Allen, Glenn T.
1954 Archaeological Excavations in the Central Northwest Gulf Coast Area. *Florida State University Studies, Anthropology* (16):61-88. Tallahassee.

Anderson, David G.
1975a Inferences based on Distribution Studies of Prehistoric Ceramics in the Coastal Plain of South Carolina. *South Carolina Antiquities* 7(1):8-15. Columbia.

1975b Inferences from Distributional Studies of Prehistoric Artifacts in the Coastal Plain of South Carolina. *Southeastern Archaeological Conference, Bulletin* 18:180-194.

Anderson, David G., Sammy T. Lee, and A. Robert Parler, Jr.
1979 Cal Smoak: Archaeological Investigations along the Edisto River in the Coastal Plain of South Carolina. *Occasional Papers* (1) *Archaeological Society of South Carolina, Inc.* Columbia.

Anderson, David G., Charles E. Cantley, and A. Lee Novick, et al.
1982 *The Mattassee Lake Sites: Archaeological Investigations Along the Lower Santee River in the Coastal Plain of South Carolina* USDI-National Park Service, Interagency Archaeological Services-Special Publications. Atlanta.

Atkins, Steve, and Jeannie MacMahan
1967 The Zabski Site, Merritt Island, Florida. *Florida Anthropologist* 20(3-4):133-144. Gainesville.

Atkinson, James R.
1974 Test Excavations at the Vaughn Mound Site (22Lo538). In *Archaeological Survey and Test Excavations in the Upper-central Tombigbee River Valley: Aliceville-Columbus Lock and Dam and Impoundment Areas, Alabama and Mississippi,* by Marc D. Rucker, pp. 115-158. Report submitted to National Park Service by Department of Anthropology, Mississippi State, Mississippi State.

1978 A Cultural Resources Survey of Selected Construction Areas in the Tennessee-Tombigbee Waterway: Alabama and Mississippi (1) Report submitted to Corps of Engineers, Mobile, by Department of Anthropology, Mississippi State University, Mississippi State.

Atkinson, James R., and Jack D. Elliott, Jr.
1979 A Cultural Resources Survey and Evaluation in the Tallahala Creek Lake, Jasper County, Mississippi. Report submitted to Corps of Engineers, Mobile, by Department of Anthropology, Mississippi State University, Mississippi State.

Atkinson, James R., John C. Phillips, and Richard Walling
1980 The Kellogg Village Site Investigations, Clay County, Mississippi. Report submitted to Corps of Engineers, Mobile, by Department of Anthropology, Mississippi State University, Mississippi State.

Bartram, William
1791 *Travels Through North and South Carolina, Georgia, east and west Florida, the Cherokee Country, the Extensive Territories of the Muscogulges or Creek Confederacy and the Country of the Choctaws.* Philadelphia.

Bartsch, Alexander
1981 A Site of the Savannah River Phase near Rocky Ford, Georgia. *South Carolina Antiquities, The Second Decade* 13(1 and 2):13-17. Columbia.

Beasley, Dona
1971 Skidaway Island: A Research Prospectus. *University of Georgia Publications.* Athens.

Bense, Judith A.
1982 Archaeological Testing Investigations at 38 sites in the River and Canal Sections of the Tennessee-Tombigbee Waterway. *University of Alabama, Office of Archaeological Research, Report of Investigations* 18. University.

Bense, Judith A., Chung Ho Lee, and Nancy Marie White
1982 Archaeological Investigations at Four Sites in Monroe and Itawamba Counties, Mississippi. *University of West Florida, Office of Cultural and Archaeological Research, Report of Investigations* 4: Vol. 1. Pensacola.

Bense, Judith A., and Michael Rodeffer
1982 Excavations at the Popular Site (22It576). *University of West Florida, Office of Cultural and Archaeological Research, Reports of Investigations* 3, Vol. 4. Pensacola.

Benson, Carl A.
1956 Test Results at the Paw Paw Mound, Brevard County, Florida. *Florida Anthropologist* 9(2):61-65. Gainesville.

1959 Some Pottery Contributions to Early Fabric Techniques. *Florida Anthropologist* 13(3):64-71. Tallahassee.

Benthall, J. L.
1965 A Study of Flint and Ceramic Relationships at Four Selected Alabama Aboriginal Sites. Masters Thesis, Department of Anthropology, University of Alabama, University.

Blakeman, Crawford H., Jr.
1975a Archaeological Investigations in the Upper Central Tombigbee Valley: 1974 Season. Report submitted to National Park Service by Department of Anthropology, Mississippi State University, Mississippi State.

1975b An Archaeological Site Survey in Central Oktibbeha County, Mississippi: June-July 1975. Manuscript on file, Department of Anthropology, Mississippi State University, Mississippi State.

1976 A Cultural Resource Survey of the Aberdeen Lock and Dam and Canal Section Areas of the Tennessee-Tombigbee Waterway: 1975. Report submitted to National Park Service by Department of Anthropology, Mississippi State University, Mississippi State.

Blakeman, Crawford H., Jr., James R. Atkinson, and G. Gerald Berry
1976 Archaeological Excavations at the Cofferdam Site, 22Lo599, Lowndes County, Mississippi. Report submitted to National Park Service by Department of Anthropology, Mississippi State University, Mississipppi State.

Blakeslee, Donald J., and Arthur H. Rohn
1982 Man and Environment in northeastern Kansas: the Hillsdale Lake Project. Vol 3. Draft Report submitted to the U.S. Army Corps of Engineers, Kansas City District.

Blatchley, W. S.
1902 *A Nature Wooing at Ormond by the Sea.* Indianapolis.

Bohannon, Charles F.
1972 *Excavations at the Pharr Mound, Prentiss and Itawamba Counties, Mississippi and Excavations at the Bear Creek Site; Tishomingo County, Mississippi.* National Park Service, Office of Archaeology and Historic Preservation, Division of Archaeology and Anthropology. Washington.

Bowen, William R.
1975 Late Archaic Subsistence and Settlement in the Western Tennessee Valley: A Reevaluation. Unpublished M.A. Thesis, University of Tennessee, Knoxville.

1977 A Reevaluation of Late Archaic Subsistence and Settlement Patterns in the Western Tennessee Valley. *Tennessee Archaeologist* 33:101-102.

Bragg, Laura M.
1925 An Indian Shell Culture in South Carolina. *Charleston Museum Quarterly* 1(2):3-7. Charleston.

Brain, Jeffery P., and Drexel Peterson
1971 Palmetto Tempered Pottery. *Southeastern Archaeological Conference, Bulletin* 13:70-76. Morgantown.

Brannon, P. A. (ed.)
1924 *Arrow Points* 9(6). Montgomery.

Brashler, Janet G.
1981 Early Late Woodland Boundaries and Interaction: Indian Ceramics of Southern Lower Michigan. *Publications of the Museum, Michigan State University, Anthropological Series* 3 (3). East Lansing.

Brock, Oscar, and Margaret Clayton
1966 Archaeological Investigations in the Mud Creek - Town Creek Drainage Area of Northwest Alabama. *Journal of Alabama Archaeology* 12:79-132. University.

Brockington, Paul
1971 A Preliminary Investigation of an Early Knapping Site in Southeastern Georgia. *Notebook* 3(2):23-46. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Brookes, Sam O., and John M. Connaway
n.d. Lowndes County Survey Report. Manuscript, Mississippi Department of Archives and History, Jackson.

Brown, D.
1873 Shell-heap in Georgia. *Smithsonian Institution Annual Report 1871*. Washington.

Broyles, Bettye J.
1967 Bibliography of Pottery Type Descriptions from the Eastern United States. *Southeastern Archaeological Conference Bulletin* (4) Morgantown.

Bullen, Ripley P.
1950 An Archaeological Survey of the Chattahoochee River Valley in Florida. *Journal of the Washington Academy of Sciences* 40(4):101-125. Menasha.

1954 Culture Changes During the Fiber-tempered Period of Florida. *Southern Indian Studies* 6:45-48. Chapel Hill.

1955 Stratigraphic Tests at Bluffton, Volusia County, Florida. *Florida Anthropologist* 8(1):1-16. Gainesville.

1956 Some Florida Radiocarbon Dates and Their Significance. *Florida Anthropologist* 9(2):31-36. Gainesville.

1958a The Bolen Bluff Site on Paynes Prairie, Florida. *Contributions of the Florida State Museum, Social Sciences* (4). Gainesville.

1958b More Florida Radiocarbon Dates and Their Significance. *Florida Anthropologist* 11(4):97-110. Gainesville.

1958c Six Sites Near the Chattahoochee River in the Jim Woodruff Reservoir Area, Florida. *Bureau of American Ethnology, Bulletin* 169. Washington.

1959a Radiocarbon Dating of the Earliest Pottery in Florida. *Actas del XXXIII Congresso Internacional de Americanstas, San Jose, Costa Rica, 1958.* 2:101-106. San Jose.

1959b The Transitional Period of Florida. *Southeastern Archaeological Conference Newsletter* 6:43-53. Chapel Hill.

1960 The Earliest Pottery in Southeastern United States, 2,000-1,000 B.C. and its Case as an Independent Invention. *Vié Congrès International des Sciences Anthropologiques et Ethnologiques, 1960* 2(1):363-367. Paris.

1961 Radiocarbon Dates for Southeastern Fiber-tempered Pottery. *American Antiquity* 27(1):104-106. Washington.

1968 *A Guide to the Identification of Florida Projectile Points.* Florida State Museum, University of Florida, Gainesville.

1969a Further Comments on Emery and Edwards' "Archaeological Potential of the Atlantic Shelf". *American Antiquity* 34(3):331-332. Salt Lake City.

1969b Excavations at Sunday Bluff, Florida. *Contributions of the Florida State Museum* (15) Gainesville.

1971 The Transitional Period of Southern Southeastern United States as Viewed from Florida, or the Roots of the Gulf Tradition. *Southeastern Archaeological Conference, Bulletin* (13):63-70. Morgantown.

1972 The Orange Period of Peninsular Florida. In Fiber-tempered Pottery in Southeastern United States and Northern Columbia: its Origins, Context, and Significance." edited by Ripley P. Bullen and James Stoltman *Florida Anthropological Society Publications* 6:9-33. Gainesville.

1974 The Origins of the Gulf Tradition as seen from Florida. *Florida Anthropologist* 27:77-88. Gainesville.

1978 Pre-Columbian Trade in Eastern United States as Viewed from Florida. *Florida Anthropologist* 31(3):92-108. Gainesville.

Bullen, Ripley P., Walter Askew, Lee M. Feder, and Richard L. McDonnell
1978 The Canton Street Site, St. Petersburg, Florida. Jerald T. Milanich (editor) *Florida Anthropologist* 31(2), pt. 2. Gainesville.

Bullen, Ripley P., and H. K. Brooks
1967 Two Ancient Florida Dugout Canoes. *Quarterly Journal of Florida Academy of Sciences* 30(2):98-107.

Bullen, Ripley P., and William J. Bryant
1965 Three Archaic sites in the Ocala National Forest Florida. *The William L. Bryant Foundation, American Studies, Report*(6). Orlando.

Bullen, Ripley P., and Adelaide K. Bullen
1953 The Battery Point Site, Bayport, Hernando County, Florida. *Florida Anthropologist* 6(3):85-92. Gainesville.

1954 Further Notes on the Battery Point site, Bayport, Hernando County, Florida. *Florida Anthropologist* 7(3):103-108. Gainesville.

1956 Excavations on Cape Haze Peninsula, Florida. *Contributions of the Florida State Museum, Social Sciences* (1): 1-56. Gainesville.

1961a The Summer Haven Site, St. Johns County, Florida. *Florida Anthropologist* 14 (1,2):1-15. Tallahassee.

1961b Wash Island in Crystal River. *Florida Anthropologist* 14(3-4):69-73. Gainesville.

1976 The Palmer Site. *Florida Anthropologist* 29(2), pt. 2. Gainesville.

Bullen, Ripley P., Adelaide K. Bullen, and Carl J. Causen
1968 The Cato Site Near Sebastian Inlet, Florida. *Florida Anthropologist* 21(1):14-16. Gainesville.

Bullen, Ripley P., and H. Bruce Greene
1970 Stratigraphic Tests at Stalling's Island, Georgia. *Florida Anthropologist* 23(1):8-28. Gainesville.

Bullen, Ripley P., and J. W. Griffin
1952 An Archaeological Survey of Amelia Island, Florida. *Florida Anthropologist* 5(3-4):37-64. Gainesville.

Bullen, Ripley P., and William M. Sackett
1958 Dates of Busycon Gouges at the Bluffton site, Florida. *Florida Anthropologist* 11(4):111-113. Tallahassee.

Bushnell, Francis F.
1960 The Harris Creek Site, Tick Island, Volusia County. *Florida Anthropologist* 13:25-31.

Caddell, Gloria M., Anne Woodrick, and Mary C. Hill
1981 *Biocultural Studies in the Gainesville Lake Area. Voulme IV of Archaeological Investigations in the Gainesville Lake Area of the Tennessee-Tombigbee Waterway.* Office of Archaeological Research, Report of Investigations (14), University.

Caldwell, Joseph R.
1950 A Preliminary Report on Excavations in the Alltoona Reservoir, *Early Georgia* 1(1):4-21. Athens.

1952 The Archaeology of Eastern Georgia and South Carolina. In *Archaeology of Eastern United States* (James B. Griffin, editor) pp. 312-321. University of Chicago Press, Chicago.

1954 The Old Quartz Industry of Piedmont Georgia and South Carolina. *Southern Indian Studies* 5:37-39. Chapel Hill.

1958 *Trend and Tradition in the Prehistory of the Eastern United States*. American Anthropological Association, Memoir (88). Menasha.

1965 Primary Forest Efficiency. *Southeastern Archaeological Conference, Bulletin* (3):66-69.

1971 Chronology of the Georgia Coast. *Southeastern Archaeological Conference, Bulletin* 13:88-92.

Caldwell, James D., and Shelia D. Lewis
1972 Survey of the Tennessee-Tombigbee Waterway System, 1971-1972. Manuscript., Department of Archives and History, Jackson, Mississippi.

Caldwell, Joseph R., and Catherine McCann
1941 *Irene Mound Site, Chatham County, Georgia*. University of Georgia Press, Athens.

Caldwell, Joseph R., and Antonio J. Waring, Jr.
1939 The Use of a Ceramic Sequence in the Classification of Aboriginal Sites in Chatham County, Georgia. Abstract, *Southeastern Archaeological Conference, Newsletter* 2 (1):6-7.

Calmes, Alan
1968 Test Excavations at Three Late Archaic Shell-Ring Mounds on Hilton Head Island, Beaufort County, South Carolina. *Southeastern Archaeological Conference, Bulletin* (8):45-48. Morgantown.

Chance, Marsha A.
1974 The W.P.A. Glynn County Project: A Ceramic Analysis. Unpublished Masters Thesis, Florida State University, Tallahassee.

Chase, David W.
1955 Archaeological Reconaissance of the Middle Chattahoochee River Valley. *Early Georgia* 2(1):20-21 Calhoun.

1966 A Stratified Archaic Site in Lowndes County, Alabama. *Florida Anthropologist* 19 (2):91-114.

1968 Pottery Typology Committee for Central Alabama. *Southeastern Archaeological Conference, Bulletin* (8):11-22. Morgantown.

1982 Site 1Ds53: a Glimpse of Central Alabama Prehistory from the Archaic to the Historic Period. In *Archaeology in Southwest Alabama: a Collection of Papers*, edited by Cailup Curren, pp.19-30. Alabama Tombigbee Regional Commission, Camden.

Claflin, William. H., Jr.
1931 The Stallings Island Mound, Columbia County, Georgia. *Papers of the Peabody Museum of American Archaeology and Ethnology*, 14(1) *Harvard University*. Cambridge.

Claassen, Cheryl
1986a Shell fishing Seasons in the Prehistoric Southeastern United States. *American Antiquity* 51(1):21-37.

1986b Temporal Patterns in Marine Shellfish Species Use Along the Atlantic Coast in the Southeastern United States. *Southeastern Archaeology* 5(2):120-138. Lawrence.

Cleland, Charles E.
1976 The Focal-Diffuse Model: An Evolutionary Perspective on the Prehistoric Cultural Adaptations of the Eastern United States. *Mid-Continental Journal of Archaeology*, 1(1). Kent State University Press, Kent.

Coates, Gordon C.
1955 Recent Tests at the Battery Point Site, Bayport, Hernando County, Florida. *Florida Anthropologist* 8(1):27-31. Gainesville.

Coe, Joffre L.
1964 The Formative Cultures of the Carolina Piedmont. *Transactions of the American Philosophical Society*, New Series, 54, Part 5. Philadelphia.

Conn, Thomas L.
1978 Archaeological Investigations at 22Ld515, Lauderdale County Northeast Industrial Park, Lauderdale County, Mississippi. Report submitted to Lauderdale County by Department of Anthropology, Mississippi State University. Mississippi State.

Connaway, John M., Samuel O. McGahey, and Clarence H. Webb
1977 Teoc Creek, a Poverty Point Site in Carroll County, Mississippi. *Archaeological Report* 3. Mississippi Department of Archives and History. Jackson.

Cosgrove, C. B.
1929 A Note on a Trephined Indian Skull from Georgia. *American Journal of Physical Anthropology* 13(2):353-357.

Crane, H. R.
1956 University of Michigan Radiocarbon Dates I. *Science* 124(3224): 664-672. Washington.

Crane, H. R., and J. B. Griffin
1958a University of Michigan Radiocarbon Dates II. *Science* 127(3331): 1098-1105. Washington.

1958b University of Michigan Radiocarbon Dates III. *Science* 128(3332): 1117-1123. Washington.

1959 University of Michigan Radiocarbon Dates IV. *American Journal of Science, Radiocarbon Supplement* 1:173-198.

1961 University of Michigan Radiocarbon Dates VI. *Radiocarbon* 3:105-125.

1962 University of Michigan Radiocarbon Dates VII. *Radiocarbon* 4:183-203.

1964 University of Michigan Radiocarbon Dates IX. *Radiocarbon* 6:1-24.

1965 University of Michigan Radiocarbon Dates X. *Radiocarbon* 7:123-152.

1966 University of Michigan Radiocarbon Dates XI. *Radiocarbon* 8:256-285.

Crook, Morgan R., Jr.
1978 Spatial Associations and Distribution of Aggregate Village Sites in a Southeastern Atlantic Coastal Area. *Florida Anthropologist* 31(1):21-34.

Crusoe, Donald L.
n. d. The American Formative and Fiber-Tempered Ceramics. National Park Service, Southeast Archaeological Center, Macon.

1971a A Study of Aboriginal Trade: A Petrographic Analysis of Certain Ceramic Types from Florida and Georgia. *Florida Anthropologist* 24(1):31-43. Gainesville.

1971b The Missing Half: The Analysis of the Ceramic Fabric. *Southeastern Archaeological Conference, Bulletin* 13:59-76. Columbia.

1972 Interaction Networks and New World Fiber Tempered Pottery. Ph. D. Dissertation, University of Georgia, Department of Anthropology, Athens.

Crusoe, Donald L., and Chester B. DePratter
1976 A New Look at the Georgia Coastal Shell Mound Archaic. *Florida Anthropologist* 29(1):1-23.

Cumbaa, Stephen L.
1976 A Reconsideration of Freshwater Shellfish Exploitation in the Florida Archaic. *Florida Anthropologist* 29(2), pt 1:49-59. Gainesville.

Cumbaa, Stephen L., and Thomas H. Gouchnour
1970 The Colby Site, Marion County, Florida. *Florida Anthropologist* 23(2):43-56. Gainesville.

Curren, C. B.
1974 An Ethnozoological Analysis of the Vertebrate Remains, Little Bear Creek Site (Ct° 8). *Journal of Alabama Archaeology* 20:1-18.

DeJarnette, David L., Edward B. Kurjack, and James W. Cambron
1962 Stanfield-Worley Bluff Shelter Excavations. *Journal of Alabama Archaeology* 8(1 and 2):1-124. University.

DeJarnette, David L., John A. Walthall, and Steve B. Wimberly
1975a Archaeological Investigations in the Buttahatchee River Valley, Lamar County, Alabama. *Journal of Alabama Archaeology* 21(1):1-37. University.

1975b Archaeological Investigations in the Buttahatchee River Valley II: Excavations at Stucks Bluff Rock Shelter. *Journal of Alabama Archaeology* 21(2):99-119. University.

DePratter, Chester B.
n. d. Appendix 1: Site Descriptions (Rough Draft from Master's thesis in preparation), University of Georgia.

1979 Ceramics. In the Archaeology of St. Catherines Island, The Refuge-Deptford Mortuary Complex, edited by D. H. Thomas and C. S. Larsen. *Anthropological Papers of the American Museum of Natural History* 56(1):109-132.

DePratter, Chester B., Richard W. Jefferies, and Charles Pearson
1973 A Review of Early Pottery from the South Carolina Coast. *Notebook* 5(2):45-57. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Doran, J.E., and F. R. Hodson
1975 *Mathematics and Computers in Archaeology*. Harvard University Press, Cambridge.

Drayton, John
1803 *View of South Carolina*. Charlestown.

Duggan, Betty J., and Michael J. Rodeffer
1982 Test Excavations at the Smilax Site: 22Mo675. *University of West Florida, Office of Cultural and Archaeological Research, Report of Investigations* 3, Vol. 6. Pensacola.

Dunlevy, Marion L.
1948a Pottery Study. In The Whitesburg Bridge site Ma^{v}10, by William S. Webb and David L. DeJarnette. *Alabama Museum of Natural History, Museum Paper* 24. University.

1948b Pottery Study. In The Flint River site, Ma°48. by William S. Webb and David L. DeJarnette, *Alabama Museum of Natural History, Paper* 23. University.

Dye, David H.

1972 The Distribution of Fiber-tempered Ceramics in the Tennessee River Valley. A paper presented at the Southeastern Archaeological Conference. Morgantown.

1977a The Archaeological Survey: A Case Study. *Kentucky Archaeological Association, Bulletin* 8:1-11.

1977b A Model for Late Archaic Subsistence Systems in the Western Middle Tennessee Valley during the Bluff Creek Phase. *Tennessee Anthropologist* 2:63-80.

1980 Primary Forest Efficiency in the Western Middle Tennessee Valley. Ph. D. Dissertation, Department of Anthropology, Washington University. University Microfilms, Ann Arbor.

Dye, David H., and Jerry R. Galm

1982 Alexander, Tchefuncte, and Black Sand: an Early Gulf Tradition in the Mississippi Valley. A paper presented at the 3rd Annual Meeting of the Mid-South Archaeological Conference, Memphis.

Edens, Rick

1971 A Further Comment on Archaic Soapstone Quarries in Upper South Carolina. *Notebook* 3(4):91-92. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Edwards, William E.

1965 A Preliminary Report on the Sewee Mound Shell Midden, Charleston County, South Carolina.. Ms., Southeast Archaeological Center, National Park Service, Macon.

Emery, K. O., and R. D. Edwards

1966 Archaeological Potential of the Atlantic Continental Shelf. *American Antiquity* 31(5):733-739.

Ensor, H. Blaine

1981 *Gainesville Lake Area Lithics: Chronology, Technology and Use. Volume III of Archaeological Investigations in the Gainesville Lake Area of the Tennessee-Tombigbee Waterway.* Office of Archaeological Research, Report of Investigations (13). University.

Ensor, H. Blaine, and Joseph M. Studer

1982 Excavations at the Walnut Site (22It539). *University of West Florida, Office of Cultural and Archaeological Research, Report of Investigations* 3, Vol. 2. Pensacola.

Fairbanks, Charles H.

1942 The Taxonomic Position of Stalling's Island, Georgia. *American Antiquity* 7(3):223-231. Menasha.

1955 1953 Excavations at Site 9 HL 64, Buford Reservoir, Georgia. *Florida State University Studies,* (16):1-24. Tallahassee.

1959 Additional Elliott's Point Complex Sites. *Florida Anthropologist* 12(4):95-100. Tallahassee.

1971 What do we know now that we did not know in 1938? *Southeastern Archaeological Conference Bulletin* 13:40-46. Morgantown.

Faulkner, Charles H.
1968 A Review of Pottery Types in the Eastern Tennessee Valley. *Southeastern Archaeological Conference, Bulletin* 8:23-35. Morgantown.

Faulkner, Charles H., and J. B. Graham
1966 Westmoreland-Barber Site (40Mi-11), Nickajack Reservoir: Season II. Department of Anthropology, University of Tennessee. Knoxville.

Faulkner, Charles H., and C. R. McCollough
1973 Introductory Report of the Normandy Resevoir Salvage Project: Environmental Setting, Typology and Survey. Department of Anthropology, University of Tennessee, Report of Investigations No. 11.

Ferguson, Leland G., and Randolph J. Widmer
1976 Archaeological Examination of a Transect Through the Middle Savannah River Valley: The Bobby Jones Expressway, Richmond County, Georgia. *Institute of Archaeology and Anthropology, University of South Carolina Research Manuscript Series* (89). Columbia.

Ferguson, Vera M.
1951 Chronology at South Indian Field, Florida. *Yale University Publications in Anthropology* (45). New Haven.

Fewkes, Vladimir J.
1938 Irene Mound Excavations, Savannah, Georgia. *Proceedings of the Society for Georgia Archaeology* 1(2):24-31. Atlanta.

Flannery, Regina
1943 Some Notes on a Few Sites in Beaufort County, South Carolina. *Anthropological Papers,* No. 21, *Bureau of American Ethnology, Bulletin* 133(1):143-153. Washington.

Ford, James A.
1936 *Analysis of Indian Village Site Collections from Louisiana and Mississippi.* Louisiana Department of Conservation, Anthropological Study (2), New Orleans.

1962 A Quantitative Method for Deriving Cultural Chronology. *Pan American Union Technical Manual,* (1). Washington.

1966 Early Formative Cultures in Georgia and Florida. *American Antiquity* 31(6):781-805.

1969 *A Comparison of Formative Cultures in the Americas: Diffusion or the Psychic Unity of Man*. Smithsonian Contributions to Anthropology (11), Smithsonian Institution Press, Washington.

Ford, James A., Philip Phillips, and William G. Haag
1955 The Jaketown Site in West-Central Mississippi. *American Museum of Natural History, Anthropological Papers*, 45, Part 1. New York.

Ford, James A., and George I. Quimby
1945 The Tchefuncte Culture, an Early Occupation of the Lower Mississippi Valley. *Memoirs of the Society for American Archaeology*(2). Menasha.

Ford, James A., and C. H. Webb
1956 Poverty Point, A Late Archaic Site in Louisiana. *American Museum of Natural History, Anthropological Papers* 46(1). New York.

Fowke, Gerald
1928 Archaeological Investigations-II. *Forty-fourth Annual Report, Bureau of American Ethnology*, pp. 452-453, Pl. 841, Washington.

Futato, Eugene M.
1980 An Overview of Wheeler Basin Prehistory. *Journal of Alabama Archaeology* 26(2):110-135. University.

Gagliano, Sherwood M.
1963 A Survey of Preceramic Occupations in Portions of South Louisiana and South Mississippi. *Florida Anthropologist* 16(4):105-132.

1964 *An Archaeological Survey of Avery Island...Baton Rouge, Louisiana*. Avery Island, Inc. Baton Rouge.

1967 Late Archaic-Early Formative Relationships in South Louisiana. *Southeastern Archaeological Conference, Bulletin* 6:9-22. Morgantown.

Gagliano, Sherwood M., and Roger T. Saucier
1963 Poverty Point Sites in Southeastern Louisiana. *American Antiquity* 28(3):320-327. Salt Lake City.

Gagliano, Sherwood M., and Clarence H. Webb
1970 Archaic-Poverty Point Transitions at the Pearl River Mouth. *Southeastern Archaeological Conference Bulletin* 12. Morgantown.

Galm, Jerry R.
1982 Excavations at the Ilex Site (22It590). *University of West Florida, Office of Cultural and Archaeological Research, Report of Investigations 3*, Vol. 5. Pensacola.

Galm, Jerry R., Betty J. Duggan, David H. Dye, and David E. Pettry
1982 Excavations at the Aralia Site (22It563). *University of West Florida, Office of Cultural and Archaeological Research, Report of Investigations 3*, Vol. 3. Pensacola.

Gibson, Jon L.
1973 Social Systems at Poverty Point: an Analysis of Intersite and Intrasite Variability. Ph. D. Dissertation, Department of Anthropology, Southern Methodist University. University Microfilms International, Ann Arbor.

1974 Poverty Point the First North American Chiefdom. *Archaeology* 27(2):97-103.

1979 Poverty Point trade in South Central Louisiana: an Illustration from Beau Rivage. *Louisiana Archaeology* 4:91-116.

Goggin, John M.
n. d. Culture and Geography in Florida Prehistory. Ph. D. thesis, Yale University, New Haven.

1940 The Distribution of Pottery Wares in the Glades Archaeological Area of Southern Florida. *New Mexico Anthropologist* 4(2), Albuquerque.

1947 A Preliminary Definition of Archaeological Areas and Periods in Florida. *American Antiquity* 12(2):114-127. Menasha.

1948 A Revised Temporal Chart of Florida Archaeology. *Florida Anthropologist* 1:37-60.

1949 Cultural Traditions in Florida prehistory. In *The Florida Indian and His Neighbors*, edited by John W. Griffin, pp. 13-44. Rollins College, Winter Park.

1950a An Early Lithic Complex from Central Florida. *American Antiquity* 16(1):46-49. Menasha.

1950b Florida Archaeology -- 1950. *Florida Anthropologist* 3 (1-2):9-20.

1952 Space and Time Perspective in Northern St. Johns Archaeology, Florida. *Yale University Publications in Anthropology* (47). Yale University Press, New Haven.

1954 A Preliminary Statement on the Archaeology of the Cape Haze Area, Southwestern Florida. Mimeographed. University of Florida, Department of Sociology and Anthropology. Gainesville.

Greene, H. B.
1964 Stalling's Island Radiocarbon Dates. Mimeographed. Macon Museum of Arts and Crafts. Macon.

Gregorie, Anne K.
1925 Notes on Sewee Indians and Indian Remains of Christ Church Parish Charleston County, South Carolina. *Contributions from the Charleston Museum* (5). (Laura M. Bragg, editor). Charleston.

Griffin, James B.
1939 Report on the Ceramics of the Wheeler Basin. In An Archaeological Survey of Wheeler Basin on the Tennessee River in Northern Alabama by William S. Webb. *Bureau of American Ethnology, Bulletin* 122:127-165. Washington.

1943 An Analysis and Interpretation of the Ceramic Remains from Two Sites Near Beaufort, South Carolina," Anthropological Paper, (22). In *Bureau of American Ethnology, Bulletin* 133:155-168. Washington.

1945a The Significance of the Fiber-tempered Pottery of the St. Johns Area in Florida. *Journal of the Washington Academy of Sciences* 35(7):218-223. Washington.

1945b Ceramic Collections from Two South Carolina Sites. *Papers of the Michigan Academy of Science, Arts and Letters.* 30:465-476. Ann Arbor.

1946 Cultural Changes and Continuity in Eastern United States. *Papers of the Robert S. Peabody Foundation for Archaeology* 3:37-95. Andover.

1952 *Archaeology of Eastern United States.* (J. B. Griffin, editor) University of Chicago Press, Chicago.

1965 Ceramic Complexity and Cultural Development: The Eastern United States as a Case Study. In *Ceramics and Man*, (edited by Fredrick R. Matson, pp. 104-113) Viking Fund Publications in Anthropology 41.

Griffin, John W.
1948a Toward Chronology on Coastal Volusia County. *Florida Anthropologist* 1:49-56. Gainesville.

1949 Notes on the Archaeology of Useppa Island. *Florida Anthropologist* 2(3-4):92-93. Gainesville.

1952 Prehistoric Florida: A Review. In *Archaeology of Eastern United States.* (James B. Griffin, editor), pp. 312-321. Chicago.

1964 The Archaic Sequence in the Ocmulgee Bottoms. Abstracts of Papers of the 29th Annual Meeting, Society for American Archaeology p. 24. Chapel Hill.

1972 Fiber-tempered Pottery in the Tennessee Valley. In Fiber-tempered Pottery in Southeastern United States and Northern Columbia: its Origins, Context, and Significance. *Florida Anthropological Society Publications* 6:34-36. Gainesville.

Griffin, John W., and Hale G. Smith
1954 The Cotton Site: an Archaeological Site of Early Ceramic Times in Volusia County, Florida. Florida State University Studies (16):27-60. Tallahassee.

Haag, William G.
n. d. Excavations at Poverty Point: 1974-1975. Unpublished manuscript.

1939 Pickwick Basin Pottery Type Descriptions. *Southeastern Archaeological Conference, Newsletter* 1(1):1-17. Lexington.

1942 A Description and Analysis of the Pickwick Pottery. In An Archaeological Survey of Pickwick Basin in the Adjacent Portions of the States of Alabama, Mississippi and Tennessee. by William S. Webb and David L. DeJarnette. *Bureau of American Ethnology, Bulletin* 129:509-526. Washington.

1959 The Archaeology of Coastal North Carolina. *Louisiana State University Studies, Coastal Studies Series* (2). Baton Rouge.

Haag, William G., and Clarence H. Webb
1953 Microblades at Poverty Point Sites. *American Antiquity* 18 (3):245-248.

Hanson, Glen T., Jr.
1982 The Analysis of Late Archaic-Early Woodland Adaptive Change along the Middle Savannah River: A Proposed Study. *Notebook* 14(1 and 2):1-38. Institute of Archaeology and Anthropology. University of South Carolina, Columbia.

Hay, O. P.
1902 On the Finding of the Bones of the Great Auk (Plautus Impennis) in Florida. *The Auk* 19:255-258. Cambridge.

Heimlich, Marion D.
1952 Guntersville Basin Pottery. *Geological Survey of Alabama, Museum Paper* 32. University.

Hemmings, E. Thomas
1969 An Early Ceramic Site near Beaufort, South Carolina. *Notebook* 1(6 - 9). Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

1970 Preliminary Report of Excavations at Fig Island, South Carolina. *Notebook* 2(9):9-13. Institute of Archaeology and Anthropology. University of South Carolina, Columbia.

1972a Emergence of Formative Life on the Atlantic Coast of the Southeast. *Notebook* 4(3):59-64. Institute of Archaeology and Anthropology. University of South Carolina, Columbia.

1972b Prehistoric Subsistence and Settlement on the Upper Savannah River. *Notebook* 4(4):87-96. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Hemmings, E. Thomas, and Don L. VonBurger
1975 An Orange Plain Vessel from Enterprise, Florida. *Florida Anthropologist* 28(1):14-16. Gainesville.

Hitchcock, C. H.
1902 The Hernandes Shell-heap, Ormond, Florida. *Science* 16:203, New York.

Holder, Preston
1935 W.P.A. Glenn County Project, Monthly Progress Report. Archives, Southeast Archaeological Center, Tallahassee.

1938 Excavations of Saint Simons Island and Vicinity, (Winter of 1936-1937). *Proceedings of the Society for Georgia Archaeology* 1(1):8-9. Atlanta.

Holmes, William H.
1894 Earthenware of Florida: Collections of Clarence B. Moore. *Journal of the Academy of Natural Sciences* 10, pt. I:105-128, Philadelphia.

1903 Aboriginal Pottery of the Eastern United States. In *The 20th Annual Report of the Bureau of American Ethnology*. pp. 1-201. Washington.

1907 Aboriginal Shell-Heaps of the Middle Atlantic Tidewater Region. *American Anthropologist* 9(1):113-128. Washington.

Hubbert, Charles M.
1978 A Cultural Resource Survey of the Bay Springs Segment of the Tennessee-Tombigbee Waterway. *University of Alabama, Office of Archaeological Research, Report of Investigations* 3. University.

Hunter, Donald G.
1972 The Catahoula Phase of the Poverty Point Complex in East-central Louisiana. *Southeastern Archaeological Conference, Bulletin* 12.

1975 Functional Analyses of Poverty Point Clay Objects. *Florida Anthropologist* 28(1):57-71. Gainesville.

Hurt, Wesley R., Jr.
n. d. Surface Survey of the Chattahoochee River Valley Region of Alabama. ms.

Huscher, Harold A
1959 Appraisal of the Archaeological Resources of the Walter F. George Reservoir Area, Chattahoochee River, Alabama and Georgia. *Smithsonian Institution, River Basin Surveys.* Washington.

Ingmanson, J. Earl
1964 The Archaic Sequence in the Ocmulgee Bottoms. *Southeastern Archaeological Conference, Bulletin* (1):31-32.

Jahn, Otto L., and Ripley P. Bullen
1978 The Tick Island Site, St. Johns River, Florida. *Florida Anthropologist* 31(4), pt. 2. Gainesville.

Jenkins, Ned J.
1972 A Fiber Tempered Vessel from the Central Tombigbee Basin. *Journal of Alabama Archaeology* 18(2):162-166. University.

1973 The Position of the Wheeler Series in Southeastern Prehistory. Paper read at the 30th Southeastern Archaeological Conference, Memphis.

1974 Subsistence and Settlement Patterns in the Western Middle Tennessee Valley during the Transitional Archaic-Woodland Period. *Journal of Alabama Archaeology* 20:183-193. University.

1975 The Wheeler Series and Southeastern Prehistory. *Florida Anthropologist* 28(1):17-26. Gainesville.

1978 Prehistoric Chronology of the Lower Chattahoochee Valley: A Preliminary Statement. *Journal of Alabama Archaeology* 24 (2):73-91. University.

1981 *Gainesville Lake Area Ceramic Description and Chronology. Volume II of Archaeological Investigations in the Gainesville Lake Area of the Tennessee-Tombigbee Waterway.* Office of Archaeological Research, University of Alabama, Report of Investigation (12). University.

1982 The Gulf Tradition and Hopewellian Ceramics. A paper presented at the Thirty-ninth Southeastern Archaeological Conference, Memphis.

Jenkins, Ned J., and H. Blaine Ensor
1981 *The Gainesville Lake Area Excavations. Volume I of Archaeological Investigations in the Gainesville Lake Area of the Tennessee-Tombigbee Waterway.* Office of Archaeological Research, Report of Investigations (11), University.

Jenkins, Ned J., and Cyril B. Mann
1985 An Archaeological Study on the Conecuh Drainage. *Florida Anthropologist* 38 (1-2), pt 2:136-143. Tallahassee.

Jenkins, Ned J., and Teresa Paglione
1982 Lower Alabama River Ceramic Chronology- a Tentative Assessment. In Archaeology in Southwest Alabama: a Collection of Papers, edited by Caliup Curren. Alabama Tombigbee Regional Commission, Camden.

Jennings, Jesse D.
1941 Chickasaw and Earlier Indian Cultures of Northeast Mississippi. *Journal of Mississippi History* 3:155-226.

1944 The Archaeological Survey of the Natchez Trace. *American Antiquity* 9(4):408-414.

Jennings, Jesse D., Gordon R. Willey, and Marshall T. Newman
1957 The Ormond Beach Mound, East Central Florida. *Smithsonian Institution Bureau of American Ethnology Bulletin* 164(49). Washington.

Jolly, Fletcher, III
1971a Poverty Point Zoomorphic Beads from the Pickwick Basin in N.W. Alabama. *Journal of Alabama Archaeology* 17(2):134-139. University.

1971b A Single Component Alexander Assemblage from the Mingo Mound Site in the Bear Creek Watershed of Northeast Mississippi. *Tennessee Archaeologist* 27:1-38.

1974 The Buzzard Roost Creek Bluff Shelter: A Late Woodland-Mississippian Hunting Station in N.W. Alabama. *Tennessee Archaeologist* 30:1-67.

Jones, Charles C., Jr.
1861 *Monumental Remains of Georgia.* John M. Cooper and Company, Savannah.

1873 *Antiquities of the Southern Indians, Particulary of the Georgia Tribes.* D. Appleton and Company, New York.

Kachigan, Sam K.
1982 *Multivariate Statistical Analysis.* Radius Press, New York.

Kellar, James H., A. R. Kelly, and Edward V. McMichael
1961 Final Report on Archaeological Explorations at the Mandeville Site, 9 Cla 1, Clay County, Georgia. Seasons 1959, 1960, and 1961. Volume 1, Text; Volume II, Photographs and Illustrations. Unpublished manuscript.

1962 The Mandeville Site in Southwest Georgia. *American Antiquity.* 27(3):336-355.

Kelly, A. R.
1938 A Preliminary Report on Archaeological Explorations at Macon, Georgia. *Bureau of American Ethnology, Bulletin* 119(1):1-68. Washington.

1954 Mid-Coastal Archaic in Georgia. *Southern Indian Studies* 5:14-27. Chapel Hill.

1959 Early Woodland Profiles in the Middle Chattahoochee. *Southeastern Archaeological Conference, 15th Newsletter* 6. Chapel Hill.

Klippel, W. E.
1969 The Hearnes Site: A Multicomponent Occupation Site and Cemetery in Cairo Lowland Region of Southeast Missouri. *Missouri Archaeologist* 31.

1971 Graham Cave revisited: A reevaluation of its cultural position during the Archaic period. *Missouri Archaeological Society Memoirs* 9.

Knauer, G. A., J. R. Martin, H. G. Goodell, and D. S. Phelps
1967 Florida State University Radiocarbon Dates II. *Radiocarbon* 9:38-42. New Haven.

Knight, James D.
1976 Manufacturing Techniques of Maximo Point Microliths. *Florida Anthropologist* 29(2), Part 1: 84-92. Gainesville.

Koehler, Thomas H.
1966 Archaeological Excavations of the Womack Mound (22Ya°1). *Mississippi Archaeological Association Bulletin* 1. University.

Krueger, Harold W., and C. Francis Weeks
1965 Geochron Laboratories, Inc. Radiocarbon Measurements I. *Radiocarbon* 7:47-53.

Kulp, J. Laurence, Herbert W. Feely, and Lansing E. Tryon
1951 Lamont Natural Radiocarbon Measurements, I. *Science* 114:565-568. Washington.

Kuttruff, Carl
1975 The Poverty Point Site: North Sector Test Excavations. *Louisiana Archaeology* 2:129-151.

Larson, Lewis H., Jr.
1958 Cultural Relationships Between the Northern St. Johns Area and the Georgia Coast. *Florida Anthropologist* 11(1):11-21. Tallahassee.

Lazarus, William C.
1958 A Poverty Point Complex in Florida. *Florida Anthropologist* 11(1):23-32. Tallahassee.

1965 Alligator Lake, a Ceramic Horizon Site on the Northwest Florida Coast. *Florida Anthropologist* 18(2):83-124 Gainesville.

Lazarus, Yulee W.
1971 Clay Balls from Northwest Florida. *The Notebook* 3(2):47-49. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Lehmann, Geoffrey R.
1982 The Jaketown Site Surface Collections from a Poverty Point Regional Center in the Yazoo Basin, Mississippi. *Archaeological Report* (9). Mississippi Department of Archives and History, Jackson.

Lepionka, Larry
1979 Pond Location Survey Pickney Island National Wildlife Refuge, Beaufort County, South Carolina. A Report on Archaeological Investigations Conducted by the University of South Carolina at Beaufort for the United States Fish and Wildlife Service. Submitted to Interagency Archaeological Service Heritage Conservation and Recreation Service, Atlanta.

1980 Man and Sea Level at the Second Refuge Site. In Excursions in Southeastern Geology: The Archaeology-Geology of the Georgia Coast, J. D. Howard, C.B. DePratter, and R.W. Frey (editors), *Geological Society of America Guidebook* (20).

Lewis, T. M. N., and Madeline Kneberg
1947 The Archaic Horizon in Western Tennessee. *The University of Tennessee Record, Extension Series* 23(4). Knoxville.

1959 The Archaic Culture in the Middle South. *American Antiquity* 25(2):161-183.

Lewis, T. M. N., and Madeline Kneberg Lewis
1961 *Eva: an Archaic Site.* University of Tennessee Press. Knoxville.

Libby, W. F.
1954 Chicago Radiocarbon Dates V. *Science* 120:733-742.

Loftfield, Thomas C.
1979a A Prehistoric Archaeological Study of the X-3 Highway Corridor Between Wilmington and Benson, North Carolina. Report on file, Coastal Zone Resources Division, Ocean Data Systems, Inc., Wilmington.

1979b Excavations at 31 On 33, A Late Woodland Seasonal Village. Ms. on file, University of North Carolina, Wilmington.

Logan, Wilfred D.
1952 Graham Cave, an Archaic Site in Montgomery County, Missouri. *Memoirs of the Missouri Archaeological Society* (2) Columbia.

Long, Austin, and James E. Mielke
1967 Smithsonian Institution Radiocarbon Measurements IV. *Radiocarbon* 9:368-381.

Lowman, D. W., and S. L. Wheatley
1970 Archaic Soapstone Quarries in Upper South Carolina. *Notebook* 2 (6 and 7):6-12. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Machover, Andrew W.
1975 The Use of Radiocarbon Dating in the Determination of the Cultural Sequence for St. Simon's Island, Georgia. Report on file, Department of Social Sciences, Florida State Museum, Gainesville.

Mainfort, Robert C., Jr.
1979 Indian Social Dynamics in the Period of European Contact: Fletcher Site Cemetery, Bay County, Michigan. *Publications of the Museum, Michigan State University, Anthropological Series* 1(4) East Lansing.

Manson, Carl
1949 Marcey Creek Site: An Early Manifestation in the Potomac Valley. *American Antiquity* 8(3):223-226.

March, Benjamin
1934 Standards on Pottery Description. *Occasional Contributions from Museum of Anthropology, University of Michigan*, No. 3. Ann Arbor.

Marrinan, Rochelle A.
1973 The Cultural Ecology of Fiber-Tempered Ceramic Sites: South Carolina and Georgia. Unpublished Thesis; Tulane University. New Orleans.

1975 Ceramics, Molluscs, and Sedentism: The Late Archaic Period on the Georgia Coast. Ph. D. Dissertation, University of Florida, Department of Anthropology, Gainesville.

Marshall, Richard A.
1970 Progress Report on Field Research, 1970, Fourth Summer Field Session in Mississippi, Archaeology, Mississippi State University, ms., Department of Anthropology, Mississippi State.

Mathis, M. A., and J. J. Crow (editors)
1983 *The Prehistory of North Carolina: An Archaeological Symposium*. North Carolina Division of Archives and History, Department of Cultural Resources. Raleigh.

M^c^Kern, W. C.
1939 The Midwestern Taxonomic Method as an Aid to Archaeological Culture Study. *American Antiquity* 4:301-313.

McKinley, William
1873 Mounds in Georgia. *Annual Report, Board of Regents, Smithsonian Institution for 1872*, 22:422-428.

McMichael, Edward V., and James H. Kellar
1960 Archaeological Salvage in the Oliver Basin. *University of Georgia Laboratory of Archaeology Series, Report* (2). Athens.

Meggers, Betty J., Clifford Evans, and Emilio Estrada
1965 Early Formative Period of Coastal Ecuador: The Valdivia and Machalilla Phases. *Smithsonian Contributions to Anthropology* (1) Washington.

Michie, James
1973 Archaeological Indications for Sea-Level 3,500 Years Ago. *South Carolina Antiquities* 5(2):24-36. Columbia.

Milanich, Jerald T.
1971a The Deptford Phase: An Archaeological Reconstruction. Ph.D. Dissertation, University of Florida, Department of Anthropology, Gainesville.

1971b Conclusions from the Excavation of Two Transitional Deptford Sites on Cumberland Island, Georgia. In *Southeastern Archaeological Conference, Bulletin* (13):55-63. Morgantown.

1973a The Southeastern Deptford Culture: A Preliminary Definition. In *Bureau of Historic Sites and Properties, Bulletin* (3) Division of Archives, History, and Records Management, Florida Department of State, Tallahasee.

1973b A Deptford Phase House Structure, Cumberland Island, Georgia. *Florida Anthropologist* 26:105-113. Gainesville.

1977 A Chronology for the Aboriginal Cultures of Northern St. Simon's Island, Georgia. *Florida Anthropologist* 30(3):134-142. Gainesville.

Milanich, Jerald T., and Charles H. Fairbanks
1980 *Florida Archaeology*. Academic Press. New York.

Miller, Carl F.
1949 The Lake Spring Site, Columbia County, Georgia. *American Antiquity* 15(1):38-51. Menasha.

1950a Early Culture Horizons in the Southeastern United States. *American Antiquity* 15(4):273-288. Menasha.

1950b An Analysis and Interpretation of the Ceramic Remains from a Number of Sites in Horry County, South Carolina. *American Antiquity* 15:254-258.

1974 Appraisal of the Archaeological Resources of the Clark Hill Reservoir Area South Carolina and Georgia. Prepared by River Basin Surveys, Smithsonian Institution, December 1948. Reprinted in *Notebook* 6(2):27-34. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Mohr, Albert
1962 The Place of Jomon Pottery in Assessing Woodland Pottery Origins. *Arctic Anthropology* 1(1):98-103.

Moore, Clarence B.
1892a A Burial Mound of Florida. *American Naturalist* 26:129-143. Philadelphia.

1892b Supplementary Investigations at Tick Island. *American Naturalist* 26:368-379. Philadelphia.

1892c Certain Shell Heaps of the St. John's River, Florida, Hitherto Unexplored. *American Naturalist* 26(2):912-922. Philadelphia.

1893 Certain Shell Heaps of the St. John's River, Florida, Hitherto Unexplored. *American Naturalist* 27(7):605-624. Philadelphia.

1894a Certain Sand Mounds of the St. Johns River, Florida. Part I. *Journal of the Academy of Natural Sciences, Second Series* 13. Philadelphia.

1894b Certain Sand Mounds of the St. Johns River, Florida. Part II. *Journal of the Academy of Natural Sciences, Second Series* 13. Philadelphia.

1894c Certain Shell Heaps of the St. John's River, Florida, Hitherto Unexplored. *American Naturalist* 28(1):15-26. Philadelphia.

1894d Certain Sand Mounds of the St. John's River, Florida. *Journal of the Academy of Natural Sciences* 10, Part 1:5-103, Part 2:1-246. Philadelphia.

1897 Certain Aboriginal Mounds of the Georgia Coast. *Journal of the Academy of Natural Sciences* 11 Part 1:1-142. Philadelphia.

1898a Certain Aboriginal Mounds of the Coast of South Carolina. *Journal of the Academy of Natural Sciences, Second Series* 11, Part 2:146-166. Philadelphia

1898b Certain Aboriginal Mounds of the Savannah River. *Journal of the Academy of Natural Sciences, Second Series* 11, Part 2:162-172. Philadelphia.

1898c Certain Aboriginal Mounds of the Altamaha River. *Journal of the Academy of Natural Sciences, Second Series* 11, Part 2:173-184. Philadelphia.

1913 Some Aboriginal Sites in Louisiana and in Arkansas. *Journal of the Academy Natural Sciences, Second series.* 16:1-98. Philadelphia.

1915 Aboriginal Sites on Tennessee River. *Journal of the Academy Natural Sciences, Second series.* 16, Part 2:234. Philadelphia.

Morgan, William N.
1980 *Prehistoric Architecture in Eastern United States.* M.I.T. Press., Cambridge.

Morrell, L. Ross
1960 Oakland Mound (Je 53), Florida: A preliminary report. *Florida Anthropologist* 8(4):101-114.

Neighbors, Wayne (editor)
1980 *South Carolina Antiquities The First Ten Years Volumes 1-10 (1969-1978).* Archaeological Society of South Carolina. Columbia.

Neill, Wilfred T.
1958 A Stratified Early Site at Silver Springs, Florida. *Florida Anthropologist* 11(2):33-52. Tallahassee.

1966 Westo Bluff, A Site of the Old Quartz Culture in Georgia. *Florida Anthropologist* 19(1):1-10. Gainesville.

O'Hear, John W., C. Larsen, J. C. Phillips, M. M. Scarry, and E. Simons
1981 Archaeological Salvage Excavations at the Tibbee Creek Site (22Lo600), Lowndes County, Mississippi. Report submitted to Corps of Engineers, Mobile, by Department of Anthropology, Mississippi State University, Mississippi State.

Overton, James M.
1969 A Survey of Soapstone Quarry Sites. *Notebook* 1(4):6-7. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Parmalee, P. W.
1962 Faunal remains from the Stanfield-Worley Bulff Shelter, Colbert County, Alabama. *Journal of Alabama Archaeology* 8:112-114.

Pearson, G.W., J.R. Pilcher, M.G.L. Baillie, D.M. Corbett and F. Qua
1986 High-Precision ^{14}C Measurement of Irish Oaks to Show the Natural ^{14}C Variations from A.D. 1840 - 5210 B.C. *Radiocarbon* 28(2B):911-934, New Haven.

Percy, George W., and M. Katherine Jones
1976 An Archaeological Survey of Upland Locales in Gadsden and Liberty Counties, Florida. *Florida Anthropologist* 29(3):105-125. Gainesville.

Peterson, Drexel A., Jr.
1971a The Cultural Excuses for Fiber-tempered Pottery. Paper presented at the 1971 Southeastern Archaeological Conference, Macon.

1971b The Refuge Phase in the Savannah River Region. In *Southeastern Archaeological Conference, Bulletin* 13:76-81. Morgantown.

1971c Time and Settlement in the Archaeology of Groton Plantation, South Carolina. Ph. D. Dissertation, Department of Anthropology, Harvard University, Cambridge.

1973 The Spring Creek Site, Perry County, Tennessee: A Report of the 1972-73 Excavations. *Memphis State University, Anthropological Research Center, Occassional Papers* 7. Memphis.

1975 Archaeological Evaluation of the Cypress Creek Watershed, M[c]Nairy County, Tennessee. Report submitted to the Soil Conservation Service, Nashville.

1980 The Introduction, Use, and Technology of Fiber-tempered Pottery in the Southeastern United States. In *Early Native Americans* (edited by David Browman) pp 364-372. Mouton.

Phelps, David S.

1964 The Final Phases of the Eastern Archaic. Ph.D. Dissertation, Department of Sociology and Anthropology, Tulane University, New Orleans.

1965 The Norwood Series of Fiber-tempered Ceramics. *Southeastern Archaeological Conference, Bulletin* 2:65-69. Cambridge.

1966a Early and Late Components of the Tucker Site. *Florida Anthropologist* 19(1):11-38. Gainesville.

1966b Deptford Cross-Stamped: A Preliminary Statement. *Southeastern Archaeological Conference, Newsletter* 10(1):123-127. Cambridge.

1968 Thom's Creek Ceramics in the Central Savannah River Locality. *Florida Anthropologist* 21(1):17-30. Tallahassee.

1969 The Norwood Phase of North Florida and its Extra-regional Relationships. A paper presented at the 68th Annual Meeting of the American Anthropological Association. New Orleans.

1975a Test Excavations at the Parker site (31 Ed 29) at Speed, Edgecombe County, North Carolina. In *Archaeological Surveys of Four Watersheds in the North Carolina Coastal Plain*, pp 57-105. North Carolina Archaeological Council Publication 16 (1981).

1975b Archaeological Survey of the Stony Creek Watershed, Wayne County, North Carolina. In *Archaeological Surveys of Four Watersheds in the North Carolina Coastal Plain*, pp 106-137. North Carolina Archaeological Council Publication 16 (1981).

1976a An Archaeological Survey of the Lower Cape Fear Regional Water Supply System Project Area. Archaeological Impact Studies (9), Archaeological Research Laboratory, East Carolina University, Greenville.

1976b An Archaeological Survey of the Thoroughfare Swamp Basin, Wayne County, North Carolina. Ms. on file, Archaeology Laboratory, East Carolina University, Greenville.

Phelps, David S., and R. Burgess

1964 A Possible Case of Cannibalism in the Early Woodland Period of Eastern Georgia. *American Antiquity*, 30(2), Part 7:199-202. Salt Lake City.

Phillips, Philip

1958 Application of the Wheat-Gifford-Wasley Taxonomy to Eastern Ceramics. *American Antiquity*, 24(2):117-125.

1970 Archaeological Survey in the Lower Yazoo Basin, Mississippi 1949-1955. *Papers of the Peabody Museum of Archaeology and Ethnology* 60 Parts 1 and 2. Cambridge.

Phillips, Philip, James A. Ford, and James B. Griffin
1951 Archaeological Survey in the Lower Mississippi Alluvial Valley (1940-1947). *Papers of the Peabody Museum of Archaeology and Ethnology* 25. Harvard University, Cambridge.

Pierce, James
1825 Notice of the Agriculture, Scenery, Geology, and Animal, Vegetable, and Mineral Productions of the Floridas and of the Indian Tribes. *American Journal of Science* 9:119-136, New Haven.

Pope, G. D., Jr.
1956 Ocmulgee National Monument-Georgia. *National Parks Service Historical Handbook Series*(24), Washington, D.C.

Porter, James W.
1964 Comment on Weaver's "Technological Analysis of Lower Mississippi Ceramic Materials." *American Antiquity* 19(4):520-521.

Rafferty, James, Richard Norling, Robert Tamaru, Charles McMath, and Dave Morganstein
1985 *Statworks Statistics with Graphics for the Macintosh.* Cricket Software, Philadelphia.

Rafferty, Janet E., B. Lea Baker, and Jack D. Elliott, Jr.
1980 Archaeological Investigations at the East Aberdeen Site (22Mo819), Tombigbee River Multi-Resource District, Alabama and Mississippi. Report submitted to Interagency Archaeological Services-Atlanta by Department of Anthropology, Mississippi State University, Mississippi State.

Rands, Robert
1959 Poverty Point-Woodland remains on the Pearl River, Mississippi. *Southeastern Archaeological Conference, Newsletter* 6:15-18. Chapel-Hill.

Reichel-Dolmatoff, Gerardo
1961 Puerto Hormiga: Un Complejo Prehistorico Marginal de Columbia. *Revista Columbiana de Anthropologia* 10:349-354, Bogota.

1965 Excavaciones Arqueologicas en Puerto Hormiga, Departamento de Bolivar. *Ediciones de la Universidad de los Andes.* Bogta.

Reid, Kenneth C.
1978 Nebo Hill. Report submitted to the Missouri State Highway Commision. Jefferson City.

1984 Fire and Ice: New Evidence for the Production and Preservation of Late Archaic Fiber-Tempered Pottery in the Middle-Latitude Lowlands. *American Antiquity* 49(1):55-76.

Ritchie, William A.
1955 Recent Discoveries Suggesting an Early Woodland Burial Cult in the Northeast. *New York State Museum and Science Service, Circular* 40. Albany.

Rodeffer, Michael, Jr.
1982 Test Excavations at the Hickory Site (22It621). In Test excavations at seven sites in the upper Tombigbee valley, assembler J. A. Bense. *University of West Florida Office of Cultural and Archaeological Research, Report of Investigations* 3, Vol. 6, Ch. 10. Pensacola.

Rodeffer, Michael J., and Betty J. Duggan
1982 Test Excavations at the Beech and Oak Sites (22It623 and 22It624). In Test excavations at seven sites in the upper Tombigbee valley, assembler J. A. Bense. *University of West Florida Office of Cultural and Archaeological Research, Report of Investigations* 3, Vol. 6, Ch. 12. Pensacola.

Rouse, Irving
1951 A Survey of Indian River Archaeology, Florida. *Yale University Publications in Anthropology* (44). New Haven.

1960 The Entry of Man into the West Indies. In Papers in Carribean Anthropology (Compiled by Sidney W. Mintz). *Yale University Publications in Anthropology,* No. 61. New Haven.

Rucker, Marc D.
1974 Archaeological Survey and Test Excavations in the Upper-central Tombigbee River Valley: Aliceville-Columbus Lock and Dam and Impoundment Areas, Alabama and Mississippi. Report submitted to National Park Service by Department of Anthropology, Mississippi State University, Mississippi State.

Schaeffer, Claude E.
1939 Recent Finds at Irene Mound, Savannah. *Proceedings of the Society for Georgia Archaeology* 2(1):27-30.

Schmits, Larry J., and Christopher A. Wright
1981 The Turner-Casey Site, (23Ja35). In *Little Blue Prehistory, Archaeological Investigations at Blue Springs and Longview Lakes, Jackson County, Missouri* (edited by Larry J. Schmits) pp 488-588. Draft report submitted to the U.S. Army Corps of Engineers, Kansas City.

Sears, William H.
n.d. NSF G-5019. An Investigation of Prehistoric Processes on the Gulf Coastal Plain. Manuscript on file, Florida State Museum, Gainesville.

1954 A Late Archaic Horizon on the Atlantic Coastal Plain. *Southern Indian Studies* 5:28-36. Chapel Hill.

1963 The Tucker Site on Alligator Harbor, Franklin County, Florida. *Contributions of the Florida State Museum, Social Sciences* (9) Gainesville.

1974 Seaborne Contacts Between Early Cultures in Lower Southeastern United States and Middle through South America. *Dumbarton Oaks Conference on the Sea in the Pre-Columbian World.* Washington, D.C.

1982 Fort Center: an Archaeological Site in the Lake Okeechobee Basin. *Ripley P. Bullen Monographs in Anthropology and History, Florida State Museum* (4). Gainesville.

Sears, William H., and James B. Griffin
1950 Fiber-Tempered Pottery of the Southeast. In *Prehistoric Pottery of the Eastern United States.* (James B. Griffin, editor) University of Michigan, Museum of Anthropology. Ann Arbor.

Shannon, George W., Jr.
1979 Ceramic Transitions on the Gulf Coastal Plain in the Early Centuries of the Christian Era. Masters Thesis, Department of Anthropology, Florida Atlantic University, Boca Raton. University Microfilms International, Ann Arbor.

1986 The Southeastern Fiber-tempered Ceramic Tradition Reconsidered. *Ceramic Notes* (3) *Occasional Publications of the Ceramic Technology Laboratory, Florida State Museum. Papers in Ceramic Analysis,* (edited by Prudence M. Rice) 47-79. Gainesville.

Simpkins, Daniel L.
1975 A Preliminary Report on Test Excavations at the Sapelo Island Shell Ring, 1975. *Early Georgia* 3(2):15-37.

Simpkins, Daniel L. and Dorothy J. Allard
1986 Isolation and Identifications of Spanish Moss Fiber from a Sample of Stallings and Orange Series Ceramics. *American Antiquity* 51(1):102-117 Lawrence.

Simpkins, Daniel L. and D. Scoville
1981 Isolation and Identification of Fiber Inclusions from a Sample of Stallings and Orange Series Ceramics. Paper presented at the 38th Annual Southeastern Archaeological Conference, Asheville.

Small, James F.
1966 Additional Information on Poverty Point Baked Clay Objects. *Florida Anthropologist* 19(2):65-76.

Smith, Brent W.
1981 The Late Archaic-Poverty Point Steatite Trade Network in the Lower Mississippi Valley: Some Preliminary Observations. *Florida Anthropologist* 34(2):120-125.

Smith, Richard L.
1968 Test Excavations at the Lock Site (8Je57), Jefferson County, Florida. Masters Thesis, Department of Anthropology, University of North Carolina, Chapel Hill.

Sneath, Peter H. A., and Robert R. Sokal
1973 *Numerical Taxonomy.* W.H. Freeman and Co., San Francisco.

Solis, Carlos, and Richard Walling
1982 Archaeological Investigations at the Yarborough Site (22Cl814), Clay County, Mississippi. *University of Alabama, Office of Archaeological Research, Report of Investigations* 30. University.

South, Stanley
1964 Reports on Current Field Work: North Carolina. *Southeastern Archaeological Conference, Bulletin* (1):5. Cambridge.

1970 Baked Clay Objects from the site of the 1670 Settlement at Charles Towne, South Carolina. *Notebook* 2(1):3-16. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

1973 Indian Pottery Taxonomy for the South Carolina Coast. *Notebook* 5(2):54-55. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

1976 An Archaeological Survey of Southeastern North Carolina. *Notebook* (8). Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Steiner, Robert
1899 Prehistoric Settlement, Big Kiokee Creek, Columbia County, Georgia. *American Association for the Advancement of Science,* 48:379-82.

Stipp, J. J., G. A. Knauer, and H. G. Goodell
1966 Florida State University Radiocarbon Dates I. *Radiocarbon* 8:46-53. New Haven.

Stirling, Mathew W.
1935 Archaeological Projects Conducted under the Federal Emergency Relief Administration, 1933-1934. *Annual Report of the Smithsonian Institution for 1934,* pp. 371-400. Washington.

Stoltman, James B.
1966 New Radiocarbon Dates for Southeastern Fiber-tempered Pottery. *American Antiquity* 31(6):872-874. Washington.

1972 The Late Archaic in the Savannah River Region. In Fiber-tempered Pottery in Southeastern United States and Northern Columbia: its Origins, Context, and Significance, (edited by Ripley P. Bullen and James B. Stoltman) *Florida Anthropological Society Publications* 6:37-62.

1974 Groton Plantation: An Archaeological Study of a South Carolina Locality. *Monographs of the Peabody Museum, Harvard University*, (1). Cambridge.

1978 Temporal Models in Prehistory: An Example from Eastern North America. *Current Anthropology* 19(4):703-746.

Stowe, N.R.
1970 Prehistoric Cultural Ecology in Northwest Alabama. Masters Thesis, Department of Anthropology, University of Alabama, University.

Studer, Joseph M.
1982 Test Excavations at the Mud Creek Site (22It622). *University of West Florida, Office of Cultural and Archaeological Research, Report of Investigations* 3, Vol. 6. Pensacola.

Stuiver, Minze and Bernd Becker
1986 High-Precision Decadal Calibration of the Radiocarbon Time Scale, A.D. 1950 - 2500 B.C. *Radiocarbon* 28(2B): 863-910, New Haven.

Stuiver, Minze, G.W. Pearson and T.F. Braziunas
1986 Radiocarbon Age Calibration of Marine Samples Back to 9000 Cal Yr B.P. *Radiocarbon* 28(2B):980-1021, New Haven.

Sutherland, Donald R.
1974 Excavations at the Spanish Mount Shell Midden, Edisto Island, South Carolina. *South Carolina Antiquities* 6(1):25-36.

Trickey, E. Bruce, and Nicholas H. Holmes, Jr.
1967 The Mobile Bay Chronology. *Southeastern Archaeological Conference, Bulletin* (6):23-26. Morgantown.

1971 A Chronological Framework for the Mobile Bay Region Revised, 1970. *Journal of Alabama Archaeology* 17(2):115-128. University.

Trinkley, M. B.
1973 A Study in the Manufacture of Early Aboriginal Pottery in the Edisto Region of South Carolina. *South Carolina Antiquities* 5(2):149-155 (Ten Year Issue). Archaeological Society of South Carolina, Columbia.

1978 An Archaeological Survey of the Proposed Mark Clark East Corridor, Charleston and Berkeley Counties, South Carolina. A Report prepared by the South Carolina Department of Highways and Public Transportation, Columbia, South Carolina.

1980 Speculations on the Early Woodland Thom's Creek Phase Settlement Pattern along the South Carolina Coast. *Southeastern Archaeological Conference Bulletin* (23).

Trinkley, M., and H. T. Ward
1978 The Use of Soil Science at a South Carolina Thom's Creek Culture Shell Ring. *Florida Anthropologist* 31(2):64-73. Gainesville.

Trowell, C. T.
1980 The Okefenokee Swamp Area Survey-A Status Report:1978. *Southeastern Archaeological Conference Bulletin* (22).

Waddell, E. G.
1963 Thoms' Creek Punctate. *Southeastern Archaeological Conference, Newsletter* 9(2):3-5. Cambridge.

1965 A C-14 Date for Awendaw Punctate. *Southeastern Archaeological Conference, Bulletin* (3):82-85. Cambridge.

1970 A Ceramic Sequence for the Coastal Plain of South Carolina. *South Carolina Antiquities* 3(1):7-27. Columbia.

Walthall, John A.
1980 *Prehistoric Indians of the Southeast: Archaeology of Alabama and the Middle South*. University of Alabama Press, University.

Walthall, John A., and Ned Jenkins
1976 The Gulf Formational Stage in Southeastern Prehistory. *Southeastern Archaeological Conference, Bulletin* 19:43-49.

Walthall, John A., Clarence H. Webb, Stephen H. Stow, and Sharon I. Goad
1982 Galena Analysis and Poverty Point Trade. *Midcontinental Journal of Archaeology* 7(1):133-148.

Waring, Antonio J., Jr.
1934 The Excavation of Mound A, Eulonia, McIntosh County, Georgia In *The Waring Papers*, edited by Stephen Williams (1977) pp. 256-261. Papers of the Peabody Museum of Archaeology and Ethnology Vol 58, Harvard University, Cambridge.

1939 Fiber-tempered Wares on the Georgia Coast. *Southeastern Archaeological Conference, Newsletter* 2(1):7-8.

1940 The Bilbo Site, Chatham County, Georgia. In *The Waring Papers*, edited by Stephen Williams (1977) pp. 152-198, Papers of the Peabody Museum of Archaeology and Ethnology Vol 58, Harvard University, Cambridge.

1940-1942 Fiber-Tempered Wares. In *The Waring Papers*, edited by Stephen Williams (1977) pp. 247-253, Papers of the Peabody Museum of Archaeology and Ethnology Vol 58, Harvard University, Cambridge.

1948 John's Island, An Archaic Site on the Northwest Florida Coast. In *The Waring Papers*, edited by Stephen Williams (1977) pp. 261-263. Papers of the Peabody Museum of Archaeology and Ethnology Vol 58, Harvard University, Cambridge.

1952 Fiber-tempered Pottery and its Cultural Affinities on the Georgia-South Carolina Coast. In *The Waring Papers*, edited by Stephen Williams (1977) pp. 253-256. Papers of the Peabody Museum of Archaeology and Ethnology Vol 58. Harvard University, Cambridge.

1955 The Culture Sequence at the Mouth of the Savannah River. In *The Waring Papers*, edited by Stephen Williams (1977) pp 216-222. Papers of the Peabody Museum of Archaeology and Ethnology Vol 58. Harvard University, Cambridge.

1960 The Refuge site, Jasper County, South Carolina. In *The Waring Papers*, edited by Stephen Williams (1977) pp. 198-208. Papers of the Peabody Museum of Archaeology and Ethnology Vol 58. Harvard University, Cambridge.

Waring, Antonio J., Jr., and Lewis H. Larson, Jr.

1955-1960 The Shell Ring on Sapelo Island. In *The Waring Papers*, edited by Stephen Williams (1977) pp. 263-278. Papers of the Peabody Museum of Archaeology and Ethnology Vol 58. Harvard University, Cambridge.

Wauchope, Robert

1948 The Ceramic Sequence in the Etowah Drainage, Northwest Georgia. *American Antiquity* 13(3):201-209.

1966 Archaeological Survey of Northern Georgia with a Test of Cultural Hypotheses. *Society for American Archaeology, Memoir* 21, Salt Lake City.

Weaver, Elizabeth C.

1963 Technological Analysis of Prehistoric Lower Mississippi Ceramic Materials: A Preliminary Report. *American Antiquity* 29(1):49-56. Salt Lake City.

Webb, Clarence H.

1948 Evidences of Pre-pottery Cultures in Louisiana. *American Antiquity* 13(3):227-232.

1968 The Extent and Content of Poverty Point Culture. *American Antiquity* 33(3):297-321.

1971 Archaic and Poverty Point Zoomorphic Locust Beads. *American Antiquity* 36(1):105-114.

1977 The Poverty Point Culture. *Geoscience and Man* (17). Louisiana State University, Baton Rouge.

Webb, Clarence H., and Bettye J. Broyles (editors)

1970 The Poverty Point Culture. *Southeastern Archaeological Conference, Bulletin* 12. Morgantown.

Webb, William S.
1939 An Archaeological Survey of Wheeler Basin on the Tennessee River in Northern Alabama. *Bureau of American Ethnology, Bulletin* 122. Washington.

Webb, William S., and David L. DeJarnette
1942 An Archaeological Survey of Pickwick Basin in the Adjacent Portions of the States of Alabama, Mississippi, and Tennessee. *Bureau of American Ethnology Bulletin* 129. Washington.

1948a The Whitesburg Bridge Site, $Ma^{V}10$. *Alabama Museum of Natural History, Museum Paper* (24). University.

1948b The Flint River Site, $Ma^{O}48$. *Alabama Museum of Natural History, Museum Paper*(23). University.

1948c The Perry Site, $Lu^{O}25$. *Alabama Museum of Natural History, Museum Paper*(25). University.

1948d Little Bear Creek Site $Ct^{O}8$. *Alabama Museum of Natural History, Museum Paper*(26). University.

Webb, William S., and Charles G. Wilder
1951 *An Archaeological Survey of Guntersville Basin on the Tennessee River in Northern Alabama.* University of Kentucky Press, Lexington.

Webster, William J.
1970 A New Concept for the Busycon Shell Receptacle. *Florida Anthropologist* 23:1-7. Gainesville.

Wilde-Ramsing, Mark
1978 A Report on the New Hanover Archaeological Survey: A CETA Project. Ms. on file, Archaeology Branch, North Caroliona Division of Archives and History. Raleigh.

Wilkinson, Leland
1986 *SYSTAT: The System for Statistics.* Evanston, IL: SYSTAT, Inc.

Willey, Gordon R.
1948 Culture Sequence in the Manatee Region of Western Florida *American Antiquity* 13(3):209-218.

1949 Archaeology of the Florida Gulf Coast. *Smithsonian Miscellaneous Collections* 113. Washington.

1966 *An Introduction to American Archaeology,* Vol 1. Prentice-Hall, Inc. Englewood Cliffs.

Willey, Gordon R., and Jeremy A. Sabloff
1974 *A History of American Archaeology.* W. H. Freeman and Company, San Francisco.

Willey, Gordon R., and R. B. Woodbury
1942 A Chronological Outline for the Northwest Florida Coast. *American Antiquity* 7(3):232-254.

Williams, Stephen (editor)
1977 The Waring Papers: The Collected Works of Antonio J. Waring, Jr. *Papers of the Peabody Museum of Archaeology and Ethnology,* 58, (second edition) *Harvard University.* Cambridge.

Williams, Wilma B., and Bert Mowers
1982 Archaeological Excavations at the Rolling Oaks II Site, Broward County. *Florida Anthropologist* 35(3):118-126.

Wimberly, Steve B.
1960 Indian Pottery from Clarke County and Mobile County, Southern Alabama. *Alabama Museum of Natural History, Museum Papers* (36). University.

Wimberly, Steve B., and Harry A. Tourtelot
1941 The M^c^Quorquodale Mound: A Manifestation of the Hopewellian Phase in South Alabama. *Alabama Museum of Natural History, Museum Papers* (19). University.

Woodiel, Deborah K.
1981 Survey and Excavation at the Poverty Point Site, 1978. *Southeastern Archaeological Conference Bulletin* (24):9-11.

Wyman, Jeffries
1867 Florida Shell Mounds. *Boston Society of Natural History, Proceedings* 11:158-159, Boston.

1868a An Account of the Fresh-water Shell-heaps of the St. Johns River, East Florida. *American Naturalist* 2(8):393-403. Salem.

1868b An Account of the Fresh-water Shell Heaps of the St. Johns River, East Florida II. Articles taken from the Shell-heaps, showing Human Agency. *American Naturalist* 2(9):449-463. Salem.

1870 Explorations in Florida. *Peabody Museum, Annual Report* 3:8-9, Boston.

1872 Explorations in Florida. *Peabody Museum, Annual Report* 5:22-25. Boston.

1874a Human Remains in the Shell Heaps of the St. Johns River, East Florida, Cannibalism. *Peabody Museum, Annual Report* 7:403-414. Salem.

1874b Human Remains in the Shell Heaps of the St. Johns River, East Florida, Cannibalism. *Peabody Museum, Annual Report* 7:26-37. Boston.

1875 Fresh-water Shell Mounds of the St. Johns River, Florida. *Memoirs of the Peabody Academy of Science.* 1(4):1-94, Salem.

Wynn, Jack T., and James R. Atkinson
1976 Archaeology of the Okashua and Self Sites, Mississippi. Report submitted to National Park Service by Department of Anthropology, Mississippi State University, Mississippi State.