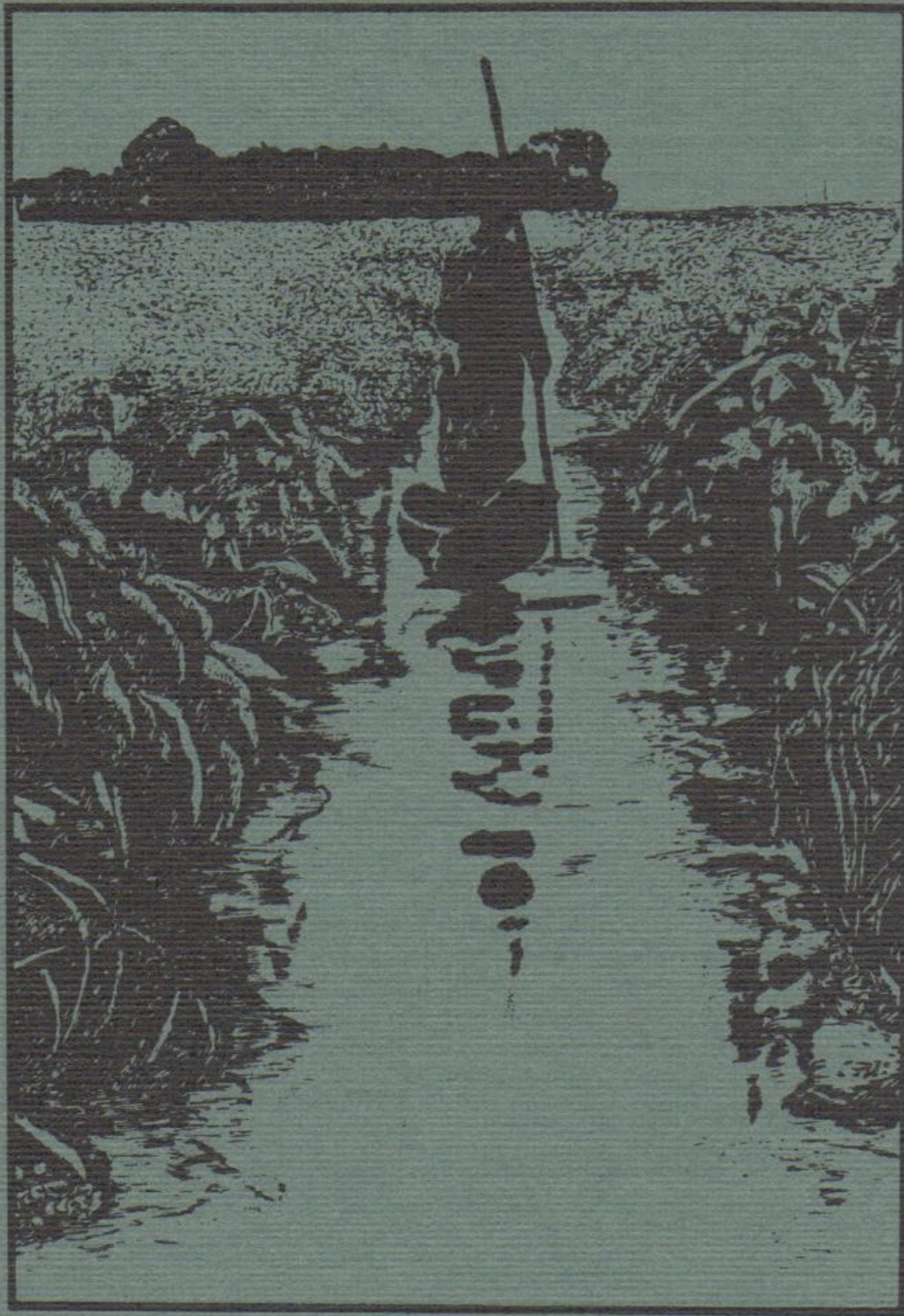


Archaeological Report No. 17



THE
TCHULA
PERIOD
IN THE
MID-SOUTH
AND
LOWER
MISSISSIPPI
VALLEY

PROCEEDINGS OF THE 1982 MID-SOUTH
ARCHAEOLOGICAL CONFERENCE

edited
by
David H. Dye
and
Ronald C. Brister

Mississippi Department of Archives and History
Jackson, Mississippi
1986

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THE TCHULA PERIOD IN THE MID-SOUTH AND
LOWER MISSISSIPPI VALLEY

Proceedings of the 1982 Mid-South Archaeological Conference

Edited by

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Memphis State University

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Mississippi Department of Archives and History

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1986

MISSISSIPPI DEPARTMENT OF ARCHIVES AND HISTORY

Archaeological Report No. 17

Patricia Kay Galloway
Series Editor

Elbert R. Hilliard
Director

Library of Congress Catalog Card Number 86-620005

ISBN: 0-938896-48-2

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Mississippi Department of Archives and History

This volume is dedicated to

Philip Phillips,

James A. Ford,

and

James B. Griffin

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ACKNOWLEDGEMENTS

The 1982 Mid-South Archaeological Conference was made possible by the generous direct and indirect support of many individuals and institutions. Thomas W. Collins, Department of Anthropology Chair at Memphis State University, actively supported and encouraged the conference and provided many of the funds necessary for the meeting and preparation of the published proceedings. Douglas R. Noble, director of the Memphis Museum System, contributed meeting and reception space and funded refreshments for the morning and afternoon breaks. His generous support for the preparation of the proceedings of the Tchula Conference far exceeded the responsibilities of the Memphis Pink Palace Museum as one of the host institutions. Dianne Curtiss of the Museum capably handled the audio-visual equipment and tape recorded the sessions. Her interest in the conference and assistance with the dozens of little problems that appeared at critical times are deeply appreciated. Mary Matthews, James Edwards, and Carl Wright, under the supervision of Jim Harbin, worked diligently on Friday to set up the reception and registration areas and provided coffee and support on Saturday. The Museum's staff, especially Roy R. Young, Tom Miller, and Lou Adair, did much to make the meeting pleasant and enjoyable. Charles H. McNutt and Dan F. Morse contributed sage advice that made our task a more pleasant one.

Patricia K. Galloway graciously offered to publish the proceedings of the meeting and her editorial sharp eye and cogent comments were, as always, both pertinent and helpful in preparing the manuscript. We also would like to extend our thanks to Elbert R. Hilliard, Director of the Mississippi Department of Archives and History, for his support in publishing the proceedings of the Tchula Conference. Mss. Phyllis Langford, Vivian Reddick, and Jeanne Tutor of the Memphis State University Word Processing Services, were both patient and always congenially receptive to our numerous and sometimes laborious additions and corrections. Their dedication to the report is appreciated. Numerous people brought comparative collections and we would like to thank each of them for sharing these with the other conference attendents.

Robert W. Newman of the Louisiana State University Museum of Geoscience permitted the use of the photograph of the pirogue being poled to Big Oak Island (16-0r-6) in November 1939.

We would like to thank all the participants and conference guests for their efforts in making the conference possible. The editors, of course, accept all responsibility for editorial errors and shortcomings.

This volume is dedicated to Philip Phillips, James A. Ford, and James B. Griffin whose presence is evident to all who have followed in their footsteps. They have not so much contributed to the archaeology of the Mid-South as they have formed and shaped its very structure. Whatever refinements may be made on the particular fragments of the "big picture," the accomplishments of Phillips, Ford, and Griffin will stand them in good measure as "Big Men" in the local archaeological world. Their work in the Mid-South will be a challenge for future researchers. Although many of the methods and techniques they used may have changed, their accomplishments will stand for all time for future students of Mid-Southern archaeology.

INTRODUCTION

THE THIRD MID-SOUTH ARCHAEOLOGICAL CONFERENCE - 1982

The genesis of the Mid-South Archaeological Conference began with a series of informal archaeological meetings held during the mid to late 1960s. The emphasis of these gatherings was on the crisis of land-leveling and highway salvage work in northeastern Arkansas and southeastern Missouri. Charles R. McGimsey and Hester A. Davis organized one of these meetings in Poplar Bluff, Missouri in June, 1968 to discuss an overview of Central Mississippi Valley prehistory. Those in attendance included Ian W. Brown, Carl H. Chapman, James B. Griffin, Charles H. McNutt, Richard A. Marshall, Dan F. Morse, M.D., Dan F. Morse, Robert S. Neitzel, James E. Price, Martha A. Rolingson, Bruce D. Smith, Gerald P. Smith, Clarence H. Webb, Stephen Williams, and others. In addition, a number of people working in the Cahokia area attended, including James Anderson, Elizabeth Benchley, James A. Brown, and Melvin L. Fowler. In all, some 60 people were present. James B. Griffin and James E. Price organized a tour of the Powers Phase villages and excavations at the Snodgrass site. Those who attended realized the need for such meetings to be held on a regular basis.

On October 25, 1969 the first Mid-South Archaeological Conference was hosted by Gerald P. Smith at the C. H. Nash Museum (Chucalissa Indian Village) in Memphis, Tennessee. Those in attendance were Lou C. Adair, Ronald C. Brister, John M. Connaway, John Cox, Roger Dan, David H. Dye, John A. Hesse, William R. Hony, William H. Hancock, Thomas H. Koehler, Samuel O. McGahey, Charles H. McNutt, Richard A. Marshall, Dan F. Morse, M.D., Dan F. Morse, Charles H. Newton, James E. Price, Martha A. Rolingson, Paul Schmidt, Bruce D. Smith, Gerald P. Smith, Augustus J. Sordinas, and Owen W. Sutton. This meeting was taped and partially transcribed by Owen W. Sutton at the C.H. Nash Museum. An overview of current research in the Central Mississippi Valley was emphasized in this meeting through round table discussions.

Dan F. Morse organized and chaired the second Mid-South Archaeological Conference in Jonesboro, Arkansas on July 31, and August 1, 1971. This was the first meeting to have formally presented papers organized around topical sessions: new techniques, the Powers Phase, Paleo-Indian, Poverty Point and miscellaneous papers. Twenty-six papers were either presented or distributed in absentia to an audience of up to 72 persons.

Several participants at the 1971 Jonesboro meeting suggested holding the next Mid-South Archaeological Conference in southeastern Missouri the following summer. This meeting was not convened and the third Mid-South Archaeological Conference was postponed until the summer of 1973. The 1973 meeting was organized by John M. Connaway and was scheduled to be held in Clarksdale, Mississippi, but the conference was cancelled due to a lack of contributed papers and the inability of many of the participants to attend the meeting. The presented paper sessions of this meeting were intended to be organized around environmental

studies in the Mid-South. Presumably many of these papers were presented at the thirtieth annual meeting of the Southeastern Archaeological Conference held October 5-6, 1973 in Memphis, Tennessee, as its conference theme also included environmental studies.

On February 1 and 2, 1975, archaeologists working in the Central Mississippi Valley organized an informal gathering in Jonesboro, Arkansas to discuss chronological alignments, local sequences, research designs in contract archaeology, origins of Mississippian culture, and problems of communication in the Central Mississippi Valley. Those in attendance included Brian M. Butler, John W. and Randy L. Cottier, Hester A. Davis, James B. Griffin, Suzanne E. Harris, John H. House, R. Barry Lewis, Charles R. McGimsey, III, Michael G. Million, Dan F. and Phyllis A. Morse, James E. and Cynthia R. Price, Michael B. Schiffer, Michael Southard, and Stephen Williams. The inability of the Mid-South Archaeological Conference to sustain the necessary interest to hold annual meetings may have fostered the need for another type of format or focus for an archaeological organization in the Central Mississippi Valley. At this 1975 meeting the Central Lowland Archaeological Seminar and Symposium (CLASS) was formed. As was the case with the Mid-South Archaeological Conference, the Central Lowland Archaeological Seminar and Symposium was an informal, non-funded, and egalitarian organization that sought to enhance and contribute cooperation and communication among colleagues at various institutions within the Central Mississippi Valley. One improvement over the previous organization was the creation of a newsletter that would "stimulate a free exchange of information and ideas between those people who have dedicated much of their career to Mississippi Valley archaeology" (CLASS Newsletter Vol. 1:1). The first newsletter was issued May 15, 1975 and encouraged the submission of short articles, news items, and notes. CLASS, as was the case with the earlier Mid-South Archaeological Conference, did not exact dues from its members, nor establish officers of the organization.

A CLASS meeting was held August 2 and 3, 1975 at the Zebree site at the Big Lake National Wildlife Headquarters near Manila, Arkansas. The focus of the meeting was to review and discuss the excavations that were then in progress.

On April 13, 1976, a CLASS meeting was held at the headquarters of the Village Creek Archaeological Survey near Walnut, Arkansas. Those attending the meeting included Hester A. Davis, David Ellis, Suzanne E. Harris, Judy Husted, Timothy C. Klinger, Charles R. McGimsey, III, Dan F. and Phyllis A. Morse, James E. and Cynthia R. Price, Richard Rockwell, Alan Stanfill, Terry Tucker, and David White. Reports and discussion on the Village Creek survey, the Fourche Creek Watershed survey, and regional research designs were emphasized.

Five years later attempts were made to organize another meeting of the Mid-South Archaeological Conference. Conversations with several individuals concerned with the archaeology of the Mid-South resulted in renewed interest in reviving such a meeting, but with the emphasis of specific topics guiding the conference. Thus, the idea of an annual regional conference devoted specifically to the archaeology of the Mid-South was again established in the hopes that such a conference would encourage the continuation of syntheses of Mid-Southern archaeology, increase cooperation between interested archaeologists and

institutions, and produce a published account of the current knowledge of specific topics pertinent to Mid-Southern prehistory.

The first "rejuvenated" meeting, the third "annual" Mid-South Archaeological Conference was held at the Memphis Pink Palace Museum on June 15, 1982. The Tchula period was chosen as the topic for the meeting by Ronald C. Brister and David H. Dye, the meeting organizers, because it was a convenient beginning for discussions concerning the initial appearance of ceramics in the Central and Lower Mississippi Valley, little had been written on this particular time period since Phillips' (1970) Yazoo Basin report, and recent, but unpublished information was currently available as a result of the rapid growth of federally sponsored archaeology. Rather than opening the meeting to a round table discussion format, the organizers believed papers solicited and prepared in advance would result in better syntheses and more tightly focused discussions.

Unknown to the Mid-South Conference organizers, Kenneth B. Farnsworth and Thomas E. Emerson were organizing a similar meeting in Illinois on the Early Woodland period in the Mid-West. This Kampsville Conference, held on November 5-6, 1982 and sponsored by the Center for American Archeology, addressed and assessed questions on the Early Woodland period in the Midwest. The papers and ensuing discussions in Kampsville had much in common with similar discussions on Mid-Southern Tchula period cultures. In fact, several of the discussants gave papers at both meetings and shared ideas and interests held in common by the adjoining areas. For this reason we believe the Kampsville publication and the present volume should provide a basic and complementary summary on Early Woodland/Tchula period cultures throughout the Mid-South and Midwest. The proceedings of the Kampsville Conference is entitled Early Woodland Archaeology and is edited by Kenneth B. Farnsworth and Thomas E. Emerson (Center for American Archeology, Kampsville Seminars in Archeology, Volume 2, 1986).

Following the meeting program, abstracts of papers, and lists of registrants from the 1982 Mid-South Archaeological Conference, Dan F. Morse discusses the 1971 Mid-South Archaeological Conference held in Jonesboro, Arkansas.

MEETING PROGRAM

THE THIRD MID-SOUTH ARCHAEOLOGICAL CONFERENCE - 1982

MEMPHIS STATE UNIVERSITY
MEMPHIS, TENNESSEE

June 15

- 9:00 James B. Griffin (University of Michigan) INTRODUCTION
- 9:20 James B. Stoltman (University of Wisconsin - Madison)
PRELIMINARY RESULTS OF PETROGRAPHIC THIN SECTION ANALYSIS OF
TCHULA PERIOD CERAMICS FROM THE LOWER MISSISSIPPI VALLEY IN
CONTRAST TO CERAMIC ARTIFACTS FROM THE POVERTY POINT SITE.
- 9:40 Thomas E. Emerson (University of Illinois - Urbana-Champaign)
THE EARLY WOODLAND FLORENCE PHASE: MID-SOUTH INFLUENCES IN THE
AMERICAN BOTTOM, ILLINOIS.
- 10:00 Coffee Break
- 10:20 James E. Price (Southwest Missouri State University)
TCHULA PERIOD OCCUPANCY ALONG THE OZARK BORDER IN SOUTHEASTERN
MISSOURI.
- 10:40 Dan F. Morse (Arkansas State University - Jonesboro)
THE McCARTY SITE: A TCHULA PERIOD OCCUPATION IN NORTHEASTERN
ARKANSAS.
- 11:00 Robert C. Mainfort, Jr. (Tennessee Department of Conservation)
TCHULA/MILLER I: A PERSPECTIVE FROM PINSON MOUNDS.
- 11:20 lunch
- 1:20 Martha A. Rolingson (Toltec Mounds Research Station) and
Marvin D. Jeter (University of Arkansas - Monticello)
TCHULA PERIOD SITES IN SOUTHEASTERN ARKANSAS.
- 1:40 Samuel O. Brookes and Cheryl Taylor (Mississippi Department of
Archives and History) TCHULA PERIOD CERAMICS IN THE UPPER-
SUNFLOWER REGION.
- 2:00 Ned J. Jenkins (Auburn University - Montgomery)
THE WHEELER SERIES: SPACE, TIME, AND EXTERNAL RELATIONSHIPS.
- 2:20 Coffee Break
- 2:40 Richard A. Marshall (Mississippi State University)
COMMENTS ON GEOMORPHOLOGICAL IMPLICATIONS ON THE DEVELOPMENT OF
LATE TCHULA/EARLY MARKSVILLE SETTLEMENT IN THE UPPER YAZOO BASIN.

- 3:00 David H. Dye (Memphis State University) and Jerry R. Galm
(Eastern Washington University) TCHEFUNCTE, ALEXANDER, AND
BLACK SAND: AN EARLY GULF TRADITION IN THE MISSISSIPPI VALLEY.
- 3:20 Richard A. Weinstein (Coastal Environments, Inc. - Baton
Rouge) TCHEFUNCTE OCCUPATION IN THE LOWER MISSISSIPPI DELTA AND
ADJACENT COASTAL ZONE.
- 3:40 Stephen Williams (Harvard University) SOME TERMINAL REFLECTIONS
ON EARLY POTTERY IN THE LOWER MISSISSIPPI VALLEY.
- 4:00 Reception

ABSTRACTS OF PAPERS

Thomas E. Emerson (University of Illinois - Urbana-Champaign) THE EARLY WOODLAND FLORENCE PHASE: MID-SOUTH INFLUENCES IN THE AMERICAN BOTTOM, ILLINOIS.

Recent excavations at a buried site in the American Bottom provided evidence for the existence of a new Early Woodland phase in this area. The Florence Street site assemblage was rapidly buried by flood deposits and thus preserved from later disturbance. A structure, stone hearths, firestains, and a number of small pits were excavated. The associated material assemblage is unique for this area. The ceramics were grog-tempered wares decorated with fingernail punctations. The dominant lithic artifacts consisted of contracting stem projectile points and knives. Radiocarbon determinations and typological correlations place the Florence phase at between 500 B.C. to 300 B.C. The closest cultural affiliations of this assemblage appear to be with the cultures of the adjacent Mid-South.

DAN F. MORSE (Arkansas State University - Jonesboro) THE McCARTY SITE: A TCHULA PERIOD OCCUPATION IN NORTHEASTERN ARKANSAS.

Salvage of the McCarty site resulted in the recovery of the first complete Tchula period assemblage in northeastern Arkansas. Ceramics, lithic and copper artifacts indicate that this period in the Central Mississippi Valley was rich and sophisticated. It is also clear from these data that the Tchula period was truly transitional between the Poverty Point and Marksville periods.

Robert C. Mainfort Jr. (Tennessee Department of Conservation) TCHULA/MILLER I: A PERSPECTIVE FROM PINSON MOUNDS.

During the excavation of a Middle Woodland burial mound, several pre-mound occupation strata were revealed. Fabric impression was the primary decorative motif on the ceramics from these strata. Recently obtained radiocarbon dates suggest that these occupations occurred between 300 B.C. and A.D. 100.

Samuel O. Brookes and Cheryl Taylor (Mississippi Department of Archives and History) TCHULA PERIOD CERAMICS IN THE UPPER SUNFLOWER REGION.

A brief study of decorated sherds show varieties of Mabin Stamped to be the dominant wares of the Tchula period. Some aspects of later cultures (i.e., wide U shaped zoning lines) are present, but Hopewellian motifs such as cross-hatched rims, bird designs, and bisected circles are absent. Finally, radiocarbon dates from several sites suggest a time frame for Tchula phases in the region.

Ned J. Jenkins (Auburn University - Montgomery) THE WHEELER SERIES:
SPACE, TIME, AND EXTERNAL RELATIONSHIPS.

In this paper data will be presented documenting the spatial and temporal distribution of the fiber-tempered Wheeler series. An internal ceramic development of Wheeler ceramics will be postulated. A model explaining the origins of Wheeler ceramics will also be offered.

David H. Dye (Memphis State University) and Jerry R. Galm (Eastern Washington University) TCHEFUNCTE, ALEXANDER, AND BLACK SAND: AN EARLY GULF TRADITION IN THE LOWER MISSISSIPPI VALLEY.

In this paper we discuss new data pertinent to the Alexander culture. In particular, recent radiocarbon determinations place the Alexander culture between 600 B.C. and 200/100 B.C. and lithic analysis suggests that the Alexander lithic bifacial reduction strategy continued from earlier Late Archaic Benton times. We suggest that Alexander ceramic motifs may have been part of a widespread ceramic horizon that existed from approximately 600 B.C. to 200 B.C. throughout much of the Mississippi Valley and adjacent Gulf Coast. A succeeding fabric marked and plain ware tradition, between 200 B.C. and A.D. 1, may indicate that a sharper boundary exists between Alexander and Tchula cultures and later Colbert-Miller-Baumer complexes than previously has been recognized.

Richard A. Weinstein (Coastal Environments, Inc. - Baton Rouge)
TCHEFUNCTE OCCUPATION IN THE LOWER MISSISSIPPI DELTA AND ADJACENT
COASTAL ZONE.

During the past 40 years, since Ford and Quimby formally recognized the Tchefuncte culture, archaeologists in the coastal areas of Louisiana, Mississippi, and Texas, have continued to provide important new data on Tchula period sites. This paper will briefly synthesize the present status of coastal Tchefuncte culture and the settlement distribution of known sites. A review of several Tchefuncte phases identified in the region and characteristics of each will be provided. Specific sites, for which there are available detailed data on subsistence, mortuary customs, and possible social organization, will be examined as well.

LIST OF REGISTRANTS

Jeanie Allen
David Bowman
Ronald C. Brister
Samuel O. Brookes
Betsy Caldwell
Roy J. Cochran
John M. Connaway
Ross A. Dinwiddie
David H. Dye
Thomas E. Emerson
Mary Ellen Fogarty
James B. Griffin
William G. Haag
Karen Harris
Nancy Hartling
Kenneth C. Hartsell
Betsy Houston
Ned J. Jenkins
Marvin D. Jeter
L. B. Jones
Scott C. Jones
John Kelly
Timothy C. Klinger
Mary L. Kwas
Robert J. Ledbetter
Melissa F. Lehman
Charles H. McNutt

Robert L. Mainfort, Jr.
Richard A. Marshall
Don Martin
Roy Meador
Mark Mehrer
Rosanne Moore
Dan F. Morse
Phyllis A. Morse
John O'Hear
Doug Prescott
Cynthia R. Price
James E. Price
Patricia Quillian-Whitaker
Herschell F. Riggs
Martha A. Rolingson
Zada Law Schlundt
Bruce D. Smith
Gerald P. Smith
Kate Smith
Mary Evelyn Starr
James B. Stoltman
Guy G. Weaver
Richard A. Weinstein
Louella Whitson
Duncan C. Wilkie
Stephen Williams
Kate Yarbrough

THE SECOND MID-SOUTH ARCHAEOLOGICAL CONFERENCE - 1971

Dan F. Morse

The Arkansas State University station of the Arkansas Archeological Survey hosted a Mid-South Archaeological Conference on July 31 and August 1, 1971. We believed that our recent discoveries at the Dalton period Brand site and at the Big Lake phase Zebree site were of sufficient importance to attract Mid-South investigators to Jonesboro, Arkansas. We expected about 15 to 25 people. By the last week in July we realized that many more were going to attend than we anticipated. A total of 72 people registered for the meeting.

Jimmy Griffin and Jim Price brought a contingent from the University of Michigan and we were privileged to have a whole session on the work then current on the Powers phase in southeastern Missouri. With that contingent were Dick Ford and Henry Wright. Another session highlighted some new developments, particularly in geochronology and dendrochronology. Roger Saucier updated his conclusions for us. Carl Chapman presented the results of his soil probe project at Lilbourn. Greg Perino gave an important paper on the first archaeological identification of preform and core abraders. Jimmy Griffin presented the then new archeological sequence devised for Cahokia and Jon Muller presented new developments from the modern Kincaid project. Hester Davis talked about "new legislation."

A decision was made not to read the papers of contributors who were absent at the conference. Those papers were simply distributed. All papers presented are abstracted in the following pages.

The highlight of the Saturday session was an unannounced (even to us!) dramatization by Stu Neitzel and John Belmont, narrated by Jeffrey Brain. When excavating the Brand site, I mailed progress reports which referenced the recognition of squatting areas (later edited by Phyllis to working areas). So Stu and John and Jeff (mostly Jeff I suspect) decided to present a "Ethnosquatting and Archaeohunkering hypothesis." The first act was two good old boys meeting each other and squatting briefly to talk and whittle. The second act was two good old boys meeting and squatting briefly to break rock and talk. The spectacle of the "Little John (with an elk baton) and Big Stu" show was absolutely hilarious and emphasized the informal nature of the meeting.

That evening we barbequed 50 chickens over a pit prepared the day before in our backyard. We had stockpiled several cases of beer (Craighead County is "dry") and many participants brought their own favorite beverages with them. We did not charge a registration fee, known as southern hospitality. Jimmy Griffin, as usual, identified potsherds for some of the serious participants.

The Sunday session began with everyone present, an event not duplicated in the memory of those present. Clarence Webb not only presented the new discoveries relating to San Patrice but consented to

critique attempts by some investigators to identify Poverty Point sites north of Memphis. Probably the nicest compliment received by us after the final session was by Stu Neitzel who stated this had been the best meeting he could remember attending, including SEACs. Knowing Stu, this compliment meant a great deal to us.

MEETING PROGRAM

THE SECOND MID-SOUTH ARCHAEOLOGICAL CONFERENCE - 1971

ARKANSAS STATE UNIVERSITY
JONESBORO, ARKANSAS

July 31

9:00 REGISTRATION

10:00 NEW TECHNIQUES AND MISCELLANEOUS SESSION - chaired by Dan
F. Morse.

Lynne J. Bowers (Arkansas State University) CYPRESS
DENDROCHRONOLOGY

Roger T. Saucier (U. S. Army Engineer Waterways Experiment
Station) RECENT DEVELOPMENTS IN GEOLOGICAL INTERPRETATIONS OF
THE MISSISSIPPI VALLEY

Alan Donn (University of Michigan) ARCHAEOLOGICAL DATING

Carl H. Chapman (University of Missouri) SOIL PROBING

Cynthia J. Weber (Arkansas Archeological Survey) DATING POVERTY
POINT OBJECTS BY THERMOLUMINESCENCE

Hester A. Davis (Arkansas Archeological Survey) NEW LEGISLATION

Gregory Perino (Gilcrease Museum) BLADE CORE AND PREFORM
ABRADERS

Chester North (Arkansas State University) ATOMIC ABSORPTION

Ervan Garrison (Arkansas State University) FISSION TRACK DATING
OF POTTERY

Richard A. Marshall (Mississippi State University) THE NEW
FORTUNES OF MISSISSIPPI STATE

12:00 LUNCH

1:45 POWERS PHASE SESSION - chaired by James B. Griffin

James B. Griffin (University of Michigan) THE ROLE OF THE POWERS
PHASE STUDY TO THE ARCHAEOLOGY OF THE MISSISSIPPI VALLEY

James E. Price (University of Michigan) A SURVEY OF THE POWERS
PHASE SETTLEMENT AND COMMUNITY PATTERNS

Suzanne E. Harris (University of Michigan) ETHNOBOTANY OF THE POWERS PHASE

Wilma Kosnik (University of Michigan) LATE WINTER DIET AND ECOLOGICAL INDICATIONS OF A DIETARY DEFICIENCY

Rand Miller (University of Michigan) SITE SIZE AND SUBSISTENCE AREA OF THE POWERS BASE

Richard Zurel (University of Michigan) EXCAVATION OF A MISSISSIPPIAN HUNTING CAMP

Dan F. Morse (Arkansas Archeological Survey) and Larry D. Medford (Arkansas Archeological Survey) THE VALUE OF THE POWERS PHASE AS A MODEL FOR MISSISSIPPI SETTLEMENT PATTERN IN NORTHEAST ARKANSAS

Jon D. Muller (Southern Illinois University of Carbondale) THE VIEW FROM KINCAID

Jeffrey P. Brain (Harvard University), Robert S. Neitzel (Harvard University), and John S. Belmont (Southern Illinois University at Carbondale) THE ETHNOSQUATTING AND ARCHAEOHUNKERING HYPOTHESIS: A CASE STUDY

James B. Griffin (University of Michigan) RECENT DECISIONS ON THE SEQUENCE AT CAHOKIA

6:30 BARBEQUE CHICKEN DINNER AND REFRESHMENTS AT THE MORSE'S HOME

August 1

9:30 PALEO-INDIAN AND POVERTY POINT SESSION - chaired by Clarence H. Webb

Dan F. Morse (Arkansas State University) THE BRAND SITE: INDICATIONS FOR PALEO-INDIAN OCCUPATION OF THE VALLEY

Clarence H. Webb (Shreveport) THE JOHN PIERCE SITE: AN EXAMPLE OF SAN PATRICE IN LOUISIANA

Clarence H. Webb (Shreveport) WHAT IS AND WHAT ISN'T "POVERTY POINT"

Samuel O. McGahey (Mississippi Department of Archives and History) THE DENTON SITE, QUITMAN COUNTY, MISSISSIPPI

Gerald P. Smith (C. H. Nash Museum) NEW EVIDENCE FROM TENNESSEE

Larry D. Medford (Arkansas Archeological Survey) STONE BEADS: LOCAL CHERT OR TRADE?

ABSTRACTS OF PAPERS

Bowers, Lynne J. (Arkansas State University) CYPRESS DENDROCHRONOLOGY

Due to the encouragement and interest of Roger T. Saucier (Geology Branch, U.S. Army Corps of Engineers, Waterways Experiment Station), Dan F. Morse, (Arkansas State University), and Leon Richards (Associate Professor of Botany at Arkansas State University), an effort in dendrochronology using the bald cypress (Taxodium) has been launched in the Mississippi Valley. Two of the four requirements listed by Stokes and Smiley (1968) as presently necessary for tree-ring dating have been satisfied. The dominant growth limiting factor of the bald cypress is varying in intensity from year to year and the resulting rings reflect variation in their width. Also, the variable environmental growth limiting factor has been found to be uniformly effective over a wide geographical area. The possibility of establishing a master tree-ring chronology for this area appears optimistic.

Brain, Jeffrey P. (Harvard University), Robert S. Neitzel (Harvard University) THE ETHNOSQUATTING AND ARCHAEOHUNKERING HYPOTHESIS: A CASE STUDY

Similarities between small chipping loci and wood debitage observed at certain transitory wooded sites were pointed out. Demonstrations were provided involving both macro and micro interaction spheres.

Chapman, Carl H. (University of Missouri) SOIL PROBING

A \$35,000 soil probe mounted on a truck was borrowed from the U.S. Soil Conservation Service to quickly profile the Lilbourn site. Eight foot deep cores were taken at 5 foot intervals. Using a Munsell Color Chart, the cores were identified by the soils geologist, sketched on clear plastic and discarded. The mound profile was accurately reconstructed from this data and a control test pit.

Davis, Hester A. (Arkansas Archeological Survey) NEW LEGISLATION

The Senate is expected to pass the Historical and Archaeological Preservation bill before it recesses. However, action by a militant Indian group in Minnesota has caused a crippling amendment to be placed on the House bill. This will have to be revised or the bill will not be effective.

Griffin, James B. (University of Michigan) THE ROLE OF THE POWERS PHASE STUDY IN THE PREHISTORY OF THE MISSISSIPPI VALLEY

Goals of the Powers Phase Project have been aimed toward the delineation of a true archaeological phase, a spatially definable cultural manifestation occupying a small segment of time. The Powers phase situation provides an almost instantaneous view of a functioning Mississippian society. Whether the Powers phase is representative of Mississippian phases in general is open to question since there are no comparable data.

Griffin, James B. (University of Michigan) RECENT DECISIONS ON THE SEQUENCE AT CAHOKIA

The newly proposed sequence at Cahokia is as follows:

<u>DATE</u>	<u>PHASE</u>
1700-1750	Historic
1500-1700	
1250-1500	Sand Prairie
1150-1250	Moorehead
1050-1150	Stirling
900-1050	Fairmount
800-900	
600-800	Patrick

Harris, Suzanne E. (University of Michigan) ETHNOBOTANY OF THE POWERS PHASE

Both witness trees and palynological studies are being used to reconstruct the environment of southeastern Missouri during the period of the Powers phase. Records from the original survey of the area in the 19th century list the trees used to mark section and quarter section lines. Because these witness trees reflect the vegetation of the area before it was disturbed by agricultural practices they provide clues to the environment of the Powers phase. For palynological studies soil samples were taken from the Turner and Snodgrass sites and adjacent regions. The relative proportions of plants represented in the pollen profile of soil levels from the Powers phase indicate the dominant vegetation types.

McGahey, Samuel O. (Mississippi Department of Archives and History) THE DENTON SITE, QUITMAN COUNTY, MISSISSIPPI

Excavations done by Clarence Webb and the Mississippi Archaeological Survey at the Teoc Creek Poverty Point site were discussed. It was suggested on the basis of stratigraphy revealed by a backhoe trench and some bore hole traverses, that the largely buried midden is actually a large semi-saucer shaped affair. It was hypothesized that the original settlers of the site lived in a small, semi-circular pattern at the edge of the stream and with a population expansion, enlarged the original semi-circle to accomodate the growth. Factors which seemed to indicate this were: (1) The earliest date - 1700 B.C. + 160 (M2395) was obtained near the stream bank and a series of later dates 1107 B.C. (M2394), 1130 B.C. + 150 (M2415) 1260 B.C. + 250 (M2413), 1320 B.C. + 200 (2414), 1430 B.C. + 160 (M2417), 1450 B.C. + 160 (M2393), 1520 B.C. + 160 (M2416), 1650 B.C. + 160 (M2412), toward the outside of the semi-circle opposite this point. (2) The "rim" of the midden was considerably thicker than that near the stream bank, suggesting a heavier occupation. Some points of comparison between the Teoc Creek site and the earlier Denton site (2180 B.C. + 125 UGa-212) were made. There seem to be continuities, especially in the blade and flake tool complexes. A heavy use of amorphous pieces of fired clay at Denton seems to foreshadow the later intensive use of Poverty Point objects at Teoc Creek.

Medford, Larry D. (Arkansas Archeological Survey) STONE BEADS: LOCAL
CHERT OR TRADE?

There have been suggestions or implications that stone beads found in northeast Arkansas were traded into this area from Late Archaic cultural centers. Most often mentioned has been the Poverty Point site. However, virtually identical stone to that used for the beads has now been found in gravels on Crowley's Ridge. All beads examined, however, have been surface finds and there is still very little evidence of local manufacture. A re-evaluation of this problem should be made concerning the area of bead manufacture and northeast Arkansas should not be discounted.

Miller, Rand (University of Michigan) SIZE AND SUBSISTENCE AREA OF THE
POWERS PHASE

Since the settlement pattern of the Powers Phase is known with a high degree of certainty, the area utilized by the phase can be accurately delineated. The Powers phase is restricted to sand ridges of only two soil types. It is bounded on the east and south by swampland and to the west by the Ozark Highland. Population estimates from the Snodgrass site have been used to predict the population of the whole phase. Estimates of maize production per acre from Meso-america are used to calculate the maximum carrying capacity of the land for maize cultivation.

Morse, Dan F. (Arkansas Archeological Survey) and Larry D. Medford
(Arkansas Archeological Survey) THE VALUE OF THE POWERS PHASE AS A
MODEL FOR MISSISSIPPI SETTLEMENT PATTERN IN NORTHEAST ARKANSAS

The apparent settlement patterns of Baytown and the Big Lake, Hynetman, Adams, Lawhorn, Cherry Valley, Magness, Parkin, and Nodena phases were briefly reviewed. Some Baytown, particularly the Barnes pottery component, is made up of open communities. The Big Lake and early Lawhorn phases involve about 1000 square miles with a fairly good fit with the Powers phase pattern. About A.D. 1300 there was a population shift into the floodway of the abandoned Mississippi River crevice channel which flowed by Marked Tree. The Cherry Valley phase may be an open community pattern. The Parkin phase and particularly the Nodena phase are still little more than geographical constructs with little known about the interrelationship of sites.

Morse, Dan F. (Arkansas Archeological Survey) THE BRAND SITE:
INDICATIONS FOR PALEO-INDIAN OCCUPATION OF THE VALLEY

The investigation of Paleo-Indian in the Mississippi Valley has been enhanced by excavations at the Brand site in northeast Arkansas. Tool kit reconstruction, settlement pattern investigation, and experimentation involving the manufacture and use of tools were discussed. The presence of buried living floors implies we need not rely on arbitrary excavation units.

Muller, Jon D. (Southern Illinois University at Carbondale) THE VIEW FROM KINCAID

Because of recent and ongoing land clearing, there are increased opportunities to map sites in the Kincaid area. A variety of techniques are being employed ranging from field surface sampling to infrared aerial photographs. To date, several possible related sites are in Kentucky and only a few in Illinois which has presented a problem.

Perino, Gregory (Gilcrase Museum) BLADE CORE AND PREFORM ABRADERS

At the Gay site in Illinois, a series of Hopewell knapping kits were uncovered. Each included antler batons, quartz abraders, and preheated blade cores with crushed edges. J. B. Sollberger of Dallas, a flint knapper experimenter, stated his abraders would eventually look like those from the Gay site. Other similar abraders have been found in Illinois, Texas and Arkansas and a variety of abraders for crushing preform edges are now being identified in several assemblages.

Price, James E. (University of Michigan) A SURVEY OF THE POWERS PHASE SETTLEMENT AND COMMUNITY PATTERNS

Research of the Powers Phase Project has resulted in a Mississippian settlement pattern ranging from Powers Fort, a large town site, through nine villages, several hamlets, and many farmsteads and extractive sites. Extensive excavations on the Snodgrass site have revealed a complete community plan of a Mississippian village of 92 structures divided into three segments based on structure size, location, and contents which give important clues concerning the socio-political organization of the Powers phase people.

Saucier, Roger T. (U.S. Army Corps of Engineers Waterways Experiment Station) RECENT DEVELOPMENTS IN GEOLOGICAL INTERPRETATIONS OF THE MISSISSIPPI VALLEY

When seeking geological information that might provide either absolute or relative dates for sites in the Lower Mississippi Valley, most archaeologists sooner or later have turned to the classical work by H. N. Fisk in 1944 entitled, "Geological Investigation of the Alluvial Valley of Lower Mississippi River." However, detailed engineering-geologic mapping in the valley area during the last decade has revealed evidence indicating a need for a major revision of the chronology established by Fisk. A tentative revision has just been attempted in a report prepared by the writer under the sponsorship of the Arkansas Archeological Survey and the National Park Service for publication in the Corps of Engineers' Lower Mississippi Region Comprehensive Study. This new chronology helps explain many of the gross conflicts in age determinations between archaeological and geological evidence that have been a nemesis to many workers.

The new map of the Quaternary geology of the valley which is the focal point of the report is far less detailed than the maps in Fisk's 1944 study. Age deteriorations and relative sequences of events have been attempted only for whole meander belts of the Mississippi River and its major tributaries rather than for each and every abandoned course

and channel. Current knowledge of alluvial valley geology suggests that accurate age determinations for each of the abandoned channels and courses may never be practical or possible.

The single cycle of glacial advance and retreat during the last 70,000 years known and widely accepted at the time of Fisk's work required him to devise a chronology that explained all meander belts and deposition of glacial outwash by braided streams as having occurred during the last 7,000 years. It is now known with considerable certainty that two complete cycles occurred during this same 70,000 year period. Evidence is quite definitive that nearly all of the glacial outwash in the Western Lowlands, in much of the St. Francis Basin, and on Macon Ridge dates from the first cycle and is at least 30,000 to 35,000 years old. Certain areas, such as the Grand Prairie region of Arkansas, are now interpreted as predating both cycles and may be as old as 100,000 years. Glacial outwash from the second cycle is most widespread in the St. Francis and Yazoo Basins and is felt to be between 10,000 and 18,000 years old.

Whereas Fisk concluded that all Mississippi River meander belts formed during the last 4,000 to 5,000 years, there are now reasons to believe that the oldest ones date back as far as 9,000 years. It is now necessary to allow 7,000 years for the period of Mississippi River subdelta development rather than 5,000 years once considered adequate. Perhaps most significant is the need to recognize that the present meander belt of the river is as much as 6,000 years old north of Vicksburg, Mississippi. This stands in striking contrast to the 2,000 year ago age for the present meander belt envisioned by Fisk.

Although most inaccuracies in Fisk's work relate to chronology rather than to discussions of sedimentation, hydrology, and physiography, he also apparently erred in concluding that the Ohio and Mississippi Rivers flowed on several occasions in separate channels through the upper and central parts of the Lower Mississippi Valley. It is now felt that the two streams always joined near Cairo, Illinois, but farther downvalley divided their flow between two more or less equal channels for several hundred miles before rejoining still farther south. An alternate hypothesis involves a period of reduced discharge because of climatic change--an intriguing possibility, particularly for its obvious archaeological implications--but evidence for this is largely absent.

Smith, Gerald P. (C. H. Nash Museum) NEW EVIDENCE FROM TENNESSEE

River drainages in the Memphis area are being intensely surveyed for evidence of Late Archaic remains. Results are being plotted and relationships to Poverty Point investigated.

Webb, Clarence H. (Shreveport) THE JOHN PIERCE SITE: AN EXAMPLE OF SAN PATRICE IN LOUISIANA

The John Pearce site offers the first opportunity to study two lithic assemblages from a non-pottery site that has a preponderant representation of the San Patrice projectile point type, with only minor representation of stemmed Archaic points. Especial value is attached to the deeper zones in two excavated areas of the site in which there is a tight association of San Patrice points, tools and chipping debris with

no evidence of larger Archaic admixture. Results have been published in Vol. 42 of The Bulletin of the Texas Archeological Society.

Webb, Clarence H. (Shreveport) WHAT IS AND WHAT ISN'T "POVERTY POINT"

For the present it would seem preferable to reserve the term for (1) the site and (2) the cultural complex to be described. Thought should be given, as studies develop, to terminology to be applied to the baked clay object-earth oven tradition and to the aggregate of contemporary cultures, similar to but not integral parts of Poverty Point complex, which occur in the Mississippi Valley and the Southeast. The Poverty Point complex is a cultural manifestation, transitional in nature, which participates in the American Formative shift from Archaic bands to a village-regional center-great ceremonial center complex, with accompanying stratified societal organization; the climax of the cultural complex was exhibited at the Poverty Point ceremonial center, with planned construction of village and mounds, about or shortly after 1000 B.C.; implicit is the development of a secular and religious leadership principle, artisans, a centralizing and energizing religious concept that was solar oriented, with a tributary supporting and trade system and specialized food and material seeking activities. (Dr. Griffin added the important comment that between 1500 and 1000 B.C. extensive changes are occurring over the northern half of the U.S. as well.)

Weber, J. Cynthia (Arkansas Archeological Survey) DATING POVERTY POINT OBJECTS BY THERMOLUMINESCENCE

Provisional results from the Research Laboratory for Archeology, Oxford are as follows:

Poverty Point	1500 BC + 350
Terrel Lewis	1500 BC ± 350
Teoc Creek	1700 BC ± 350
Jaketown	1600 BC ± 350

The culturally unassigned Loggy Bayou site (3-Dr-59) gave dates from 0-200 AD + 200 for this association of clay balls, Withers Fabric Impressed and a plain ware, now identified as Tchefuncte Plain. Complete results will appear in Archaeometry Vol. 14, 1972.

Zurel, Richard (University of Michigan) EXCAVATION OF A MISSISSIPPIAN HUNTING CAMP

Excavations were conducted on a Mississippian hunting camp thought to belong to the Powers phase. The Gooseneck site is located in Hawes Memorial Campground in the Mark Twain National Forest in Carter County, Missouri northwest of the Powers phase Lowland settlement system. The site is situated on a terrace overlooking Current River. It contained Powers phase projectile points, bone tools, animal bones, and two hearths.

LIST OF REGISTRANTS

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Suzanne Harris
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Rand Miller
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Gary Price
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Hilgard P. Prinston
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Mary Printup
Ilene Rosenberg
Roger T. Saucier
Fred E. Schneider
Mr. & Mrs. E. J. Sims
Gerald P. Smith
Kay Smith
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THE TCHULA PERIOD
IN THE MID-SOUTH
AND
LOWER MISSISSIPPI VALLEY

CHAPTER 1

TCHULA PERIOD CERAMICS IN THE UPPER SUNFLOWER REGION

Samuel O. Brookes and Cheryl Taylor

Three ceramic traditions are present in the Upper Sunflower region during the Tchula period. Excavation at the Boyd site has provided data on one of these, the Cormorant group of wares. Types previously thought to belong in the Marksville period are shown to have been in use in the Tchula period.

In 1970 Philip Phillips suggested that a complete reappraisal of the Tchula period in the Northern Yazoo Basin was needed. Phillips did not attempt it, however, and following his lead, we too shall refrain from so doing. However, certain aspects of the ceramic sequence will be discussed, and a few conclusions will be drawn.

Tchula is here defined as the period immediately following Poverty Point and immediately preceding the rise of Marksville. The time span allotted to Tchula is from 500 B.C. to A.D. 1.

Three basic ceramic traditions are present in the Northern Yazoo during this period. The Tchefuncte group consists of varieties of Tchefuncte Plain, Tchefuncte Incised, and Tchefuncte Stamped, Tammany Punctated, Jaketown Simple Stamped, and Lake Borgne Incised. All these types are characterized by a soft, chalky paste which often has a laminated appearance.

The second group consists of the Alexander series. Alexander Incised, Alexander Pinched, and O'Neal Plain make up this group. Some similarity in decorative motifs and vessel forms occur between the Alexander series and Tchefuncte ceramics, but paste is totally different. Alexander paste is very sandy, gritty to the touch.

The final group is loosely called the Cormorant group. Cormorant Cord Impressed is a major type in this grouping, but the name Cormorant is used here to apply to a paste group rather than a decorative treatment. Paste is soft and very chalky, similar to Tchefuncte, but the appearance of lamination is not present. Furthermore, vessel shapes and decoration are vastly different from either Tchefuncte or Alexander wares.

A question that immediately presents itself is what is the relationship of the three ceramic groups? Are they coeval, or is there a temporal gap between them? At present, data from the Northern Yazoo cannot answer these questions. Only two sites in the Yazoo Basin have been reported with intact Tchula components and one (Jaketown) is not in the Northern Yazoo (Figure 1.1). Jaketown has a good assemblage of Tchefuncte types, but Phillips (1970:37) states that the Alexander series is absent. So too is the Cormorant group.

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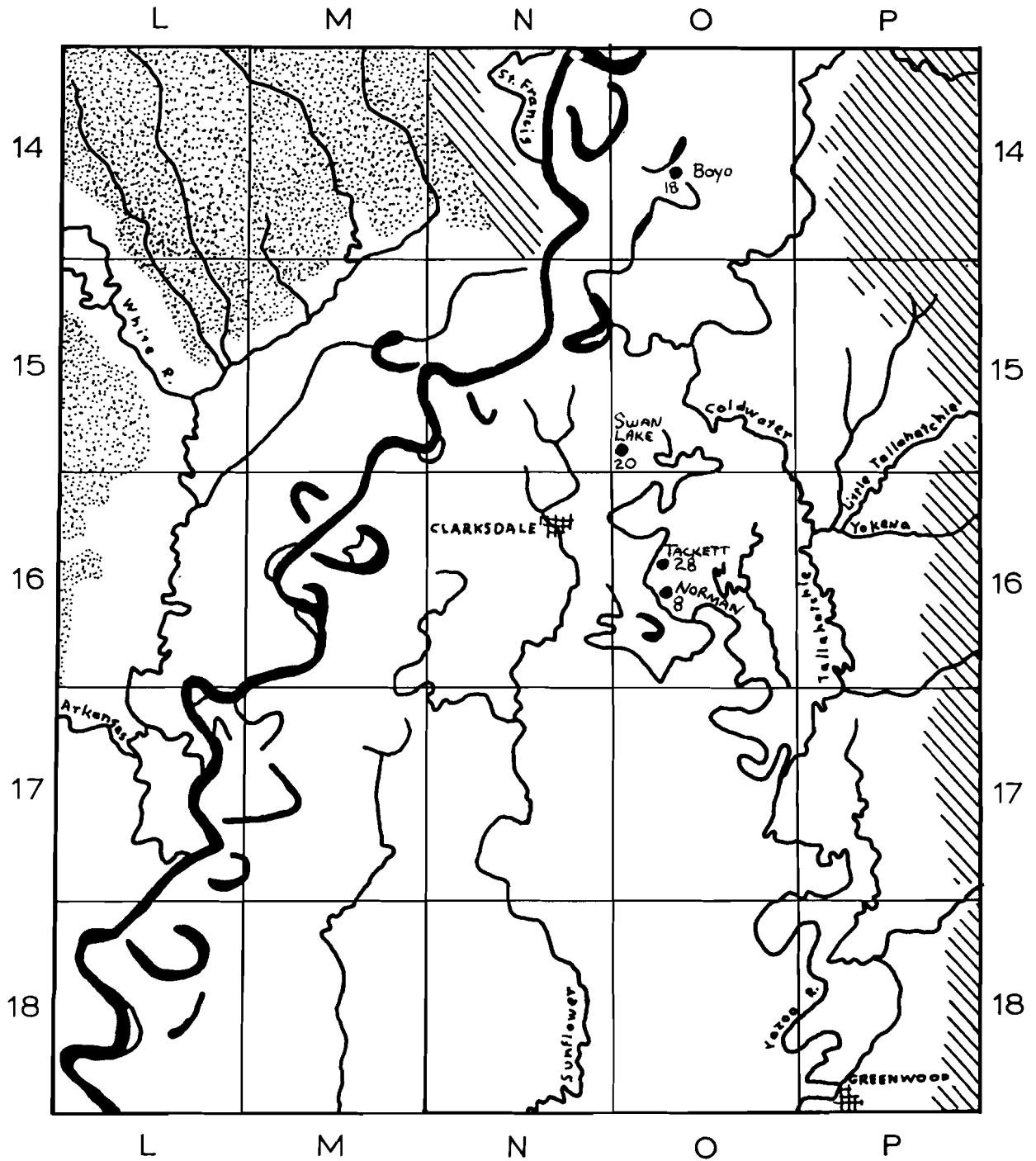


Figure 1.1. Tchula period sites in the Upper Sunflower Region.

At Norman all three groups are present. Phillips noted this and suggested that stratigraphic tests at Norman would go a long way toward answering questions concerning the Tchula period. Norman was tested in February of 1981. Two 5 ft x 5 ft squares and a number of boreholes and shovel tests were sunk. None showed any depth of midden below the plowzone. Subsurface features (pits) do exist so some information could possibly be gleaned, though indications are that the Norman site will be of little use in establishing a temporal sequence for a lot of enigmatic pottery.

Decorated wares of the Cormorant group were classified by Alan Toth in 1977. Toth's classification handles most, but not all of this striking assemblage. The assemblage includes Twin Lake Punctated, Churupa Punctated, Cormorant Cord-Impressed, and Mabin Stamped. In most instances decoration consists of triangular zones filled with punctations, stamping, or cord-impressions. Often red film is applied to plain zones, and when this is the case the interior is also red filmed. One sherd has a black film applied to the plain band. Vessel shapes are mostly shallow bowls.

Toth defined three new varieties of Mabin Stamped: var. Joes Bayou has zoned curved dentate stamping; var. Deadwater has zoned individual cords; and var. Hopson has zoned jab and drag. These last two are the most common treatments in the assemblage. Both are frequently combined with red filming. Toth arbitrarily assigned these to the Early Marksville Dorr phase on the basis of surface associations. He did note that they could be earlier--Tchula period. He further noted that none had cross hatched rims, bird designs, or the bisected oval motif characteristic of Early Marksville.

A reanalysis of some of the material from the Boyd site in Tunica County, Mississippi throws some light on the Cormorant assemblage. Boyd is a stratified site with a sealed deposit containing Cormorant materials and some Early Marksville Dorr phase ceramics in the lower zone (Zone I). The upper zone (Zone II) produced Late Marksville-Baytown ceramics.

Analysis of Cormorant ceramics from Zone I at Boyd produced the following types:

Twin Lakes Punctated var. Twin Lakes
var. Crowder

Cormorant Cord Impressed var. Cormorant (some red filmed)
var. Norman (all red filmed)

NOTE: The Norman variety is a new one defined here. It consists of cord impressions in a herringbone pattern on the rim and occurs on both plainware and Withers Fabric Marked.

Churupa Punctate var. Boyd
Mabin Stamped var. Mabin
var. Point Lake (red filmed)
var. Deadwater
var. Cassidy Bayou (red filmed; black filmed)

Plainware from the zone was sorted as Baytown Plain var. Unspecified: 123 sherds, and var. Bowie: 1288 sherds.

A sample of Bowie examined for this paper does not appear to be the sandy textured ware described by Phillips. All is soft and chalky, softer even than Baytown var. Marksville. Paste is identical to that found on decorated wares of the Cormorant group.

One crude crosshatched rim was found in a pit in Zone I. This is the only sherd from Boyd that could be assigned definitely to the Early Marksville period. Feature 37, a pit in Zone I, yielded many plain sherds and some Withers Fabric Marked as well as a date of 1865 ± 100 years: A.D. 85. Toth and the authors accept this as a valid date for Early Marksville. Thus, a sparse occupation during the Early Marksville period is suggested for Boyd.

However, most decorated sherds in Zone I are Cormorant ceramics. A C-14 sample obtained from Feature 47, a pit, yielded a date of 2170 ± 90 years: 220 B.C. This appears to be a valid date for the Tchula period in the Northern Yazoo.

It appears then that some varieties of Mabin Stamped, Withers Fabric Marked, Twin Lakes Punctated, Cormorant Cord-Imprinted, and Churupa Punctate make their appearance in the Tchula period. In addition to the single C-14 date from Boyd, the total lack of Marksville Stamped, Marksville Incised, and Indian Bay Stamped bolster this proposition. Further, these early varieties of Mabin Stamped lack crosshatched rims, bird designs, bisected ovals, and vessel shapes such as the "tubby pot" with cambered rim, all of which suggest they are pre-Marksville. Finally the "high incidence of reddish tones" noted by Phillips, Ford, and Griffin (1951:73), later by Phillips (1970:77), and again by Toth (1977:497) is red filming. This filming is quite common on Cormorant wares, often approaching 15%. Such is not the case with Early Marksville, where red filming does occur, but is an extreme minority (less than 2%). Also, only four sites are known in the Upper Sunflower with Cormorant ceramics, whereas over 25 sites with Early Marksville ceramics are known.

Having now stated that these types appear early it is unpleasant to report that some types and varieties continue into the Marksville period. Paste improves, red filming all but disappears, and design elements and vessel shapes change, so the situation can be handled.

While Norman may not be suitable for clarifying the Tchefuncte-Alexander-Cormorant dilemma, further work at Boyd could elucidate the Cormorant assemblage. Boyd has no Alexander or Tchefuncte sherds, so whether the three are coeval or Alexander and Tchefuncte are Early Tchula (as some think) cannot be settled with the data from the Upper Sunflower region.

In summary, Tchula ceramics from the Upper Sunflower region are anything but hopelessly unendearing sherds of a good grey culture. In the opinion of these authors, part of the reason for our lack of knowledge concerning Tchula is the fact that it occurs in the interval between two famous and glorified cultures. Sandwiched between chiefdom level social organizations (run by Olmecs) with redistributive economies on the one end, and the Illinois invaders or Gulf Formational on the other, Tchula has not been actively investigated by many archaeologists. As a period with influences from north, south, and east coming together in the Lower Valley, it deserves better.

With data from a buried sealed deposit, we find it impossible to set beginning and ending dates for the Tchula period. We have a good idea of the ceramic assemblages, but in what order and in what

proportions are still unknown. Our four sites in the Upper Sunflower do not provide us with a settlement pattern. We cannot answer questions on the nature of interaction between groups, when it occurred, or what type of houses were built. We do have some data on subsistence, but that is based upon one site, and, while no cultigens were present, we cannot say that this would be the case for the culture as a whole. Hopefully, a little attention from archaeologists will lift Tchula from its present state and show it to be a vigorous culture rather than a low point between Poverty Point and Marksville.

REFERENCES CITED

- Connaway, John M., and Samuel O. McGahey
1971 Archaeological Excavation at the Boyd Site, Tunica County, Mississippi. Mississippi Department of Archives and History Technical Reports No. 1.
- Phillips, Philip
1970 Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Harvard University Peabody Museum of Archaeology and Ethnology Papers No. 60.
- Phillips, Philip, James A. Ford and James B. Griffin
1951 Archaeological Survey in the Lower Mississippi Alluvial Valley, 1940-1947. Harvard University Peabody Museum of Archaeology and Ethnology Papers No. 25.
- Toth, E. Alan
1977 Early Marksville Phases in the Lower Mississippi Valley: A Study of Culture Contact Dynamics. Unpublished Ph.D. dissertation, Department of Anthropology, Harvard University, Cambridge.

CHAPTER 2

ALEXANDER, TCHEFUNCTE, AND BLACK SAND: AN EARLY GULF TRADITION IN THE MISSISSIPPI VALLEY

David H. Dye and Jerry R. Galm

In this paper we discuss new data pertinent to the Alexander culture. In particular, recent radiocarbon determinations place the Alexander culture between 600 and 200/100 B.C. and lithic analysis suggests that these folk maintained a lithic bifacial reduction strategy that continued from earlier Late Archaic Benton times. Alexander ceramic motifs may have been part of a widespread ceramic horizon that existed throughout much of the Mississippi Valley and adjacent Gulf Coastal Plain.

In this paper we discuss recent data pertinent to the Alexander culture, particularly new radiocarbon dates and the lithic bifacial reduction sequence. Based on this newly acquired information, we propose that Alexander ceramic motifs were part of a widespread ceramic horizon that existed from approximately 600 B.C. to 200/100 B.C. throughout much of the Mid-South and adjacent Gulf Coast.

The Alexander culture appears to date between 600 B.C. and 200/100 B.C. based on recent radiocarbon determinations and known occurrences of earlier and later ceramic assemblages. Most excavated sites are located in the western Middle Tennessee Valley and the Upper and Middle Tombigbee Valleys, although Alexander and Alexander-like material has been found as far east as Central Alabama (Walling and Schrader 1983), as far southwest as Louisiana (Ford and Quimby 1945), and as far north as Kentucky (Rolingson and Schwartz 1966) and Missouri (Chapman 1980) in small quantities. Alexander ceramics were first reported by Fowke in 1928 from northern Alabama, but it was not until the Tennessee Valley federal work relief projects that the ceramics were described in detail by Griffin (1939) and Haag (1942).

The Alexander decorative motifs consist of a variety of design elements. The most common designs are punctations, often fingernail impressions, and incised lines. The punctations vary in design from pinched ridges arranged in parallel rows to diamond shaped patterns. Incised lines may be arranged in parallel lines or crossed, resulting in diamonds or closed squares, rectangles, triangles, and circles. Other lines often assume a key motif in conjunction with rectilinear patterns and stamping or punctating. Various design elements may be present on vessels in alternating panels. Rim treatments include fabric impressing, notching or ticking, and nodes. These globular jars or bowls may have podal supports, annular notched bases, and square rims. The associated projectile point/knife types include Little Bear Creek/Flint Creek styles, along with other stemmed forms (Benthall 1966; Galm et al. 1982; Walling and Schrader 1983).

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Several Alexander sites recently have been excavated. Two of these contain intact Alexander components. One, Sakti Chaha (40-Hr-100) is situated on the south bank of the Tennessee River between Chambers and Robinson Creeks at Big Bend Shoals (Dye 1980:103-104). The site was located in July 1978 by Charles H. McNutt (1978) as part of an archaeological assessment for the construction of an additional lock at Pickwick Landing Lock and Dam. During the last two weeks of July 1978, a 1 m x 2 m test pit was excavated as part of the 1978 Washington University (St. Louis) summer field school in archaeology. Testing defined an Alexander occupation beneath 1.8 m of sterile clay. The pottery recovered from the test was Alexander, with the exception of one sandy, fiber tempered sherd. Charcoal from the midden produced a radiocarbon age of 2350 + 80 years: 400 B.C. (WIS-1147) (420 B.C. MASCA). This site was tested in order to obtain Alexander subsistence remains. Faunal material was not well represented because of soil acidity, but freshwater drum was identified. The recovered plant remains include wood charcoal, hickory nut, walnut, acorn, grape, and persimmon. The lithic assemblage includes projectile point/knife fragments, cores, unifacial choppers, pecked and ground stone tools, debitage, nonutilized and utilized flakes, fire cracked rock, and introduced rock.

The Aralia site (22-It-563) was tested in 1979 by the University of Alabama (Bense 1982:44) and further excavated by the University of West Florida (Galm et al. 1982) from October 1980 to January 1981. Both excavations were conducted as part of the Tennessee-Tombigbee Waterway investigations. The site is located at the juncture of the Tombigbee floodplain and its eastern valley wall near the tip of "Beaver Lake Ridge" and is situated on a 10 - 12% slope along the base of a steep (25% - 30%) Pleistocene terrace remnant. Charcoal from the midden produced a radiocarbon age of 2379 + 50 years: 429 B.C. (DIC-2037) (430 + 60 B.C.) and 2493 + 50 years: 543 B.C. (DIC-2545) (510-660 + 60 B.C.) (Table 2.1). The artifact assemblage was relatively homogeneous in the Alexander component across the site. Alexander ceramics included punctated and incised varieties which constitute the majority of the decorated sherd sample (Figure 2.1).

Plant remains from the Aralia site (22-It-563) include pokeweed, chenopod, persimmon, grape, acorn, and hickory (*Carya*). Wood charcoal includes oak, pine, and other hardwoods.

The lithic assemblage from Aralia is dominated by Flint Creek/Little Bear Creek projectile point/knife styles. These forms appear to be members of a projectile point/knife complex that includes other stemmed styles such as Mud Creek, Cotaco Creek, Wade, Baker's Creek, Smithsonia, Kays Stemmed, and Mulberry Creek. The Flint/Creek Little Bear Creek projectile point/knives from Aralia, considered as part of a hafted biface complex associated with the Alexander culture, clearly overlap in terms of stylistic attributes, size, and technology of manufacture. Attributes such as treatment of hafting elements and serration appear to be related to implement use.

Other implements in the Aralia site lithic assemblage include relatively few bifaces and cores, in addition to a variety of preforms, scrapers, and drills-perforators-reamers. Ground stone artifacts are represented by a few examples of mullers, mortars, pitted anvil stones, and a single fragmentary bead.

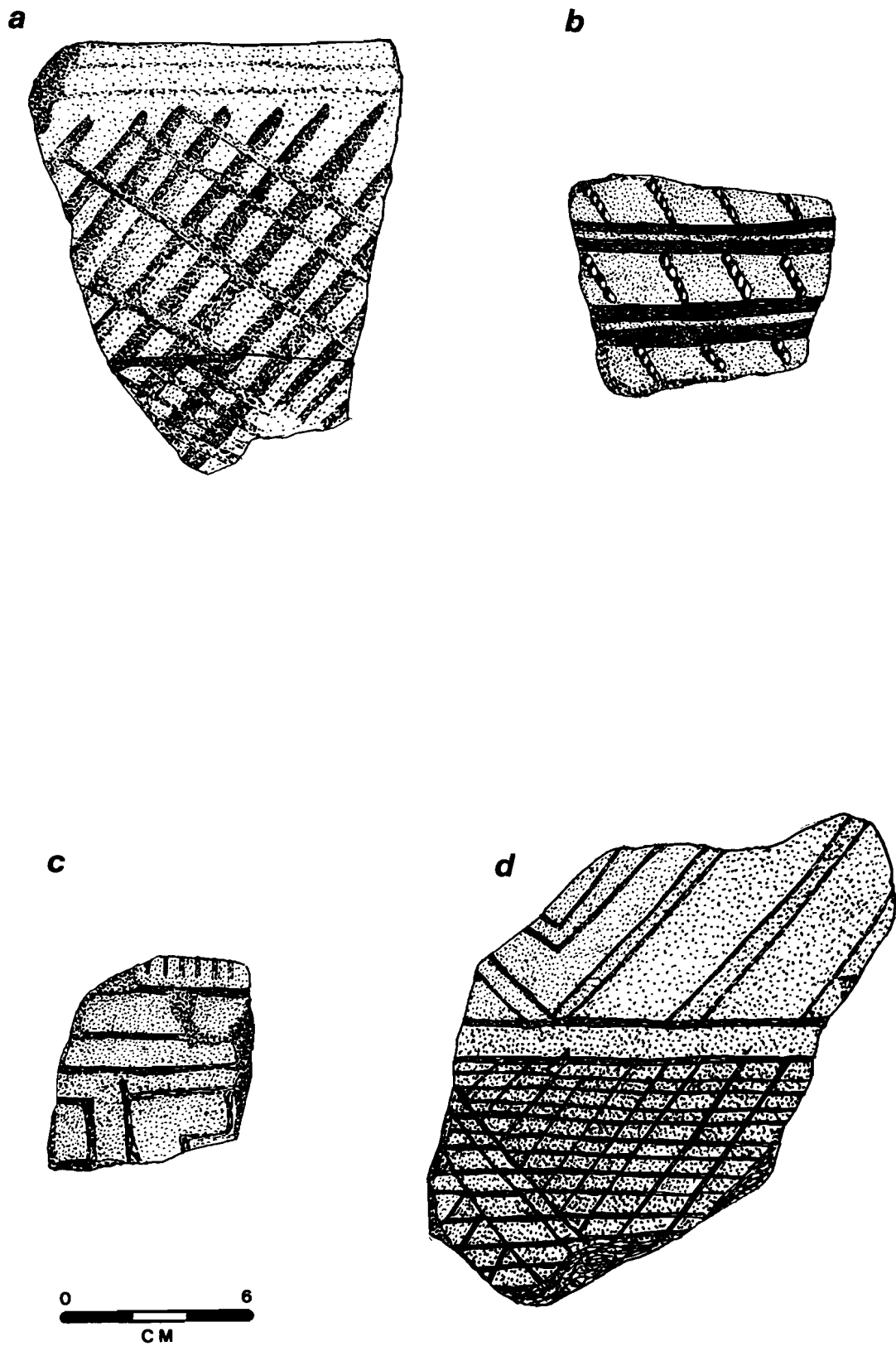


Figure 2.1 Alexander Incised sherds from Site 22-It-563.

Table 2.1 Radiocarbon Assays from Site 22-It-563

Lab No. DIC-2037

Field No. 563-1930

T1/2 5568 2310 \pm 50 B.P.

T1/2 5730 2379 \pm 50 B.P.

Calendric date: uncorrected; T1/2 5730: 429 \pm 50 B.C.

corrected; T1/2 5730: 430 \pm 60 B.C.

Sample: Charred nutshells

Provenience: 100s/107W, 43-VII (Elev. 88.80-88.70)

Lab. No. DIC-2545

Field No. 563-1072

T1/2 5568 2420 \pm 50 B.P.

T1/2 5730 2493 \pm 50 B.P.

Calendric date: uncorrected; T1/2 5730: 543 \pm 50 B.C.

corrected; T1/2 5730: 510-600 \pm 60 B.C.

Sample: Charred nutshells

Provenience: 77.22S/111.15W, Feature 10 (Elev. 89.00)

A diversity of implement uses suggesting the performance of a wide range of activities is represented in the lithic assemblage at Site 22-It-563. Documentation of specific implement uses is limited at present, but several observations can be offered at this time. First, the diversity in implement forms, when linked to activities or activity sets, is consistent with a use of the site as a base camp during the Henson Springs phase (cf. Klinger 1978). In addition, base camps are indicative, by definition, of semipermanent residency, although some movement of minimal population aggregates to other sites during portions of the year can be projected (Klinger 1978:290-293; Price and Krakker 1975:24-30).

Secondly, the relatively low number of items in certain implement categories (e.g., ground stone, scrapers) is most likely (a) an indication of the intensity of occupation(s); (b) an indication of a limited number of intermittent, but semipermanent, occupations (combined

in the classification of a single Henson Springs component); (c) the representation of multipurpose tools in the Zone 2 assemblage; or (d) combinations of the above. In short, low numbers of such items do not appear to be the result of differing activity patterns through time.

Finally, the projectile point/knife forms do, in fact, provide evidence of multiple uses (e.g., projectiles, knives, drills/perforators). The presence of multipurpose implements in the assemblage precludes the need for other formalized styles of tools designed for specialized uses.

The remaining lithic implements, manufactural debris, and debitage, when combined with the projectile point/knife data, identify major stages in the chipped stone lithic manufacturing trajectory (Figure 2.2). Locally derived Camden cherts comprise the vast majority of chipped stone tool types. Camden chert occurs as stream rolled cobbles which are readily available throughout the Upper Tombigbee Valley. Most of the Camden sample appears to have been heated and preliminary examination of lithic implements and debitage suggests that early stage bifaces, and possibly some unmodified cobbles, were being heated prior to further reduction.

Primary and secondary decortication flakes produced by the reduction of cobbles to the preform stage are not well represented in the debitage samples. This suggests that initial reduction took place at cobble sources. The early manufacturing sequence apparently involved both the bifacial reduction of cobbles and large flakes derived from cobbles. The reduction of relatively large flakes, or possibly split cobbles, appears to be the favored starting point in the production of hafted bifaces. The initial thinning and shaping flakes characteristically are broad collateral removals that do not continue across the midline. This results in a relatively thick cross-section; this attribute of manufacturing is represented throughout the reduction trajectory to the completed hafted biface.

Most extensive shaping and minor thinning are reflected in the biface blade categories. Hafting elements were roughed out once the general sizing, shaping, and thinning was completed. Preparation of the hafting element preceded completion of final blade shaping and the removal of tertiary flakes that produced regular, sharp blade margins. The base was not thinned at this stage, often leaving a basal facet which frequently consisted of a cobble cortex remnant. The retention of flat, unthinned bases provides evidence of an initial striking platform produced by a proximal flake-blank orientation. Flat or faceted bases, often consisting of cobble cortex, commonly occur in samples of Flint Creek and Little Bear Creek hafted bifaces (Cambron and Hulse 1975:51, 82). This is particularly true of Upper Tombigbee Valley samples. Within the Aralia site Flint Creek projectile point/knife sample (n = 98), nearly half (46%) exhibit faceted or "unfinished" bases. The treatment of the base, when correlated with other attributes, such as serration, may provide evidence of implement use (s). To conclude that Flint Creek/Little Bear Creek specimens with unthinned bases are unfinished, and therefore not used, is misleading and usually erroneous.

This model of hafted biface manufacture from the Aralia site sample is consistent with evidence from other excavated sites in the Upper Tombigbee Valley. The analysis of chipped stone technologies represented at Upper Tombigbee Valley sites indicates correspondences between

IDEALIZED LITHIC TRAJECTORY 22IT563

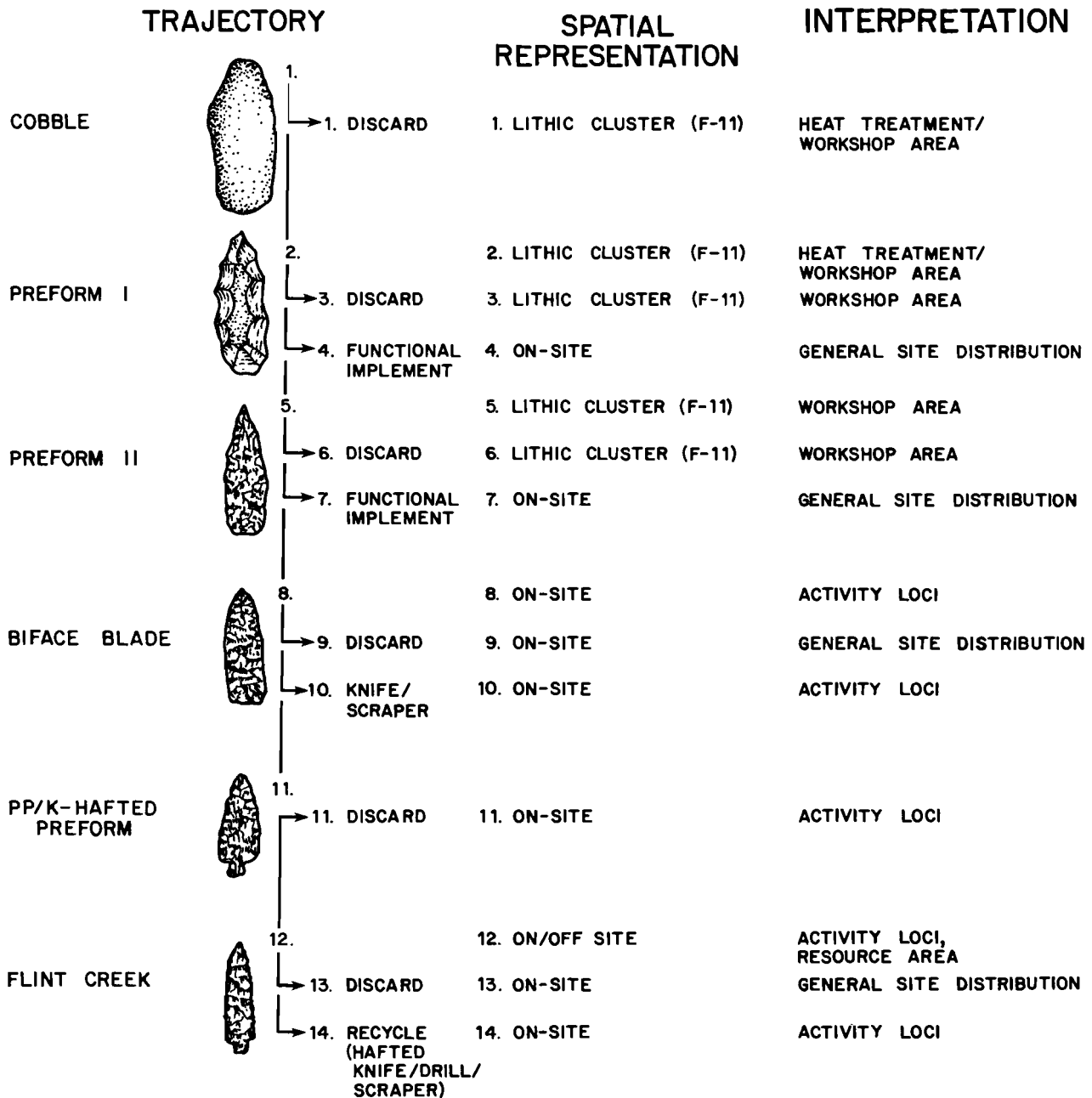


Figure 2.2 Idealized lithic trajectory for Site 22-It-563.

Alexander components and Late Archaic Benton (3800 B.C. - 3400 B.C.) components. Chipped stone technologies represented in Alexander and Benton occupations exhibit similarities in the stages of manufacture that comprise the reduction trajectories, as well as the kinds of manufactured products and by-products. Methods of manufacture and the styles represented in chipped stone samples from Alexander and Benton components underscore possible cultural connections. The Alexander hafted biface production is a relatively brittle process not unlike the system represented in Benton components from the Upper Tombigbee Valley. The origin of this technological system may lie in Late Archaic manifestations located in the Tennessee Valley or the Central Tombigbee Valley, but appears to be defined best in Benton components. While stylistic aspects of this system clearly change, the essential structural characteristics appear to be represented at least through the Alexander occupation in the Upper Tombigbee Valley. The refinement and modification of this technological system are indicated by changes in the styles of final artifact forms and the selection of lithic materials. However, such changes appear to reflect natural evolutionary processes rather than the wholesale alteration or replacement of the reduction trajectory. Moreover, as more data become available, it is apparent that a similar continuity exists in the ceramic complexes of the Wheeler and Alexander cultures and thus appears to have considerable time depth.

Based on an analysis of Alexander ceramics from several sites in the Mid-South, we postulate that early and late Alexander components may be determined, based on the frequencies of certain decorative techniques. Early Alexander components (600 B.C. - 400 B.C.) appear to have higher frequencies of punctating and lower frequencies of incising and zone stamping than Late Alexander components (400 B.C. - 200/100 B.C.) This trend may reflect an increasing emphasis on incising and zone stamping over punctating as a decorative treatment. Table 2.2 illustrates the relative frequencies of punctating (fingernail pinched and punctated), incising, and zone stamping. According to this scheme, Early sites would include the Dry Branch site (1-Sh-42) (Walling and Schrader 1983), the Moores Creek site (22-A1-521) (Weinstein 1981), the Aralia site (22-It-563) (Galm et al. 1983), and the Sakti Chaha site (40-Hr-100) (Dye 1980). Late Alexander would then include the Ricker site (1-Fr-310) (Futato 1983), the Crump site (1-Lr-20) (DeJarnette, Walthall, and Wimberly 1975), the Perry site (1-Lu-25) (Webb and DeJarnette 1942, 1948), the Bluff Creek site (1-Lu-59) (Webb and DeJarnette 1942), the Kellogg site (22-C1-527) (Atkinson, Phillips and Walling 1980), the Yarbrough site (22-C1-814) (Solis and Walling 1982), and the Turtle Pond site (22-It-643) (Thomas, Campbell, Weed, Swanson, and Begley-Baumgartner 1982). The three radiocarbon determinations mentioned earlier in this paper seem to correspond well to short duration sites which contain relatively high frequencies of punctating and low frequencies of incising and zone stamping and thus might be considered early sites. However, such simple frequencies also could be a result of other cultural factors such as spatial differences and, of course, sampling error could be a primary source of error.

In the fifth century B.C. Gulf Wares, emphasizing incising and punctating/pinching, appear to spread from the Lower Mississippi Valley and adjacent Gulf Coast into the Midwest. Black Sand ceramics show striking similarities in design motif and design arrangement to

Table 2.2 Early and Late Alexander Sites.

<u>Early</u>	<u>1-Sh-42</u>	<u>22-A1-521</u>	<u>22-It-563</u>	<u>40-Hr-100</u>
Punctated	125 (61%)	34 (72%)	760 (74%)	44 (67%)
Incised	80 (39%)	13 (28%)	264 (25%)	22 (33%)
Zone Stamped	0	0	0	0
<u>Late</u>	<u>1-Fr-310</u>	<u>1-Lr-20</u>	<u>1-Lu-25</u>	
Punctated	18 (30%)	152 (46%)	122 (23%)	
Incised	33 (54%)	178 (53%)	399 (72%)	
Zone Stamped	10 (16%)	3 (1%)	31 (5%)	
	<u>1-Lu-59</u>	<u>22-C1-527</u>	<u>22-C1-814</u>	<u>22-It-643</u>
Punctated	66 (31%)	77 (36%)	422 (42%)	37 (28%)
Incised	126 (59%)	134 (63%)	568 (57%)	91 (20%)
Zone Stamped	21 (10%)	2 (1%)	2 (1%)	2 (2%)

Alexander motifs (compare DeJarnette, Walthall, and Wimberly 1975: Figure 12d with Griffin 1952: Plate 29g, h, & i). Alexander and Tchefuncte ceramics also share close resemblances in vessel morphology and design arrangement (see Dye 1973; Ford and Quimby 1945; Webb and DeJarnette 1942) and these both are similar to Midwestern ceramics (Griffin 1952; Price 1982; Morse this volume). Similar materials were recovered at the Schultz site in the Saginaw Valley of Michigan where Shiawassee wares dating between 400 B.C. and 10 B.C. were recovered (Fitting 1972:257). Fischer (1972:151-152) notes that Shiawassee Incised is similar to Dane Incised from Wisconsin where it is an Early Woodland type that occurs in the earliest stratigraphic context at the Hahn and Horicon sites. Mason (1966:97) points out the similarity of Dane Incised (Wisconsin) to Black Sand Incised (Illinois). We maintain that these ceramic styles may have had their origin in the Gulf wares of the Southeast, and may have been a source of inspiration for later Middle Woodland wares. We would postulate that various forms of trade may have been the mechanism for the transfer of elements out of the Gulf stylistic pool, rather than population movement. Certainly pan-regional trade continued in the Mid-South and Midwest between the Poverty Point period and later Hopewell interactions.

The Gulf tradition continues in the Mid-South and parts of the Midwest until approximately 100 B.C. In the Tennessee Valley, Alexander ceramics are replaced by Early Woodland (Colbert) fabric impressed and plain limestone tempered conoidal vessels. The Tchefuncte wares in the southernmost part of the Lower Mississippi Valley and adjacent Gulf Coast gradually developed into Middle Woodland wares around A.D.1. Ceramic wares in the Mid-South, particularly in the Upper Yazoo Basin are characterized by fabric marked wares that are present in the Mississippi uplands by Early Miller I times (100 B.C. - A.D. 1) (Jenkins 1981). This fabric marked and plain ware, paddle stamped technology may have combined the earlier Gulf tradition of incising, zoning, and punctating with fabric marking in some instances. For instance, Mabin Stamped, Cormorant Cord Impressed, Twin Lakes Punctated, and Churupa Punctated may be examples of such a shift. For example, in the western Middle Tennessee Valley Alexander motifs are found on limestone tempered, fabric marked pottery. We can document this shift in ceramic elements and motifs from Alexander pottery to the succeeding Early Woodland (Colbert) fabric marked and plain limestone tempered wares at the Snake Creek site (40HR35) in the western Middle Tennessee Valley. At this site Early Woodland Colbert ceramics include punctations and incising reminiscent of Alexander motifs but they are applied to fabric impressed, limestone tempered vessels. This leads us to believe that Alexander wares were not being manufactured at the same time as Colbert ceramics, and that when the Alexander potters shifted from a sand tempered ware to one that stressed paddle stamping and limestone tempering they incorporated certain stylistic elements from the older ceramic tradition. Thus, in this brief transitional period, incising and punctating was retained on the new ceramic ware.

On the other hand, in some areas of the Mid-South, such as the Lower Tennessee Valley ceramics are absent from the assemblages until fabric-marked and plain wares are added. Thus, in the Mid-South at this time there is a shift from one type of ceramic manufacture to another in some areas, whereas in other areas such as the Lower Tennessee Valley, plain and fabric-marked pottery are added to the Late Archaic inventory.

In summary, the Alexander ceramic tradition may represent one aspect of a widespread ceramic horizon that occurred briefly throughout much of the Mississippi Valley and adjacent Gulf Coast. As part of this Gulf tradition Alexander wares appear to have originated in the earlier fiber tempered tradition, particularly in the St. Johns series in northwestern Florida and to have been eclipsed by 200/100 B.C. in the Mid-South by fabric marked and plain ceramic wares.

REFERENCES CITED

- Atkinson, James R., John C. Phillips and Richard Walling.
1980 The Kellogg Village Site Investigations Clay County, Mississippi.
Department of Anthropology, Mississippi State University.
Submitted to the U.S. Army Corps of Engineers, Mobile, Contract
No. DACW01-77-C-00015.

- Bense, Judith A.
 1982 Archaeological testing investigations at 58 sites in the river and canal sections of the Tennessee-Tombigbee Waterway. University of Alabama Office of Archaeological Research Report of Investigations No. 18.
- Cabron, James W., and David C. Hulse
 1975 Handbook of Alabama Archaeology, Part I: Point Types. Archaeological Research Association, Inc., University.
- Chapman, Carl H.
 1980 The Archaeology of Missouri, II. University of Missouri Press, Columbia.
- DeJarnette, David L., John A. Walthall, and Steve B. Wimberly
 1975 Archaeological Investigations in the Buttahatchee River Valley, Lamar County, Alabama. Journal of Alabama Archaeology 21:1-37.
- Dye, David H.
 1980 Primary Forest Efficiency in the Western Middle Tennessee Valley. Ph.D. dissertation, Washington University. University Microfilms, Ann Arbor.
- Fischer, Fred W.
 1972 Schultz Site Ceramics. In The Schultz Site at Green Point: A Stratified Occupation Area in the Saginaw Valley of Michigan, edited by James E. Fitting, pp. 137-190. University of Michigan Museum of Anthropology Memoir No. 4.
- Fitting, James E.
 1972 Occupational History. In The Schultz Site at Green Point: A Stratified Occupation Area in the Saginaw Valley of Michigan, edited by James E. Fitting, pp. 253-266. University of Michigan Museum of Anthropology Memoir No. 4.
- Ford, James A., and George I. Quimby
 1945 The Tchefuncte Culture: An Early Occupation of the Lower Mississippi Valley. Society for American Archaeology Memoir No. 2.
- Futato, Eugene M.
 1983 Archaeological Investigations in the Cedar Creek and Upper Bear Creek Reservoirs. University of Alabama Office of Archaeological Research Report of Investigations No. 13.
- Fowke, Gerald
 1928 Archaeological investigations - II. Forty-fourth Annual Report of the Bureau of American Ethnology, 1927:399-540.
- Galm, Jerry R., Betty J. Duggan, David H. Dye, and David E. Pettry
 1982 Excavations at the Aralia Site (22-It-563). In Archaeological Investigations at Eleven Sites in Itawamba and Monroe Counties, Mississippi, edited by Judith A. Bense, Jerry R.

Galm, and David H. Dye. University of West Florida, Office of Cultural and Archaeological Research, Reports of Investigations No. 3, Volume 3:1-102.

Griffin, James B.

1939 Report on the Ceramics of Wheeler Basin. In An Archaeological Survey of Wheeler Basin on the Pickwick Basin in the Adjacent Portions of the States of Alabama, Mississippi and Tennessee, by William S. Webb and David L. DeJarnette, pp. 509-526. Bureau of American Ethnology Bulletin No. 129.

1952 Some Early and Middle Woodland Pottery Types in Illinois. In Hopewellian Communities in Illinois, edited by Thorne Deuel, pp. 95-129. Illinois State Museum Scientific Papers No. 5.

Jenkins, Ned J.

1981 Gainesville Lake Area Ceramic Description and Chronology. University of Alabama Office of Archaeological Research Report of Investigations No. 12.

Haag, William G.

1942 A Description and Analysis of the Pickwick Pottery. In An Archeological Survey of the Pickwick Basin in the Adjacent Portions of the States of Alabama, Mississippi and Tennessee, by William S. Webb and David L. DeJarnette, pp. 509-526. Bureau of American Ethnology Bulletin No. 129.

Klinger, Timothy C.

1978 Lowland Environmental Variability and Prehistoric Settlement Behavior in the Lower Mississippi Valley. Mid-Continental Journal of Archaeology 3:286-331.

Mason, Ronald J.

1966 Two Stratified Sites on the Door Peninsula of Wisconsin. University of Michigan Museum of Anthropology Anthropological Papers No. 26.

McNutt, Charles H.

1978 Report of a Survey for Prehistoric, Architectural, and Historic Resources in the Pickwick Reservation near Counce, Tennessee. Report submitted to the Tennessee Valley Authority, Norris.

Price, James E.

1982 Tchula Period Occupation along the Ozark Border in Southeast Missouri. Paper presented at the third Annual Meeting of the Mid-South Archaeological Conference, Memphis.

Price, James E., and James J. Kraker

1975 Dalton Occupation of the Ozark Border. University of Missouri Museum of Anthropology Museum Brief No. 20.

- Ralph, E. K., H. N. Michael, and M. C. Han
 1974 Radiocarbon Dates and Reality. Archaeology of Eastern North America 2:1-20.
- Rolingson, Martha A., and Douglas W. Schwartz
 1966 Late Paleo-Indian and Early Archaic Manifestations in Western Kentucky. University of Kentucky Studies in Anthropology No. 3.
- Solis, Carlos, and Richard Walling
 1982 Archaeological Investigations at the Yarborough Site (22-CI-814) Clay County, Mississippi. University of Alabama Office of Archaeological Research Report of Investigations No. 30.
- Thomas, Prentice M., Jr., L. Janice Campbell, Carol S. Weed, Mark T. Swanson, and Kathy Bgley-Baumgartner
 1982 Archaeological Investigations at the Turtle Pond Site (22-It-643) Itawamba County, Mississippi. New World Research, Inc. Report of Investigations No. 66.
- Walling, Richard, and Bonnie Schrader
 1983 The Dry Branch Site, 1-Sh-42, and the Late Gulf Formational in the Coosa River Drainage. Journal of Alabama Archaeology 29:154-173.
- Webb, William S., and David L. DeJarnette
 1942 An Archeological Survey of Pickwick Basin in the Adjacent Portions of the States of Alabama, Mississippi and Tennessee. Bureau of American Ethnology Bulletin No. 129.
- 1948 The Perry Site Lu^o25, Units 3 and 4 Lauderdale Co., Alabama. Alabama Museum of Natural History Museum Paper No. 25.
- Weinstein, Richard A.
 1981 Archaeological Investigations Along Moores Creek, Alcorn County Mississippi. Coastal Environments, Inc., Baton Rouge. Submitted to National Park Service, Contract No. C-54038(80). Copies available from Coastal Environments, Inc., Baton Rouge.
- Willey, Gordon R.
 1949 Archaeology of the Florida Gulf Coast. Smithsonian Institution, Washington, D.C. Miscellaneous Collections No. 113.

CHAPTER 3

THE TCHULA PERIOD IN THE MISSISSIPPI VALLEY

James B. Griffin

The historical background for the Tchula period is described and the nature of the southern Tchula wares is discussed in terms of the more northern Black Sand complex. Recent interpretations of the nature of the ceramic similarities of the two areas is questioned.

The Tchula period is named for a small town in the Mississippi Delta, east of the Jaketown and Belzoni sites (Phillips, Ford, and Griffin 1951). It was not named after a single site or collection but was deliberately picked because of an alliterative and easily remembered association with Tchefuncte. It was regarded as a central and northern Mississippi variant of Tchefuncte with Tchefuncte-like and Alexander pottery, perhaps mounds, a little copper, a little fabric impressed pottery and so forth. It also was regarded as roughly equivalent in time to some part of Adena, Baumer, Black Sand, and Red Ocher in the north. Now we can attribute a time span of about 500 B.C. to 1 B.C. for the Tchula period.

In the north the Black Sand complex had been identified as a result of excavations underneath a Hopewell mound in Fulton County, Illinois (F^o77). The Black Sand name came from Illinois River deposits. The burials placed there initially were described as without culture by a Chicago Daily News reporter who came down from Chicago to see these exciting burials (Cole and Deuel 1937). There was a mixture as we now know of Late Archaic and Early Woodland projectile points in that level with a few pottery sherds that became the type collection from F^o77, the adjoining village FV88, and F^o13. Other pottery was added, and in 1951 when I prepared a paper on the Early Woodland, Havanoid pottery, Black Sand sherds from the Clear Lake site were illustrated (Griffin 1952:99). Marion Thick was regarded as earlier and an Indiana-Michigan-Illinois variant, with Fayette Thick the Central Ohio Valley representative of the earliest pottery in the Middle West.

What evidence was available either at sites or in distributions indicated such a sequence, but good solid evidence with radiocarbon dates was still in the offing. At the time of this illustrated talk we now have good stratigraphic evidence of Black Sand at the Peisker site, Calhoun County, Illinois (Perino 1966); on the Chariton River in north central Missouri (Chapman 1980:12-20); and from the Salt River locality in Missouri there are also some Black Sand materials. I am also showing you some slides of comparable early ceramics from the Bushmeyer site which is opposite Hannibal, Missouri on the Illinois side in the Mississippi floodplain. These are shown through the courtesy of David Morgan, who is studying the pottery from the Center of American Archeology excavations on the proposed path of Interstate 408. The

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Bushmeyer material is significantly different from the Illinois River Black Sand but does have a relationship to it.

A good current scenario for the spread of pottery from the early fiber tempered pottery in the Lower Savannah River area at about 2500 B.C. to 2000 B.C., is that knowledge of pottery manufacture gradually spread north along the Coastal Plain to the Chesapeake Bay area where it appears between 1500 B.C. to 1000 B.C. as Marcy Creek ware, which is tempered with steatite and is quite thick. In the northeast, Vinette I pottery is known by about 1000 B.C. In the Central Ohio Valley of Kentucky the Fayette Thick type appears between 1000 B.C. and 500 B.C., with Marion Thick to the north in Ohio, Indiana, and Illinois, and the almost identical Schultz Thick in lower Michigan at around 500 B.C. (Osker 1982).

Some of the projectile points from the Black Sand type site are Kramer points, and they are commonly associated with the earliest Woodland pottery from Saginaw Bay in southwestern Michigan, into the Illinois Valley, and as far south as the American Bottom opposite St. Louis. The early thick pottery is rarely decorated except for the Fayette Thick in Kentucky. Through time this pottery gradually becomes thinner in Michigan, Illinois, and Kentucky and begins to take on some exterior decoration, which is usually on the upper half of the exterior surface or appears as a band around the rim. These simple decorative patterns often are found in early attempts at decorating pottery in various areas of the world and can even stimulate visions of intercontinental connections. It is not surprising then that these simple punctated or pinched and incised patterns in the St. Louis to Peoria area have caused some of the archaeologists in that area to propose connections or stimulus from the Tchula-Tchefuncte areas to the south. When I began to hear murmurings of discontent with the *in situ* development from Marion to Black Sands expressed by Illinois archaeologists I urged their attendance at the Tchula conference so they could see and feel the southern pottery and talk with their colleagues. I also suggested they take some of their Illinois sherds to Memphis so that the archaeologists in attendance would have a better idea of the northern wares. My slides have been an effort also to make known to a primarily southern audience some of the early pottery from the north.

The southern area, roughly south of Memphis, is quite distinct from the north in its early pottery while at the same time sharing some of the techniques. The best interpretation would seem to be that there was some interaction between the Memphis and St. Louis area, but it certainly does not appear to be a movement of people taking Tchula-Tchefuncte pottery from its homeland to the north.

In both northern and southern loci we do not have very good developmental ceramic loci so that stylistic changes can be documented over say 100 to 300 years. Along with other observations, this has caused one archaeologist to propose that Marion, Black Sand, and Morton do not follow in a 1-2-3 order, but that the Black Sand style belongs to an Upper Mississippi Valley assemblage intrusive into the Illinois Valley. Even more remarkable is the development from Marion to Morton and Havana that is viewed as having nothing to do with Black Sand. With the increasing amount of data available and refining the interpretations, it is no wonder there are different interpretations-- which should be cherished while they last, for inevitably they will have short life spans.

The term Woodland for archaeological cultures was adapted from the ethnographic culture area divided into northeast and southeast regions. Woodland archaeological complexes were soon divided into Early, Middle, and Late by stratigraphy and superposition recognized in Illinois in the early 1930s and then carried to the New York area and the Southeast with the relief labor excavations, providing supportive data by stratigraphy and comparative studies in the mid-to-late 1930s.

REFERENCES

- Chapman, Carl H.
1980 The Archaeology of Missouri, II. University of Missouri Press, Columbia.
- Cole, Fay-Cooper, and Thorne Deuel
1937 Rediscovering Illinois: Archaeological Explorations in and around Fulton County. University of Chicago Press, Chicago.
- Griffin, James B.
1952 Some Early and Middle Woodland Pottery Types in Illinois. In Hopewellian Communities in Illinois, edited by Thorne Deuel, pp. 93-129. Illinois State Museum Scientific Papers Vol. 5.
- Ozker, Doreen
1982 An Early Woodland community at the Schultz Site 20SA2 in the Saginaw Valley and the nature of the Early Woodland Adaptation in the Great Lakes Region. University of Michigan Museum of Anthropology Anthropological Papers No. 70.
- Perino, Gregory H.
1966 A Preliminary Report on the Peisker Site, Part 1-The Early Woodland Occupation. Central States Archaeological Journal 13:47-51.
- Phillips, Phillip, James A. Ford, and James B. Griffin
1951 Archaeological Survey in the Lower Mississippi Alluvial Valley, 1940-1947. Harvard University Peabody Museum of Archaeology and Ethnology Papers No. 25.

CHAPTER 4

THE WHEELER SERIES: SPACE, TIME, AND EXTERNAL RELATIONSHIPS

Ned J. Jenkins

In this paper data will be presented documenting the spatial and temporal distribution of the fiber tempered Wheeler series. An internal ceramic development of Wheeler ceramics will be postulated and a model suggesting the origins of Wheeler ceramics will also be offered.

INTRODUCTION

The Wheeler series previously has been regarded as peculiar to the Tennessee Valley where the series was first defined (Haag 1942; Sears and Griffin 1950). More recent research, however, has recorded Wheeler pottery throughout western Alabama, north of the Mobile Delta, in much of the state of Mississippi, and as far west as the Poverty Point site (Webb, Ford, and Gagliano 1970). The best stratigraphic evidence supporting the temporal priority of Wheeler pottery is from the Bluff Creek site (1-Lu-59) in the western Middle Tennessee Valley. Site 1-Lu-59 is a large stratified shell midden and one of two known large Wheeler components (possibly base camps) in the Tennessee Valley. More than two meters of midden at Site 1-Lu-59 contained Wheeler ceramics; the lower one meter of this midden was a pure stratum containing only sherds of the Bluff Creek complex (Walthall and Jenkins 1976). Plain and punctated sherds predominated in this lower meter of the midden. Simple and dentate stamped sherds increased in frequency in the upper meter (Webb and DeJarnette 1942:126-130).

The Claiborne site, at the mouth of the Pearl River on the Mississippi Gulf Coast, provided further evidence for the chronological placement of Wheeler pottery (Gagliano and Webb 1970:Figure 9). At the Claiborne site, a Wheeler or Late Stallings Island complex comprised of Wheeler Plain and Wheeler Punctated yielded a radiocarbon age of 3200 ± 130 years: 1250 B.C. and 3100 ± 110 years: 1150 B.C. (Gagliano and Webb 1970:69). No Wheeler Dentate Stamped was present. Additional dates from northwestern Mississippi are the earliest for Wheeler pottery in that area. At the Teoc Creek site, fiber tempered pottery was recovered in the level overlaying a Poverty Point period zone which yielded a thermoluminescence date of 1070 ± 200 B.C. and an average radiocarbon date of 1364 B.C. (Connaway, McGahey, and Webb 1977:107, Figure 9). The Wheeler pottery from this site was also both plain and punctated. The Teoc Creek dates place an early version of the Wheeler series with both plain and punctated surface treatments at least as early as 1200 B.C. The absence of dentate stamping suggests that these are probably early components. Dentate stamping appears in the Wheeler series after the initial introduction of fiber tempered pottery into eastern Mississippi.

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Three other fiber tempered series have been defined within the Southeast. The earliest of these is the Stallings Island series, reported from the Georgia-Carolina Coast (Fairbanks 1942; Sears and Griffin 1950; Stoltman 1972) and the Lower Chattahooche Valley (Huscher 1959:Figure 9; Jenkins 1978; McMichael and Kellar 1960). Stoltman (1972) has assigned a temporal range, based on several radiocarbon dates, of 2500 B.C. to 1000 B.C. for Stallings Island series ceramics.

Further south along the Atlantic Coast, the morphologically distinct Orange series is found throughout much of peninsular Florida but is concentrated along the St. Johns River. Orange series pottery has been dated from 2000 B.C. to 1000 B.C. (Bullen 1954, 1959). The third major fiber tempered series, the Norwood series of northern Florida, has been dated to around 1000 B.C. (Phelps 1965:Figure 9).

Morphologically, the Wheeler series is most similar to the Stallings Island series of Georgia and South Carolina. Specifically, the simple hemispherical bowl form and an array of random simple punctated decorations, including small hemispherical depressions, circular depressions with conical base, hemiconical, semicircular, fingernail punctates, and hollow cylinder punctates, are found in both series (Sears and Griffin 1951). Two decorative modes found in the Stallings Island series are not present in the Wheeler series, the distinctive Stallings Island stab and drag mode and the more rare incising, and may post-date the initial formation of the Wheeler manifestation (Jenkins 1974).

From stratigraphic tests made at Stallings Island, Bullen and Green (1970:16) postulated three developmental stages for the Stallings Island ceramic series.

After the initial plain period, simple punctating was introduced and vessels boldly marked with half moons, circles, and slight curves. Circles were probably made by a hollow reed and other marks by bone tools. Both random and straight line patterns were found but punctations were not placed extremely close to each other. A few sherds with slashlike incising were also found but not enough to justify a separate category. (Probably simple stamping). In the third stage, linear punctation or the stab and drag method was used and individual punctations are very close together.

These observations suggest that the punctated forms were manufactured at a time when the stab and drag modes were not popular. Although it is currently impossible to designate the absolute time of the three different Stallings Island periods proposed by Bullen and Green, Stallings Island pottery probably was made from approximately 2500 B.C. until 1000 B.C. (Stoltman 1972:37, 40). The proposed second stage in Stallings Island ceramic development, was the ceramic assemblage (plain and punctated) carried across the Coastal Plain to eastern Mississippi to form the earliest manifestation of the Wheeler series. Plain and punctated Stallings Island or Early Wheeler pottery has been dated at around 1200 B.C. at two sites in Mississippi (Connaway, McGahey, and Webb 1977:107; Gagliano and Webb 1970:69). Similar plain and punctated fiber tempered pottery has been recovered from the Poverty Point site (Webb, Ford, and Gagliano n.d.).

Stratigraphic evidence at Site 1-Lu-59 indicates that dentate stamping appeared as a numerically prominent surface treatment only during the later part of the Wheeler continuum (Webb and DeJarnette 1942:126-130). At this time (ca. 800 B.C. to 500 B.C.) dentate stamping and plain were the two primary surface treatments. Punctated and simple stamped pottery were minorities. Dentate stamping is known from two other regions during this period. One of these could prove to be the source of dentate stamping in the Wheeler series. Dentate stamping appeared as part of the Refuge series along the Georgia-South Carolina coast between 1000 B.C. and 700 B.C. (DePratter 1976; Peterson 1971; Waring 1968). In the Refuge series, however, dentate stamping appears to be a minority surface finish (DePratter 1976:6). A ceramic complex including dentate stamping as a major surface treatment is found 160 km south of the Gainesville Lake area. Here the Bayou La Batre series appeared in the Mobile Delta and Lower Tombigbee regions. Bayou La Batre Stamped (Wimberly 1960), the major type of this series, has been determined to have a radiocarbon age of 3090 ± 200 years: 1140 B.C. Trickey and Holmes (1971:121). There has been, however, some controversy over the acceptance of such an early date for Bayou La Batre. It is possible that the trait of dentate stamping could have been borrowed from Bayou La Batre people because these complexes probably overlap temporally, and their spatial distributions were tangential.

Another mode that appears in the Wheeler series, but not in the Stallings series, is the flat based beaker vessel form. This form is approximately the same shape as the flat based beaker of the St. Johns series of the Florida Transitional period (Bullen 1959, 1972). During the Transitional period (1000 B.C. to 500 B.C.), which is temporally synonymous with the Middle Gulf Formational period, both fiber tempered and the untempered chalky paste St. Johns Plain and Incised were manufactured in northern Florida, east of the Chattahoochee River. The presence of this pottery at the Claiborne site (Gagliano and Webb 1970: Figure 5 D-F), and at the Poverty Point site (Bullen 1972:25; William G. Haag and Sharon I. Goad, personal communication 1980), indicate that groups making Early Wheeler ceramics and Early St. Johns ceramics could have been in contact with one another, thereby introducing the concept of the flat based beaker to Wheeler potters.

In the previous paragraphs, the known data pertinent to the temporal and spatial dimensions of the Wheeler series were summarized. Basically, the parent complex of the Wheeler manifestation was the Stallings Island series, and, as a result of interaction with Bayou La Batre and St. Johns groups, dentate stamping and the flat based beaker were later added to the Wheeler ceramic inventory (Jenkins 1974). Current evidence suggests that the mechanism of this interaction was most likely trade and that steatite was one of the most frequent items traded. The geological occurrence of steatite is confined to the Piedmont region. Steatite sherds and vessels, however, are found throughout the Coastal Plain, from the St. Johns River area to as far west as Poverty Point. Work by Bullen and Bullen (1961) indicates that the steatite trade was active by Orange 3 times. At the Summer Haven site, a zone yielding Orange 3 ceramics and steatite sherds was dated at 1380 ± 200 B.C. Gagliano and Webb (1970) report a cache of steatite vessels at the Claiborne site at the mouth of the Pearl River. This site produced Stallings Island (Early Wheeler) and St. Johns ceramics

along with numerous nonlocal lithics, and a wide variety of Poverty Point clay ball types that duplicate those found at the Poverty Point site. Such a wide variety of nonlocal materials (Gagliano and Webb 1970: Table 3) induced the speculations that Claiborne and the slightly earlier Cedarland site and adjacent horsehoe shaped middens were trading stations.

It appears, therefore, that occupants of the Cedarland and Claiborne villages were participating in a widespread trade network, up the Mississippi Valley and along the Gulf Coast, which seems to have intensified in Poverty Point times. There are evidences of direct contact between the Claiborne and Poverty Point sites; it seems probable that Claiborne was a regional center of importance in the commercial, secular and religious organization of the Poverty Point cultural complex (Gagliano and Webb 1970:72).

Another cache of steatite vessels was found in a field adjacent to the Poverty Point site (Webb 1944). The vessel shapes, flat based beakers, are virtually identical to those from the Claiborne site and to Wheeler and St. Johns vessel forms. Further, several of the vessel lips were diagonally engraved with simple rectilinear designs also like those at the Claiborne site. These designs are similar to those found in Orange 4 ceramics and Stallings Island bone pins. Flattened lips bearing rectilinear incised decoration are documented during Late Orange times (Griffin and Smith 1954:43). One steatite vessel fragment from Poverty Point depicted a bird with outstretched wings (Webb 1944: Fig. 31-1), possibly an antecedent form of the Hopewellian raptorial bird.

Steatite in the form of whole vessels or vessel fragments has been found at nine Poverty Point phase sites in Louisiana, at 11 sites in Mississippi, and at three sites in Arkansas (Webb 1982:44). Steatite samples from these sites were analyzed for trace elements using neutron activation to associate individual artifacts from a particular site to the original quarry source. With one exception, all specimens match quarry sites in Georgia or eastern Alabama, precisely documenting a segment of the Poverty Point interaction sphere (Smith 1981:120-125). Stallings island groups may have been the primary steatite procurers in the steatite trade. Steatite quarries in Georgia and eastern Alabama are contiguous with Stallings Island ceramic distribution. The Chattahoochee River may have served as a convenient trade artery for the movement of steatite. Many of its tributaries drain the Alabama and Georgia Piedmont, where steatite outcrops are located. The steatite could then be moved further by boat along the Gulf Coast. Stallings Island (Early Wheeler) pottery and steatite has been recovered at the Claiborne site, located at the mouth of the Pearl River on the Gulf Coast, and at the Poverty Point Site.

At approximately 1500 to 1000 B.C. a major center was established at the Poverty Point site (Gibson 1974; Webb 1982). This center may have been a central focus for the increased interaction and trade across the Gulf Coastal Plain. The Poverty Point site is strategically located near the confluence of six major rivers, a position which would have allowed its inhabitants control over the flow of trade goods to other regions. Sites such as Claiborne may have served as subsidiary regional centers. The movement of goods such as galena from the Upper Mississippi

Valley (Walthall 1981), copper from the Great Lakes area, steatite from the Piedmont, orthoquartzite or Tallahatta quartzite from south Alabama, novaculite and crystal quartz from Arkansas, as well as nonlocal Wheeler (or Stallings Island) and St. Johns ceramics all indicate that Poverty Point was probably an important trading or possibly a redistributive center. Brasher (1973), Gibson (1973, 1974, 1979), Smith (1974, 1975), Webb (1968, 1982), and Winters (1968) have explored the possibility of the Poverty Point site functioning as a redistribution center at a chiefdom or complex tribal level of organization.

The development of the earliest ceramics, the Wheeler series, in Mississippi and Alabama was probably a byproduct of the trade created by this center. In the following centuries, the Alexander and Tchefuncte series developed as the result of continued trade and other modes of interaction across the Gulf Coastal Plain.

SUMMARY

As more data and better chronologies emerge within the southern Coastal Plain region, the simplified Archaic-Woodland dichotomy no longer accurately reflects internal developments now recognized within local and regional sequences. Fiber tempered and other early ceramic complexes of the Coastal Plain present a classificatory problem in the Archaic-Woodland developmental sequence. Are these cultures that produced ceramics, yet apparently continued a Late Archaic lifeway, to be considered Archaic or Woodland? Jennings (1974) and Willey (1966: 257-258) have addressed this problem, but others largely ignore it.

Walthall and Jenkins (1976) proposed the Gulf Formational stage, an intermediate stage between the Archaic and Woodland, to deal with this problem within the Coastal Plain region. The Gulf Formational stage began around 2500 B.C. in the eastern Coastal Plain and lasted until approximately 100 B.C. in the western Coastal Plain. The appearance and exclusive use of Gulf Tradition ceramics marks the beginning of the Gulf Formational stage at different times in different areas of the Coastal Plain. The end of this stage is signaled at different times in different areas of the Coastal Plain by the appearance and dominance of the Northern, Middle Eastern and Southern Appalachian ceramic traditions (Caldwell 1958) over the Gulf tradition. These traditions are referred to collectively in this paper as Woodland. Between 500 B.C. and 100 B.C. these complexes either totally replaced or became intermixed with the local Gulf Tradition complexes.

The Gulf ceramic tradition is characterized by incised, punctated, pinched and shell stamped (including rocker and dentate stamped) designs and vessels with podal supports (Walthall and Jenkins 1976:48). The frequent occurrence of flat bases and the occasional placement of nodes punched through from the inside of the vessel, just below the lip, also is characteristic. Griffin (1946:49) has observed that some of these modes appear widely in the northern states, but as a group they characterize ceramic complexes in the southern Coastal Plain prior to 500 B.C. In Caldwell's terms (1958:54), they were "early Gulf."

The term Gulf Tradition used by Walthall and Jenkins (1976) and in this paper is most consistent with Bullen's (1970, 1972, 1974), but differs from Caldwell's (1958) and Sears' (1954) use of the same term. Caldwell and Sears' Middle Woodland Gulf Tradition includes Woodland

ceramics and burial mounds in addition to the ceramic types that Walthall and Jenkins assign to the Gulf Tradition.

At approximately 1200 to 1000 B.C. ceramics, in the form of the fiber tempered Wheeler series, appeared in western Alabama and eastern Mississippi. Wheeler and the succeeding Alexander series ceramics have a southern Coastal Plain origin. Both series are products of the Gulf Tradition, a long ceramic development within the southern Coastal Plain. This ceramic tradition can be traced to Atlantic Coast components of the Stallings Island series (Fairbanks 1942, Stoltman 1972), the Orange series of Florida (Bullen 1972) and possibly to the Bayou La Batre series of the Mobile Bay area (Wimberly 1960).

REFERENCES CITED

- Brasher, Ted J.
1973 An Investigation of Some Central Functions of Poverty Point. Master's thesis, Department of Anthropology, Northwestern State University of Louisiana, Natchitoches.
- Bullen, Ripley P.
1954 Culture Change during the Fiber-tempered Period of Florida. Southern Indian Studies 6:45-48.
1959 The Transitional Period of Florida. Southeastern Archaeological Conference, Newsletter 6:43-53.
1970 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.
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 B. Stoltman, pp. 9-33. Florida Anthropological Society Publication No. 6.
1974 The Origins of the Gulf Tradition as Seen from Florida. The Florida Anthropologist 27:77-88.
- Bullen, Ripley P., and Adelaide K. Bullen
1961 The Summer Haven Site, St. Johns County, Florida. The Florida Anthropologist 14:1-15.
- Bullen, Ripley P., and H. Bruce Greene
1970 Stratigraphic Tests at Stallings' Island, Georgia. The Florida Anthropologist 23:8-28.
- Caldwell, Joseph R.
1958 Trend and Tradition in the Prehistory of the Eastern United States. American Anthropological Association Memoir 88.

- Connaway, John M., Samuel O. McGahey, and Clarence H. Webb
 1977 Teoc Creek: A Poverty Point Site in Carroll County, Mississippi. Mississippi Department of Archives and History Archaeological Report No. 3.
- DePratter, Chester B.
 1976 The Refuge Phase on the Coastal Plain of Georgia. Early Georgia 4:1-13.
- Fairbanks, Charles H.
 1942 The Taxonomic Position of Stalling's Island, Georgia. American Antiquity 7:223-231.
- Gagliano, Sherwood M., and Clarence H. Webb
 1970 Archaic-Poverty Point Transition at the Pearl River Mouth. Southeastern Archaeological Conference, Bulletin 12:47-72.
- Gibson, Jon L.
 1973 Social Systems at Poverty Point: An Analysis of Interstate and Intrasite Variability. Ph.D. dissertation, Department of Anthropology, Southern Methodist University, Dallas.
 1974 Poverty Point: The First American Chiefdom. Archaeology 27:97-105.
 1979 Poverty Point Trade in South Central Louisiana: An Illustration from Beau Rivage. Louisiana Archaeology 4:91-116.
- Griffin, James B.
 1946 Cultural Change and Continuity in Eastern United States Archaeology. In Man in Northeastern North America, edited by Frederick Johnson. Papers of the R.S. Peabody Foundation for Archaeology 33:37-95.
- Griffin, John W., and Hale G. Smith
 1954 The Cotten Site: An Archaeological Site of Early Ceramic Times in Volusia County, Florida. Florida State University Studies 16:27-60.
- Haag, William G.
 1942 A Description and Analysis of the Pickwick Pottery. In An Archeological Survey of the Pickwick Basin in the Adjacent Portions of the States of Alabama, Mississippi and Tennessee, by William S. Webb and David L. DeJarnette, pp. 509-526. Bureau of American Ethnology Bulletin No. 129.
- Huscher, Harold A.
 1959 Appraisal of the Archaeological Resources of the Walter F. George Reservoir Area, Chattahoochee River, Alabama and Georgia. Report for River Basin Surveys, Smithsonian Institution, Washington, D.C.

- Jenkins, Ned J.
 1974 Subsistence and Settlement Patterns in the Western Middle Tennessee Valley during the Transitional Archaic-Woodland Period. Journal of Alabama Archaeology 20:183-193.
- 1978 Prehistoric Chronology of the Lower Chattahoochee Valley: A Preliminary Statement. Journal of Alabama Archaeology 24:73-92.
- Jennings, Jesse D.
 1974 Prehistory of North America. McGraw-Hill, New York.
- McMichael, Edward V., and James H. Kellar
 1960 Archaeological Salvage in Oliver Basin. University of Georgia Laboratory of Archaeology Series Report No. 2.
- Peterson, Drexel A., Jr.
 1971 The Refuge Phase in the Savannah River Region. Southeastern Archaeological Conference, Bulletin 13:76-81.
- Phelps, David S.
 1965 The Norwood Series of Fiber-tempered Ceramics. Southeastern Archaeological Conference, Bulletin 2:65-69.
- Sears, William H.
 1954 The Sociopolitical Organization of Pre-Columbian Cultures on the Gulf Coastal Plain. American Anthropologist 56:339-346.
- Sears, William H., and James B. Griffin
 1950 Fiber-tempered pottery of the Southeast. In Prehistoric Pottery of the Eastern United States, edited by James B. Griffin. University of Michigan Museum of Anthropology.
- Smith, Brent W.
 1974 Prehistoric Settlement Patterns of the Young's Bayou Drainage, Natchitoches Parish, Louisiana. Master's thesis, Department of Anthropology, Northwestern State University of Louisiana, Natchitoches.
- 1975 Prehistoric Settlement Patterns of the Young's Bayou Drainage, Natchitoches Parish, Louisiana. Louisiana Archaeological Society, Bulletin 2:163-200.
- 1981 The Late Archaic-Poverty Point Steatite Trade Network in the Lower Mississippi Valley: Some Preliminary Observations. The Florida Anthropologist 34:120-125.
- Stoltman, James B.
 1972 The Late Archaic in the Savannah River Region. In Fiber-Tempered Pottery in the Southeastern United States and Northern Colombia: Its Origins, Context, and Significance,

edited by Ripley P. Bullen and James B. Stoltman, pp. 37-62.
Florida Anthropological Society Publication No. 6.

- Trickey, E. Bruce, and Nicholas H. Holmes, Jr.
1971 A Chronological Framework for the Mobile Bay Region: Revised,
1970. Journal of Alabama Archaeology 17:115-128.
- Walthall, John A.
1981 Galena and Aboriginal Trade in Eastern North America.
Illinois State Museum Scientific Papers Vol. 17.
- Walthall, John A., and Ned J. Jenkins
1976 The Gulf Formational Stage in Southeastern Prehistory.
Southeastern Archaeological Conference, Bulletin 19:43-49.
- Waring, Antonio J., Jr.
1968 The Deptford Ceramic Complex. In The Waring Papers: The
Collected Works of Antonio J. Waring, Jr., edited by Stephen
Williams, p. 216-221. Peabody Museum of Archaeology and
Ethnology Papers Vol. 58.
- Webb, Clarence H.
1944 Stone Vessels from a Northeast Louisiana Site. American
Antiquity 9:386-394.
1968 The Extent and Content of Poverty Point Culture. American
Antiquity 33:297-321.
1982 The Poverty Point Culture. Louisiana State University School
of Geoscience Geoscience and Man Vol. 17.
- Webb, Clarence H., James A. Ford, and Sherwood Gagliano
1970 Poverty Point and the American Formative. Ms. on file,
Department of Sociology and Anthropology, Auburn University,
Montgomery.
- Webb, William S., and David L. DeJarnette
1942 An Archeological Survey of Pickwick Basin in the Adjacent
Portions of the States of Alabama, Mississippi and Tennessee.
Bureau of American Ethnology Bulletin No. 129.
- Willey, Gordon R.
1966 An Introduction to American Archaeology, Volume One, North and
Middle America. Prentice-Hall, Englewood Cliffs.
- Wimberly, Steve B.
1960 Indian Pottery from Clarke County and Mobile County, Southern
Alabama. Alabama Museum of Natural History Museum Paper 36.
- Winters, Howard D.
1968 Value Systems and Trade Cycles of the Late Archaic in the
Midwest. In New Perspectives in Archeology, edited by Sally
R. Binford and Lewis R. Binford, pp. 175-222. Aldine Press,
Chicago.

CHAPTER 5

PRE- AND EARLY MARKSVILLE CERAMICS AND CHRONOLOGY IN THE MID-SOUTH: A PERSPECTIVE FROM PINSON MOUNDS

Robert C. Mainfort, Jr.

Existing ceramic type designations and proposed chronologies for the pre- and Early Marksville cultures of western Tennessee and north central Mississippi are examined and found to be inadequate. The fabric marked ceramic horizon, which is especially prominent at Bynum and Pharr, is discussed and a revised temporal placement for these sites is proposed.

West Tennessee is not well known archaeologically, with most of the extant data being derived from surface collections. However, by drawing on typologies and chronologies established for adjacent regions, it has been possible to construct a reasonably satisfactory cultural sequence for much of the prehistoric record (e.g., Smith 1979a). A major and critical exception, however, has been the Middle Woodland period and the immediately preceding cultures. The problems here are essentially twofold: 1) the lack of unambiguous ceramic type designations, and 2) a lack of stratigraphic evidence and radiocarbon dates. This situation is exacerbated by the fact that much of western Tennessee lies between the sand tempered ceramic tradition of the Tombigbee River drainage and adjacent areas, and the Lower Mississippi River valley, with its typically grog tempered wares (see Ford 1981 and McNutt 1979). Drawing on recent data from Pinson Mounds and other areas, this paper will attempt to clarify ceramic type designations and, concomitantly, to present an updated chronology and culture sequence for the period between approximately 400 B.C. and A.D. 1.

THE PROBLEM OF "TCHFUNCTE" CERAMICS

In classifying Woodland and pre-Woodland ceramics recovered during surface collections throughout west Tennessee, Smith (1979b:41) has divided the material into "ware groups based on the composition of the paste used." The first, and presumably earliest, of these is Tchefuncte var. Tchula ware, which is defined as having "large, angular to subangular clay particles mixed into a poorly compacted paste which is smooth to very slightly laminated and/or contorted." Further, Smith notes that this material "differs from the classic Louisiana and southern Mississippi Tchefuncte ware primarily in its lack of prominent laminations: (1979b:41). Importantly, Smith's definition neglects what is probably the single most important criterion for sorting Tchefuncte wares from the later varieties of Baytown Plain, namely that the former is characterized by a "soft poorly-fired paste" (Phillips 1970:162-163).

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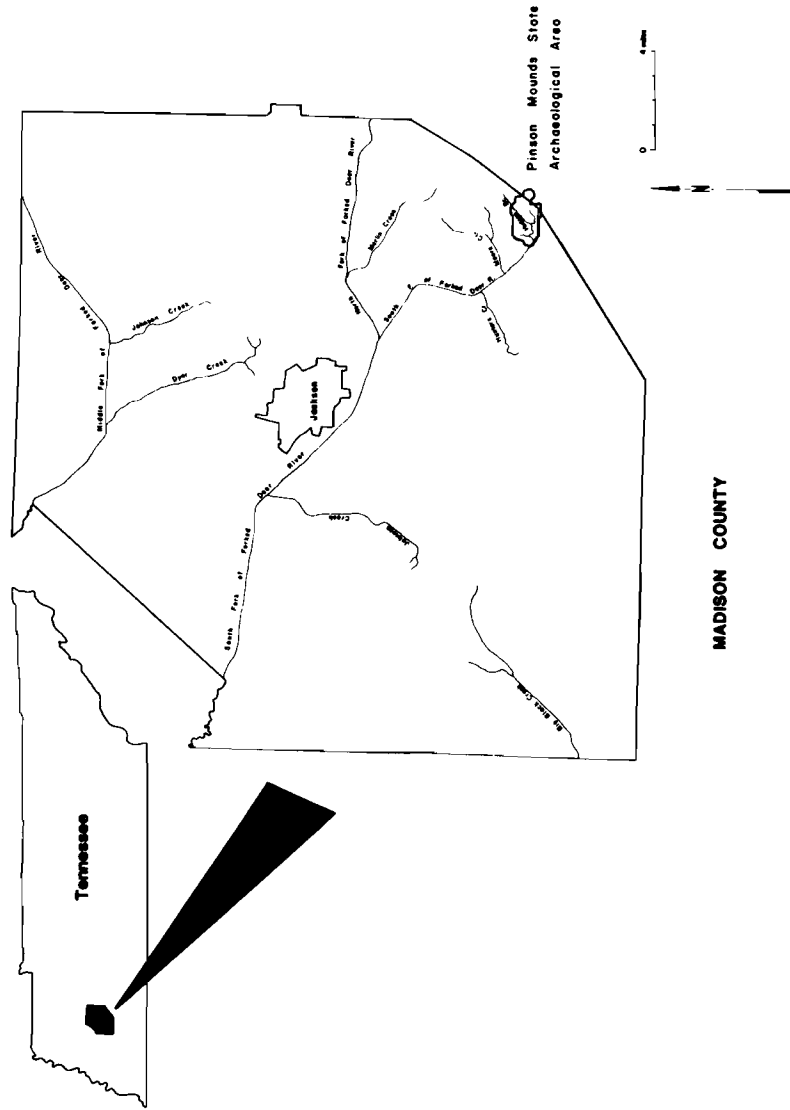


Figure 5.1 Location of Pinson Mounds.

Researchers attempting to follow Smith's definition of Tchefuncte var. Tchula paste have encountered problems in sorting (McNutt 1979:16-20; Jolley 1981:36-42). Indeed, McNutt (1979:18) and Jolley (1981:40-41) note the resemblance between the material referred to by Smith as Tchefuncte var. Tchula and Baytown Plain var. Reed, an observation with which the author concurs. Perhaps of greater concern than typological ambiguity is the fact that these types have significant temporal implications (cf. McNutt 1979:18).

Since Smith's definition represents an attempt to organize ceramics obtained during surface collections, the recovery of Tchefuncte var. Tchula ceramics from an unambiguous stratigraphic context would provide a critical test case for both the typological and temporal interpretation of this material. Such an opportunity is provided by the ceramic assemblage from Mound 12 at the Pinson Mounds site.

The Pinson Mounds site (40-Md-1) is a large Middle Woodland ceremonial center located approximately 16 km south of Jackson, Tennessee on the South Fork of the Forked Deer River (Mainfort, 1980, 1984) (Figure 5.1). Mound 12 (Figure 5.2), a small burial mound, was extensively excavated during the summer of 1975 under the direction of John Broster. While the earthwork itself was built around A.D. 460 (Mainfort, Broster, and Johnson 1982), it was constructed over two pre-mound occupation strata. The upper of these (Stratum V) represents an occupation contemporary with the nearby Mound 12 sector ceremonial habitation area. Mound 12, Stratum V and the Mound 12 sector have been radiocarbon dated to approximately A.D. 270, slightly after the major period of mound building at the site (Mainfort 1980; Mainfort, Broster, and Johnson 1982; Mainfort n.d.). Underlying Stratum V, was an earlier habitation zone (Stratum VI) which has been dated to about 200 B.C. (Mainfort, Broster, and Johnson 1982). While the artifact assemblages from these pre-mound levels will be discussed in more detail below, it will be sufficient here to note that the ceramic assemblage within Stratum VI is dominated by fabric marked wares, primarily of the type Saltillo Fabric Impressed, while Furrs Cord Marked is predominant within Stratum V.

The ceramics from Mound 12 were reanalyzed, largely under Smith's direction, in 1982 by Kenneth Hartsell. Of 84 sherds exhibiting "Tchefuncte" paste (including 20 sherds identified as "Tchefuncte Plain"), 68 were recovered from Stratum V, with only a single example associated with Stratum VI; the remainder were recovered from general mound fill (Hartsell 1982:31-32). This suggests that either Saltillo Fabric Impressed is an older type than Tchefuncte ware (a rather untenable position) or that there are problems with Smith's type definition and his chronological interpretation of this material.

The data presented above, as well as the attendant difficulties in applying Smith's sorting criteria, suggest that the attribution of certain west Tennessee grog tempered ceramics to the Tchula period should be abandoned, as should the ware designation Tchefuncte var. Tchula. While future research may indeed reveal the presence of true Tchefuncte ceramics in west Tennessee, the present classificatory scheme is ambiguous and lacks utility.

THE TEMPORAL PLACEMENT OF "MIXED" TEMPER CERAMICS

The creation of grog tempered, pre-Woodland ware essentially forced Smith to search for a paste intermediate between his Tchefuncte var. Tchula and the sandy paste known to typify Middle Woodland ceramics in northeastern Mississippi (eg., Cotter and Corbett 1951; Bohannon 1972). Mixed sand and grog temper wares have long been known for this general area (Jennings 1941), although their temporal significance has typically been regarded as uncertain (Jolley 1981; McNutt 1979; Ford 1981). Smith (1979b:41) designates as "Thomas ware" sherds possessing a paste that "includes sufficient silt and/or very fine sand to be readily apparent to the touch" and considers this paste to be transitional.

If, as advocated here, Smith's concept of west Tennessee Tchefuncte ware is discarded, so too must be his chronological interpretation of mixed temper ceramics. Hartsell's (1982) reassessment of the ceramics from Pinson Mound 12 provides additional data relevant to this argument. Here, over 95 percent of the mixed temper (i.e., "Thomas" paste) ceramics were recovered from levels above the basal Stratum VI. It will be recalled that the Stratum VI ceramic assemblage was composed primarily of sand tempered Saltillo Fabric Impressed. Further, excavated collections from various other localities within the Pinson Mounds site have produced minorities of mixed temper sherds in unquestionable association with the sand tempered plain and cord marked types that are characteristic of the Middle Woodland period. As noted by Jenkins (1981) in his discussion of ceramics from the Gainesville Reservoir area, the sand tempered wares of the Middle Woodland period seem to be replaced over time by grog tempered types and, if mixed tempered wares indeed have chronological importance (a point that is open to question [Ford 1981]), then Smith's proposed chronology is probably in error.

THE FABRIC MARKED CERAMIC HORIZON IN WEST TENNESSEE AND ADJACENT AREAS

The relatively early temporal position of fabric marked ceramics in west Tennessee and northern Mississippi was recognized by early researchers in the area (Jennings 1941:201; Cotter and Corbett 1951; see also Ford 1981). Yet, despite an abundance of more recent data, the dates proposed for this material by Jenkins (1981, 1982) are less than satisfactory. Large ceramic assemblages composed primarily of Saltillo Fabric Impressed and Baldwin Plain were recovered from the important mound centers at Bynum and Pharr (Cotter and Corbett 1971; Bohannon 1972), and there can be little doubt that these ceramics are representative of the societies responsible for the earthworks. Indeed, a partial Saltillo Fabric Impressed vessel was recovered from the surface of the burial platform in Pharr Mound E (Bohannon 1972:33-34). The unequivocal association of fabric marked ceramics with large burial mounds at Bynum and Pharr is especially noteworthy in light of Walthall's (1980:112) suggestion that Long Branch Fabric Impressed pre-dates the construction of "Hopewellian mortuary ceremonialism" in northern Alabama.

Unfortunately, the single radiocarbon date of A.D. 674 for Bynum is clearly in error, while a date of 395 B.C. + 90 for Pharr was dismissed out of hand by Bohannon (1972:78), who proposed a date of A.D. 1-200 for

both Bynum and Pharr. In his recent synthesis, Jenkins (1982) ignores the Pharr date, while assigning dates of 100 B.C. - A.D. 1 to Bynum and A.D. 1-100 to Pharr. Are the dates suggested by Bohannon and Jenkins reasonable and on what data are they based?

Bohannon (1972:78) is very explicit in his logic, stating that "The contemporaneity of . . . Pharr and Marksville has been amply demonstrated" by the presence of several ceramic vessels that are unquestionably in the Marksville style, if not actual imports. These include several examples of sand tempered Alligator Bayou Stamped (see Bohannon 1972:103; these are described as unnamed zone-stamped) and a four-lobed Marksville incised var. Marksville pot with a soft, chalky paste. The raptorial bird vessel from Bynum, which exhibits a typically chalky Lower Valley paste (Toth 1977:303-304), is also relevant here. Importantly, the soft, chalky Marksville paste, as well as the bird motif, appear to be very early Marksville traits (Toth 1974 passim). Bohannon (1972:78) goes on to propose that both Bynum and Pharr should fall within the period A.D. 1-200, i.e., contemporary with Early Marksville.

However, the actual dates most frequently cited in support of the temporal position of Early Marksville (see especially Toth 1977, 1979) --those obtained by Ford (1963) at Helena Crossing--span the period 140 B.C. to A.D. 335 (all + 150 years), with only a single mean date (A.D. 30) actually falling within the Early Marksville range. It should also be noted here that a large Withers Fabric Marked vessel was associated with one of the pottery deposits within Helena Mound C (Ford 1963:31-32). Further, the dates obtained by Shenkel (1984) at Big Oak Island establish the production of Marksville ceramics during the first century B.C. Contrary to Jenkins' (1982:69) recent statement, Marksville incised var. Marksville (to say nothing of the Early Marksville period in general) has not been "securely dated to the early Marksville period, A.D. 1 to A.D. 200" and it is, at best, premature to assign sites yielding Marksville ceramics to this time period as a matter of course.

Additional questions about the relative ages of Early Marksville, Bynum, and Pharr are raised by a review of Toth's (1977) phase definitions. Of particular interest is the prominence of Withers Fabric Marked in his Helena Phase (as well as the other more northerly phases) and the virtual absence of this type within the Marksville Phase. Conversely, Marksville Incised is a minority type within the Helena Phase, but is a prevailing type in the Marksville Phase. Surely these differences are not without temporal significance and, ironically, it would seem that the key radiocarbon dates for defining Early Marksville (i.e., those from Helena Crossing) pertain to a ceramic assemblage that is markedly different from that found at the type site of Marksville.

The preceding discussion left the sites of Bynum and Pharr (as well as their fabric marked ceramic assemblages) in a temporal limbo, and an attempt will now be made to rescue them and to arrive at a more satisfactory chronology. As a starting point, it will be useful to reconsider the date for Pharr (395 B.C. + 90), which pertains to Feature 11, a sub-mound crematory pit that contained 16 sherds of Saltillo Fabric Impressed and eight of Baldwin Plain (Bohannon 1972:49; the ceramic tabulations in Table 5 contradict the feature description on p. 19). In the absence of any published statements to the contrary, it

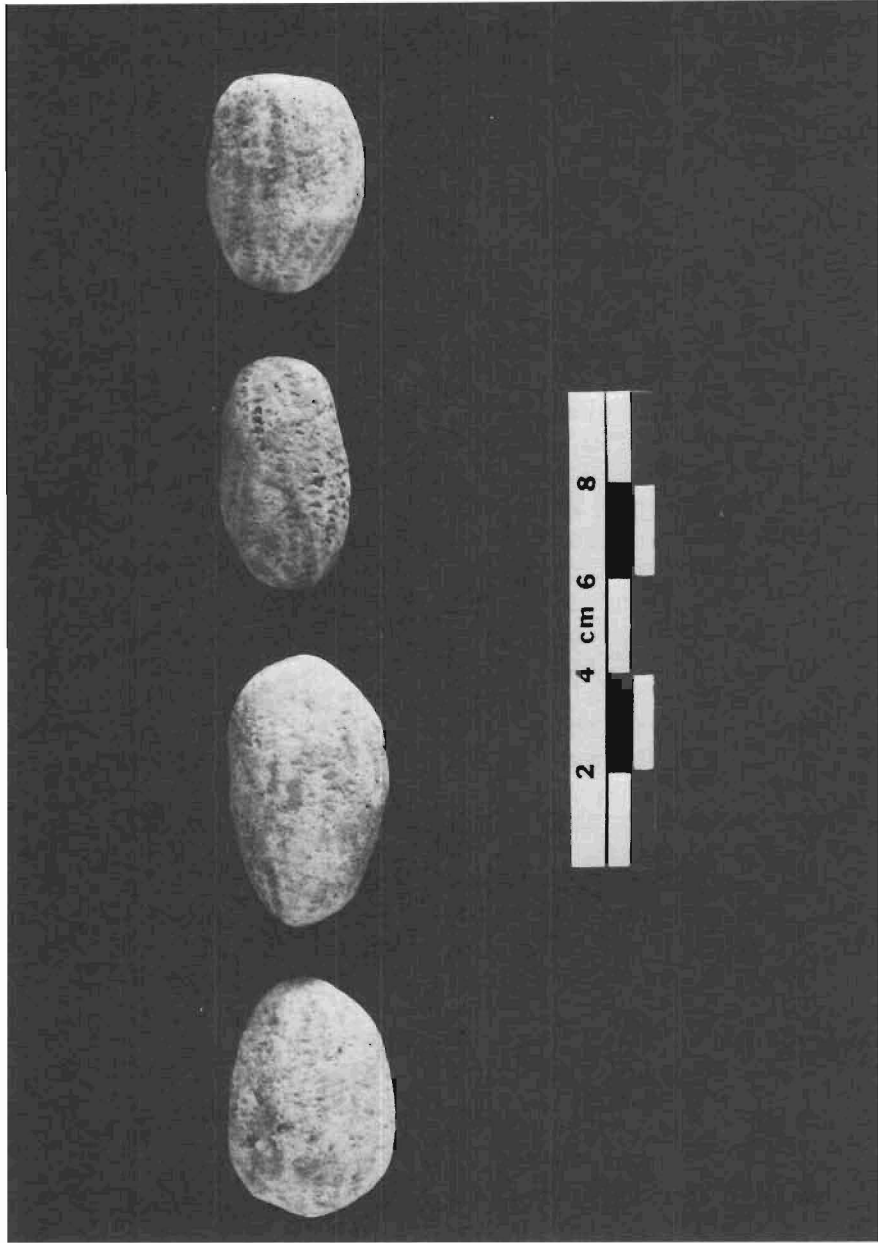


Plate 5.1. Baked clay objects from pre-mound occupations.

appears that most researchers agree with Bohannon that this assay is too early. However, it is important to note that thin-walled fabric marked ceramics were being manufactured by 600 B.C. in the headwaters of the Tennessee River (Lafferty 1981) and northern Georgia (Baker 1970; Bowen 1980), while limestone tempered Long Branch Fabric Impressed vessels have been dated to ca. 300 B.C. at the Yearwood site in southern middle Tennessee (Butler and Jefferies 1983). Additional dates supporting an early temporal range for fabric marked ceramics have been summarized by Cole (1981: 216-220).

Several dates recently obtained on assemblages from Pinson Mounds are also pertinent here. Of particular interest is the date of 205 B.C. + 115 which comes from the base of Mound 12, Stratum V; this deposit overlies an undisturbed occupation zone (Stratum VI) in which fabric marked ceramics comprise over 70% of the assemblage (Mainfort 1980; Mainfort, Broster, and Johnson 1982). Also associated with this stratum were a number of fabric marked ellipsoidal baked clay objects that are tempered with sand (Plate 5.1). Most of the large earthworks at Pinson Mounds were constructed between A.D. 1 and A.D. 300 by societies that produced sand tempered plain and cord marked ceramics almost exclusively (Mainfort n.d.). However, some societies that participated in the large mortuary ceremony in the Duck's Nest sector around A.D. 200 still employed fabric marked decoration, although such sherds are in a very small minority (Mainfort n.d.).

Hence, the Pharr date, while somewhat early, falls within the established temporal range for fabric marked ceramics in the Mid-south and, by implication, supports a relatively early age for Bynum, as well. The virtual absence of cord marked ceramics throughout most areas within the Bynum and Pharr sites argues for earlier temporal placement than that proposed by Jenkins (1982); certainly a date of 200 or even 300 B.C. would be more compatible with the extant data, including the relatively early date from Pharr.

The data presented above suggest that fabric marked ceramics were developed or introduced into western Tennessee and northern Mississippi around 400 B.C. and remained an important decorative mode for several hundred years. Burial mounds containing characteristic Middle Woodland mortuary goods were constructed during this period, but became much more common after approximately A.D. 1- A.D. 100, by which time fabric marked surface decoration had been largely replaced by cord marking.

CONCLUDING REMARKS

This paper has presented a brief overview of some of the typological and chronological problems confronting researchers interested in the early ceramic-producing cultures of western Tennessee and adjacent areas. Existing typologies which purport the presence of Tchula/Tchefuncte occupations in the area have been demonstrated to be inadequate, while an earlier temporal placement for the fabric marked ceramic tradition has been inferred. Until extensive excavations at pre-Marksville sites are undertaken, chronologies such as that proposed here must remain tentative.

REFERENCES CITED

- Baker, Steven
1970 Observations of the Lum Moss Site: An Interpretive Field Report. Southeastern Archaeological Conference, Bulletin 13:115-118.
- Bohannon, Charles F.
1972 Excavations at the Pharr Mounds, Prentiss and Itawamba Counties, Mississippi and Excavations at the Bear Creek Site, Tishomingo County, Mississippi. United States Department of the Interior, National Park Service, Washington.
- Bowen, William R.
1980 An Early Woodland Campsite in North Central Georgia. Early Georgia 8:37-58.
- Butler, Brian M. and Richard W. Jefferies
1983 Crab orchard and Early Woodland Cultures in the Middle South. Paper presented at the Kampsville Conference on Early Woodland, Kampsville, Illinois.
- Cole, Gloria G.
1981 The Murphy Hill Site (1MS300): The Structural Study of a Copena Mound and Comparative Review of the Copena Mortuary Complex. Tennessee Valley Authority Publications in Anthropology No. 91.
- Cotter, John L., and John M. Corbett
1951 Archaeology of the Bynum Mounds, Mississippi. United States Department of the Interior National Park Service Archaeological Research Series No. 1.
- Ford, James A.
1963 Hopewell Culture Burial Mounds Near Helena, Arkansas. Anthropological Papers of the American Museum of Natural History 50:1-56.
- Ford, Janet L.
1981 Time and Temper in the North Central Hills of Mississippi. Journal of Alabama Archaeology 27:57-71.
- Hartsell, Kenneth C.
1982 Ceramic Analysis from the 1974-1975 excavations, Pinson Mounds State Archaeological Area. Ms. on file, Pinson Mounds State Archaeological Area.
- Jenkins, Ned J.
1981 Gainesville Reservoir Ceramic Description and Chronology. University of Alabama Office of Archaeological Research Report of Investigations No 12.

- 1982 Archaeology of the Gainesville Lake Area: Synthesis.
University of Alabama Office of Archaeological Research
Report of Investigations No. 23.
- Jennings, Jesse D.
1941 Chickasaw and Earlier Cultures of Northeast Mississippi. The Journal of Mississippi History 3:155-226.
- Jolley, Robert L.
1981 An Archaeological Sample Survey of the Loess Hills Region of the Hatchie River in West Tennessee. Ms on file, Tennessee Division of Archaeology, Nashville.
- Lafferty, Robert H., III
1981 The Phipps Bend Archaeological Project.
University of Alabama Office of Archaeological Research
Research Series No. 4.
- McNutt, Charles H.
1979 Report of a Survey for Prehistoric, Architectural, and Historic Resources in the Proposed Jackson Sub-Station Site, Yellow Creek-Jackson Transmission Line Right of Way and a Segment of the Jackson-Future Transmission Line Right of Way. Submitted to Tennessee Valley Authority, contract No. TV45339A. Copies available from Tennessee Valley Authority, Norris.
- Mainfort, Robert C., Jr. (editor)
1980 Archaeological Investigations at Pinson Mounds State Archaeological Area: 1974, 1975, and 1978 Field Seasons.
Tennessee Department of Conservation Division of Archaeology
Research Series No. 1.
- n.d. Pinson Mounds: A Middle Woodland Ceremonial Center. Tennessee Department of Conservation, Division of Archaeology, Nashville, in press.
- Mainfort, Robert C., John B. Broster, and Karen M. Johnson
1982 Recent Radiocarbon Determinations for the Pinson Mounds Site. Tennessee Anthropologist 7:14-19.
- Phillips, Philip
1970 Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Peabody Museum of Archaeology and Ethnology, Papers No. 60.
- Shenkel, J. Richard
1984 An Early Marksville Burial Component in Southeastern Louisiana. Midcontinental Journal of Archaeology 9:105-134.
- Smith, Gerald P.
1979a Archaeological Surveys in the Obion-Forked Deer and Reelfoot-Indian Creek Drainage: 1966 through Early 1975. Memphis State University Anthropological Research Center Occasional Papers No. 9.

1979b Ceramics from the Wolf River Drainage Study Area. In: An Archaeological Survey and Assessment of the Wolf River Watershed by Drexel A. Peterson, pp. 41-55. Submitted to Soil Conservation Service, Contract No. 53-4741-9028. Copies available from Soil Conservation Service, Nashville.

Toth, E. Alan

1979 The Marksville connection. In Hopewell Archaeology, edited by David S. Brose and Naomi Greber, pp. 188-199. Kent State University Press, Kent.

1977 Early Marksville Phases in the Lower Mississippi Valley: A Study of Culture Contact Dynamics. Ph.D. dissertation, Department of Anthropology, Harvard University, Cambridge.

1974 Archaeology and Ceramics at the Marksville Site. University of Michigan Museum of Anthropology Anthropological Papers No. 56.

CHAPTER 6

COMMENT ON GEOMORPHOLOGICAL IMPLICATIONS ON THE DEVELOPMENT OF THE LATE TCHULA/EARLY MARKSVILLE SETTLEMENT PATTERN IN THE UPPER YAZOO BASIN, MISSISSIPPI

Richard A. Marshall

Analysis of archaeological surface collections and excavation data from the Buford site (22-T1-501; 17-0-1), Tallahatchie County, Mississippi, indicates a shift in the Late Tchula/ Early Marksville occupation locus from a relict oxbow lake/crevasse channel on the northwestern edge of the site to a more eastern area overlooking Cassidy Bayou. A current study of the known cultural complexes for the period 500 B.C. to A.D. 300 suggests a concomitant shift in the centers of these complexes through time. A shift in the occupation locus at Buford, and in the locations for the Upper Yazoo Basin complexes during the time span under consideration, is suggested to be attributed to changing environmental conditions as a result of the lessening of Mississippi River flood waters crossing the Upper Yazoo Basin into the Yazoo River system.

INTRODUCTION

We know only too well the overwhelming influence the Mississippi River, within its present meander belt system, has had on historic settlement patterns in the valley. The river, as today, has influenced or required changes by people of the past.

The evidence is difficult to read, but it is there. Many aspects are to be considered if we are to understand more fully the archaeology of human adaptation to riverine environments. The Upper Yazoo Basin as a riverine locus is an example of human adaptation to changing environmental conditions during an approximate 800-year span, beginning circa 500 B.C.

The concept for this paper was the result of attempts to interpret data drawn from the large ceramic surface collections and test excavations made in 1968 and 1980 at the Buford site (17-0-1 Central Mississippi Valley Survey and 22-T1-501, Mississippi Department of Archives and History). The Buford site is located just north of Sumner, northwestern Tallahatchie County, overlooking Cassidy Bayou from the high west cut bank and a short distance above that stream's confluence with the Tallahatchie River. The Buford site is known largely for its flat-topped temple mound and its Baytown through Mississippian period occupations (Phillips 1970; Phillips, Ford, and Griffin 1951).

During the more recent visits to the site, certain types of prehistoric ceramics were noted from a limited area far to the west of the main occupation centered near and around Mound A overlooking Cassidy Bayou. This western area of the site overlooks a large ancient meander and residual oxbow lake and a crevasse channel linking Cassidy Bayou with the oxbow. The material culture found in this western part of the

site evidences Late Tchula/Early Marksville period occupations. A small conical mound, Mound B, cited by the Central Mississippi Valley Survey (Phillips, Ford, and Griffin 1951 and University of Michigan site survey files) was in this area, but was destroyed in 1966-1967.

It was noted that the Late Tchula/Early Marksville occupation was the strongest in this area of the site, while the later Marksville evidences were considerably reduced and the Early Baytown almost nonexistent. By comparison, data gathered from both surface collections and excavations near Mound A suggested a strong Baytown and Mississippian occupation overlooking Cassidy Bayou. Taken as a shift in the occupation locus through time, a similarity was noted in the shifting of cultural complex centers through time in the Upper Yazoo Basin as well. This shifting is believed to reflect the consequences of environmental changes in the Yazoo Basin as tied to changes in the shifting pattern of Mississippi River meander belts.

RIVERINE GEOMORPHOLOGY AND ENVIRONMENTAL CHANGE

The Mississippi River is a large alluvial stream, freely meandering in a wide valley. We may see remnants of several, if not more, meander belts and in some places segments of even earlier stream systems and land forms. This is particularly true of the Yazoo Basin. Many of the present streams have developed within relict Mississippi River meander belt systems. All are greatly influenced by the loops and oxbows belonging to the more ancient stream, are underfit, and exhibit considerable alteration of the older system. Meander belt ridges separate the belt systems by remnant alluvial ridges which serve to set aside secondary streams from the primary river. The secondary streams flow parallel to the primary system in "yazoo" fashion, to join with it at some point far downstream.

As the streams in an area build natural levees, they aggrade or degrade their beds. The larger streams are more active than those with smaller flow and lesser drainage area. There is eventually a time when the more active stream, in flood, may top, overflow, and cut its belt ridge and levees. This water then flows into the adjacent secondary system. When the flood waters top the belt ridge, because of the relatively small volume of water at that point and the weight of the water behind it, there is a sudden increase in velocity of flow. A crevasse is opened, resulting in a crevasse stream which is relatively straight, swift, deeply scouring, and carries a considerable suspended and bed load.

If a crevasse stream is sufficiently large, the entire river may follow to capture the secondary basin, placing itself in a new segment of meander belt. Such a dramatic change does not occur often, but several examples are clearly visible within the Mississippi Alluvial Valley, and such an event seemingly came close to happening at the head of the Atchafalaya Basin during the maximum flood conditions of 1973.

As the flow velocity slows beyond the bisected ridge, carrying capacity of the waters decreases and the load is correspondingly dropped. Such a situation as this results in the building of an alluvial fan structure, with consequent braided streams of tributary channels carrying the water. Crevasse streams, after losing gradient through aggradation of their beds, fan building, and frequent use, will develop characteristics of a mature stream, with single channels, meanders,

point bars, oxbows, and backwater swamps. As local riverine processes slow, the streams attain even greater maturity (old age) and become restricted by climax vegetation. The backswamps and oxbows gradually fill, and the environment becomes more stabilized, singular, and less productive.

It is to the creation and alteration of these primary and secondary riverine characteristics that I draw attention as environmental changes that may have influenced the shifting of centers of cultural complexes in the Upper Yazoo Basin. It has long been suggested that the rhythmic changing in the stream systems and consequent development of features of riverine environment were the attraction for the Poverty Point/Tchula/Marksville-related peoples to the area for settlement. The Archaic peoples were equally interested in this kind of environment, as were later peoples.

Mississippi River Meander Belt Systems

Roger Saucier in Connaway, McGahey, and Webb (1977) has provided us with an important and simplified map (Figure 6.1) of the Mississippi River meander belts of the Yazoo Basin during the Late Pleistocene and Early Holocene epochs. In this we see both ancient and modern surfaces.

Near the end of the Pleistocene the eastern Yazoo Basin was a moderately level, sandy plain with a gentle slope to the west from the bluff hills. The Mississippi River was on the western edge of this plain as a large braided stream. About 9,000 years ago the river changed and developed its first meander belt. This belt cut into the sandy eastern plain, leaving natural levees. The belt was abandoned around 7,500 years ago when the river made two new belts, Belts 2 and 3, each successively more westerly during the next 2,500 years. The latter of these belts obliterated major portions of the earlier Belt 2. Afterwards, the Mississippi River is now thought to have become divided with approximately equal flows in two new channels. One of these belts was apparently in the area of the present Belt 5. The other, seen as Belt 4, was in the area now occupied by the Tallahatchie/Yazoo River system. About 2,500 years ago the Belt 4 system was fully diverted into the present Belt 5 Mississippi River.

EARLY FORMATIVE CULTURE COMPLEXES

The cultural complexes (Figure 6.1) which must be considered here were tentatively formulated by Phillips (1970) utilizing data gleaned from the area earlier. Since that time additional papers have added to the data base, which changes the picture to some extent. I will, however, follow the Phillips scheme, with apologies to those who have later interpretations.

Background data from the area suggested only one complex assignable to the Poverty Point period, the Jaketown phase. Since Phillips' paper a large number of sites have been located in the Central Yazoo Basin; these still tend to concentrate within the areas indicated by Phillips for his Jaketown phase centers largely in the Greenwood area adjacent to Belt 4 relict oxbows, but the sites actually exhibit four clusters. One subcenter southeast of Greenwood has the Jaketown site as its center, and another still farther south is centered near the mouth of the Sunflower River, now occupying largely the Belt 3 system. The other

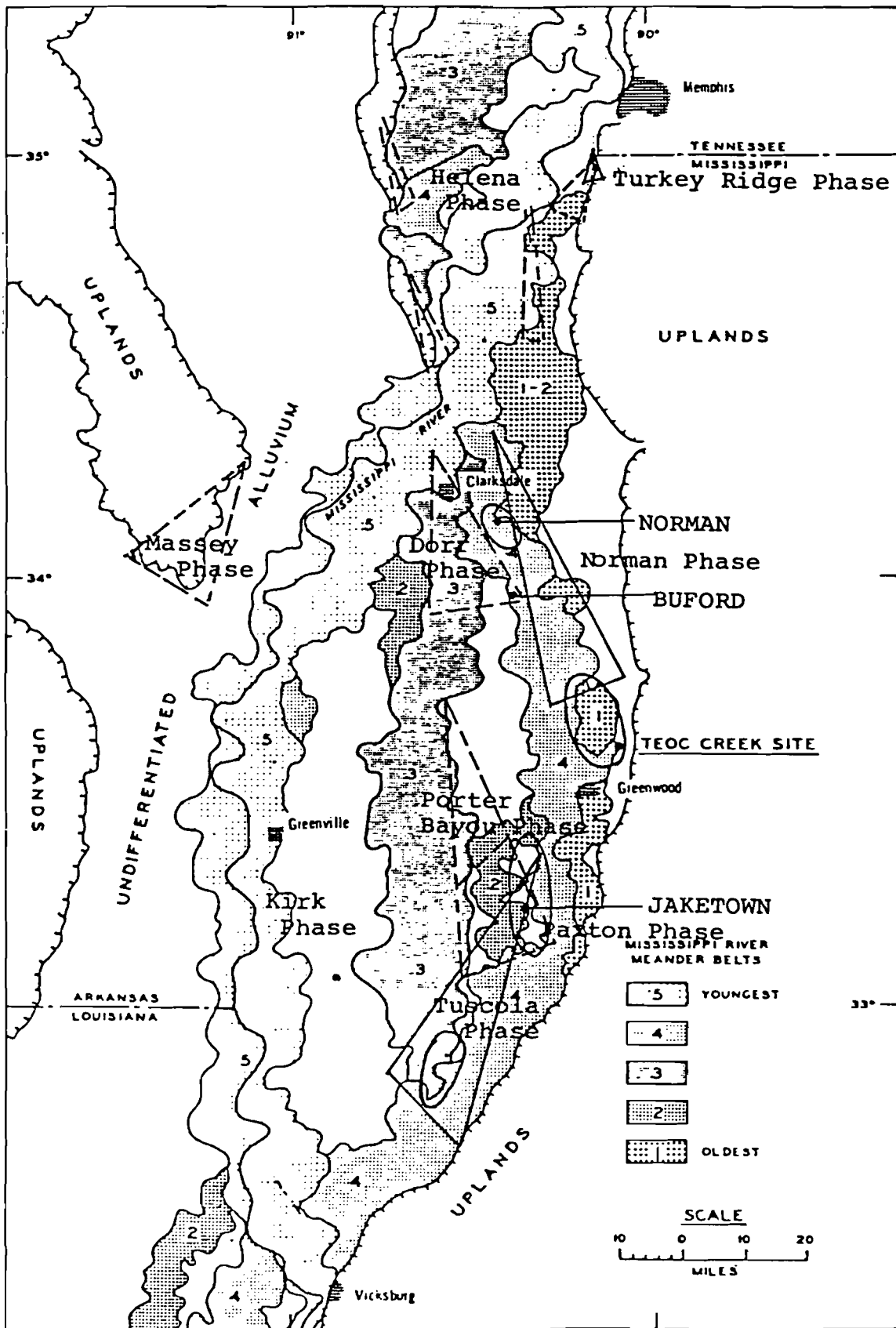


Figure 6.1. Mississippi River meander belts (after Saucier, in Connaway, McGahey, and Webb 1971). Note Poverty Point period site clusters, Tchula period phases, and Marksville period phases (after Phillips 1970).

two subcenters are north of Greenwood, one including the Teoc Creek site and similar ones on the old bluff plain and Belt 1 natural levees and later surfaces. The northern perimeter of the other subcenter falls near the Norman site in the Belt 4 and Yazoo Pass basin just southeast of Clarksdale. The Norman site appears to be situated on a relict Belt 4 oxbow. Radiocarbon dates from the Teoc Creek site sets the Poverty Point period occupation in this area at between 1700 B.C. and 1070 B.C. (Connaway, McGahey, and Webb 1977:106-108). The Jaketown site is dated at 2830 ± 300 years: 880 B.C. (Ford 1969:30).

The Tchula period sites have been clustered into three complexes. They are the Turkey Ridge, Norman, and Tuscola phases. At the head of the Yazoo Basin is the Turkey Ridge phase, clustered on an old surface which may largely be an alluvial fan from Johnson Creek formed on the older bluff plain. The somewhat similar Burkett phase in southeastern Missouri is radiocarbon dated from 2140 ± 250 years: 190 B.C. to an age of 1880 ± 200 years: A.D. 70 (Phillips 1970:877). The Norman phase sites are situated in or adjacent to the trough-like basin left by the abandonment of the east fork of the Belt 4 system. The Tuscola phase sites are located largely at or near the mouth of the Belt 3 system, but include the Jaketown site.

In the Marksville period there is an even greater number of complexes. We shall consider only those of the Northern or Upper Yazoo Basin. First, there is the Helena phase, with sites scattered over much of the extreme Upper Yazoo Basin and adjacent Western Lowlands. There seem to be two major concentrations of the east bank Helena phase sites, with one cluster in the same area as the earlier Turkey Ridge phase. The remaining sites are to the southeast, following the eastern edge of the Belts 4 - 5 system. The Helena Crossing mound is dated from 2100 ± 75 years: 150 B.C. to 1625 ± 75 years: A.D. 325 ± 75 (Ford 1963:46). The east bank Helena phase sites are located on older surfaces that have been isolated and surrounded by the later Belt 4 meandering of the river. This is particularly true of the Boyd site, included here in the Helena phase for the purpose of this paper. The Boyd site is radiocarbon dated from 2170 ± 90 years: 220 B.C. to 1865 ± 100 years: A.D. 85 for Zone I and 1700 ± 80 years: A.D. 250 to 1410 ± 70 years: A.D. 540 for Zone II (Connaway and McGahey 1971:59). It is the Zone I date which is referred to for this discussion. The site is located at an elevation of 58 m AMSL and immediately overlooking an A.D. 1836 meander of the Mississippi River. This is probably a captured meander. This ancient isolate surface is not at all unlike the surfaces on which the large and contemporary Hoecake site in southeastern Missouri or the Jaketown and Kinlock sites to the south are located.

The Dorr phase sites appear to be centered largely to the south of the Belt 4 or Yazoo Pass crossing of the Upper Yazoo Basin. They are broadly scattered, but primarily centered on the south-flowing distributaries contributing to Cassidy Bayou, Quiver River, and particularly the Sunflower River. The Twin Lakes sites center on the Coldwater/Tallahatchie Rivers, with a predominant number of them associated with the east bank of those streams. Recent cultural resource management surveys in the Tillatoba Creek Basin, a major system joining the Tallahatchie River just below its confluence with the Yocona River, indicates a minimum of three major villages with associated mounds (Marshall 1980, 1981), all assignable to the Twin Lakes or

similar phase. Porter Bayou, Paxton, and Kirk phases in the Lower Yazoo Basin are not considered here, though they are similarly placed.

Shifting Settlement Patterns

The few radiocarbon dates on some of these phases provide some interesting correlation of shifting settlement patterns with riverine history. Turkey Ridge and Helena phase sites, including the Boyd site (Connaway and McGahey 1971) appear to be Late Tchula/Early Marksville. Scattered finds of Twin Lakes phase-like material over all of the Upper Yazoo Basin make placement of that phase difficult; however, the earlier sites appear to be tied to the hill country, while contemporary and later components appear to be on the Coldwater River, suggesting a western movement from the hills onto the basin. The Dorr phase is acknowledged as somewhat later than many Early Marksville phases by Toth (1977), probably Middle Marksville.

What correlations can be found with the older surfaces and recent meander belts? In cursory form, the dated phases, their locations, and the reconstructed history of the meander belts tend to suggest that much of the Upper Yazoo Basin north of the relict Belt 4 system is an old surface with numerous braided and meandering stream features. As the river, during Belt 4 and 5 times, repeatedly approached the higher and older surfaces, it nibbled away at the basin plain, often overflowing it and feeding the relict systems. This somewhat stabilized and ancient braided stream system was ideal for occupation by peoples with a basically riverine-oriented subsistence technology. The area of western Panola and eastern Quitman Counties has an abundance of Late Archaic and Early Formational period sites, although it has not been well surveyed to date. As the river worked its way farther southwest, below Helena, Arkansas, the east fork of Belt 4 was decreasingly used. The upper end of Belt 4 is the Yazoo Pass area and on occasion still carried flood waters as late as the early 20th century. As the area streams matured and became less productive, the changing environment and conservative subsistence habits of the local peoples forced relocation into less mature and more desirable riverine habitats. Thus, we can see the shift from the extreme Upper Yazoo Basin (Turkey Ridge, Helena phases), to the central Upper Yazoo Basin (the Norman subphases) along the relict Belt 4 system, and then into the Upper Sunflower, Quiver River area during the Dorr phase. The stabilization of conditions along the Coldwater/Tallahatchie Rivers perhaps allowed the Twin Lakes phase peoples to approach that stream on the east bank.

CONCLUSION

The foregoing is an obvious oversimplification of the complex interactions actually taking place during the 800-year time span. The meanderings of the Mississippi Belt 4/5 system have destroyed or covered countless Tchula/Early Marksville period sites. The maturation processes of the lesser streams have buried many contemporary sites. This picture does, however, support a hypothetical sequence of Early Formative stage cultural and aboriginal population centers and adaptations to the everchanging riverine situation of the Upper Yazoo Basin with concomitant relocations.

The area is superior for a focus on the study of human adaptation to changing riverine environmental conditions. It begs for additional and continuing archaeological interest.

REFERENCES CITED

- Connaway, John M., and Samuel O. McGahey
1971 Archaeological Excavation at the Boyd Site, Tunica County, Mississippi. Mississippi Department of Archives and History Technical Reports No. 1.
- Connaway, John M., Samuel O. McGahey and Clarence H. Webb
1977 Teoc Creek: A Poverty Point Site in Carroll County, Mississippi. Mississippi Department of Archives and History Archaeological Reports No. 3.
- Ford, James A.
1963 Hopewell Culture Burial Mounds Near Helena, Arkansas. American Museum of Natural History Anthropological Papers No. 50:1-56.

1969 A Comparison of Formative Cultures in the Americas: Diffusion or the Psychic Unity of Man. Smithsonian Institution Contributions to Anthropology Vol. 11.
- Marshall, Richard A.
1980 A Cultural Resource Survey of South Fork Tillatoba Creek, Tallahatchie County, Mississippi. Department of Anthropology, Mississippi State University. Submitted to Soil Conservation Service. Copies available from Department of Anthropology, Mississippi State University.

1981 A Cultural Resource Survey of North Fork Tillatoba Creek and Hunter Creek Basins, Tallahatchie County, Mississippi. Department of Anthropology, Mississippi State University. Submitted to Soil Conservation Service. Copies available from Department of Anthropology, Mississippi State University.
- Phillips, Philip
1970 Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Peabody Museum of Archaeology and Ethnology Papers No. 60.
- Phillips, Philip, James A. Ford, and James B. Griffin
1951 Archaeological Survey in the Lower Mississippi Alluvial Valley, 1940-1947. Peabody Museum of Archaeology and Ethnology Papers No. 25.
- Toth, E. Alan
1977 Early Marksville Phases in the Lower Mississippi Valley: A Study of Culture Contact Dynamics. Ph.D. dissertation, Department of Anthropology, Harvard University, Cambridge.

CHAPTER 7

MCCARTY (3-Po-467): A TCHULA PERIOD SITE NEAR MARKED TREE, ARKANSAS

Dan F. Morse

The McCarty site was salvaged during its destruction in the spring of 1981. The major interpretive results of this investigation are: (1) There is strong continuity from the Poverty Point period through Tchula into the Marksville period, and (2) Tchula is a rich and sophisticated cultural expression.

INTRODUCTION

The Tchula period in northeast Arkansas has been an exceedingly difficult archaeological manifestation to investigate. Since the inception of the Arkansas Archeological Survey in 1967, not a single acceptable Tchula period site had been recognized in northeast Arkansas until the discovery of the McCarty site. Several sites had been classified as "Tchula," but their classification rested upon rather spurious traits. The actual situation was a blank map ((Phillips 1970: Figure 443; Phillips, Ford, and Griffin 1951:431-436).

Two phases had been recognized in southeastern Missouri by 1954. The Pascola phase was established on the basis of ceramic similarity to the Alexander pottery of northern Alabama (Phillips 1970:877-878; Williams 1954:33). "These sherds are plain and decorated with pinching, punctating and incising the main techniques" (Williams 1954:33). The Burkett phase represents the main Tchula period expression in most investigators' minds (Griffin and Spaulding 1952:1; Phillips 1970:876-877; Phillips, Ford, and Griffin 1951:431-436; Williams 1954:28).

Strata pit excavations in a number of sites suggest that the earliest pottery rather closely follows the clay ball time period, and this ceramic level is very similar to the early Baumer pottery of southern Illinois. Some of the sites on this level have a few decorated sherds indicative of a connection with the general Early Woodland horizon in the lower Mississippi Valley including the Tchefoncte culture (Griffin and Spaulding 1952:1).

This is the Tchula period literally (Phillips, Ford, and Griffin 1951:431). The ceramic markers are Cormorant Cord Impressed, Withers Fabric Impressed, and Mulberry Creek Cord Marked (Williams 1954:28). The first two constitute "marker" types (Phillips 1970:877), but because Withers is also characteristic of the Marksville period (Phillips 1970:877), Cormorant Cord Impressed has become the single most diagnostic artifact type for the identification of Tchula period

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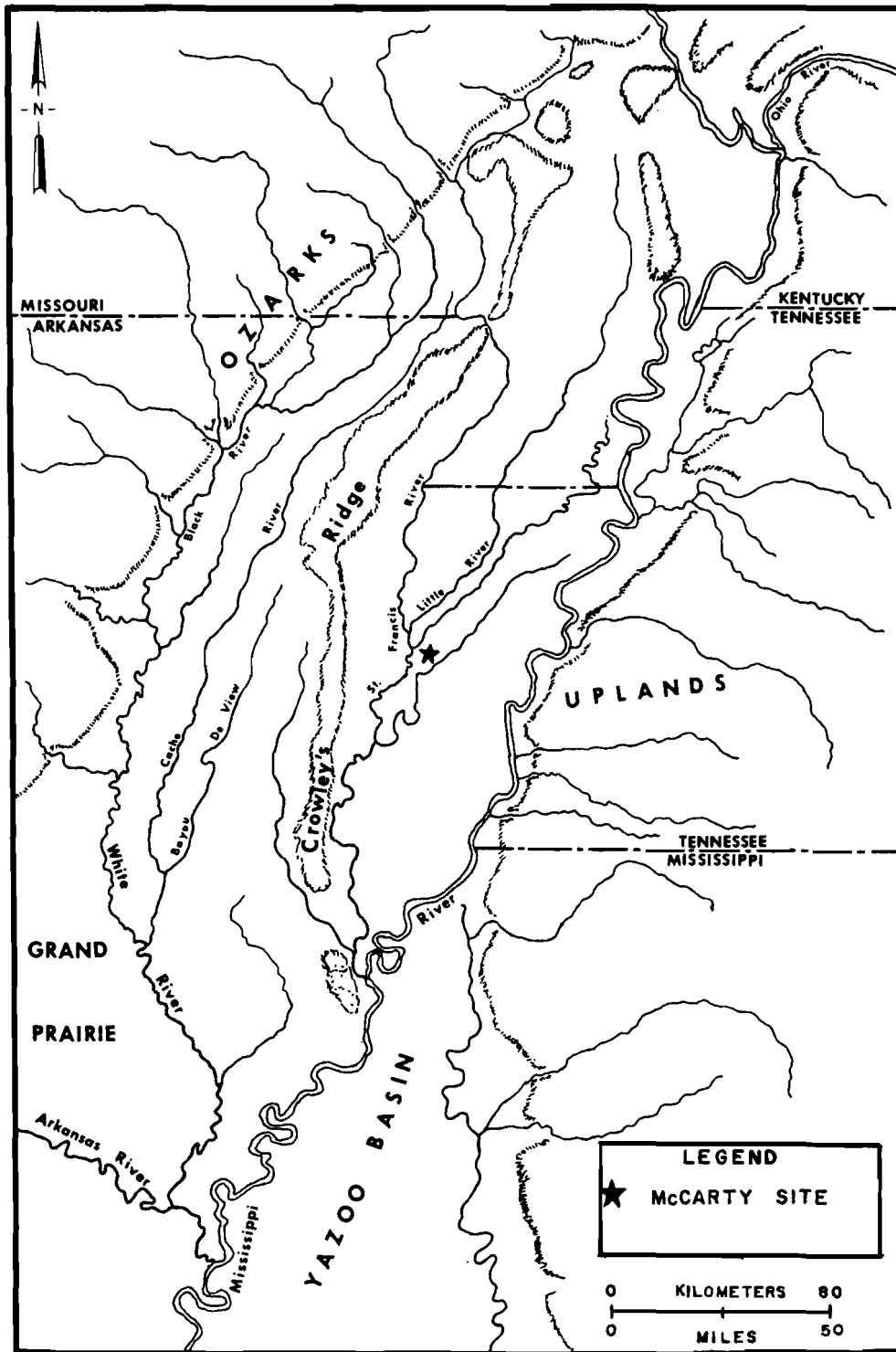


Figure 7.1 Location of the McCarty site within the Central Mississippi Valley.

components in the Central Mississippi Valley. Unfortunately, Cormorant Cord-Imprinted is rare, and hence, identification of a true Tchula period site has always been difficult.

Price and Price (1981:473-480) recently have defined a third phase in southeast Missouri, the Grimes phase. The type site is 23-Ri-115A, located near the Little Black River in Missouri. Artifacts include plain, cord marked, and fabric marked sand-tempered ceramics; bossing and punctation decorative motifs; contracting-stemmed (Gary) points; corner-notched points; discoidal bifaces; and chipped crescents.

THE SALVAGE OF THE MCCARTY SITE (3-Po-467)

In the spring of 1981, Jim McCarty noticed that there were archaeological remains on one of the farm properties he was managing. Specifically, these remains were most obvious in a field being land leveled in preparation for rice cultivation. He contacted the Arkansas Archeological Survey, and we were allowed to monitor the final leveling of Site 3-Po-467 because its destruction had already progressed too far to save it from serious impact. The site appears to extend southward, and these deposits were left reasonably intact for possible future investigation. In recognition of Jim McCarty's alertness, concern, and help, we named the site and a newly recognized point style after him.

The leveled site was on a slight knoll near Marked Tree, Arkansas and measured about 1/4 ha (Figures 7.1 and 7.2). Artifacts indicated that two components were present, Woodland and Mississippian. The general site setting was a relict backswamp habitat between the Tyronza River and the Left Hand Chute of Little River. The nearest community is "Wilbeth," named by William and Elizabeth Powell, located approximately 6.5 km east of Marked Tree. The sandy substratum is emphasized by an enormous linear sand blow immediately west of the site. Undoubtedly this sand blow was caused by the New Madrid Earthquake of 1811-12. The reported small acreage of good arable land northeast of the site had already been moved by the leveling process and could not be investigated. A lake probably existed nearby, based on our recovery of mussel shell and fish remains, but was not located on the ground or on old maps of this region. Presumably it was part of the back-swamp habitat and disappeared before contemporary observations could be made.

The site matrix was clayey with some sand admixture. The clay was somewhat typical of backswamp clay because it was extremely hard when dry. This matrix was not as bad as the typical surrounding backswamp which is almost impossible to walk across when wet, but was very difficult to excavate--particularly when dry. The site was leveled by first discing, then scraping with a tractor blade. This made observation and discovery very difficult indeed.

I conducted the salvage with the help of volunteers. Those helping in the salvage process included some of the students in my archaeology classes at Arkansas State University, Jim McCarty and some young boys, Phyllis Morse, Robert Morse, Daniel Morse, and John Morse.

Drs. Mark Lynott and James Price arranged to obtain a radiocarbon date from Beta Analytic Inc. and a bone collagen analysis for corn consumption from Dr. Thomas Boutton as part of the Ozark National Scenic Riverways Project (Boutton, Lynott, and Price 1983). The samples submitted were human bone from the Burial in Feature 8. The radiocarbon age of 1720 \pm 80 years: A.D. 230 is too late, perhaps by a magnitude of

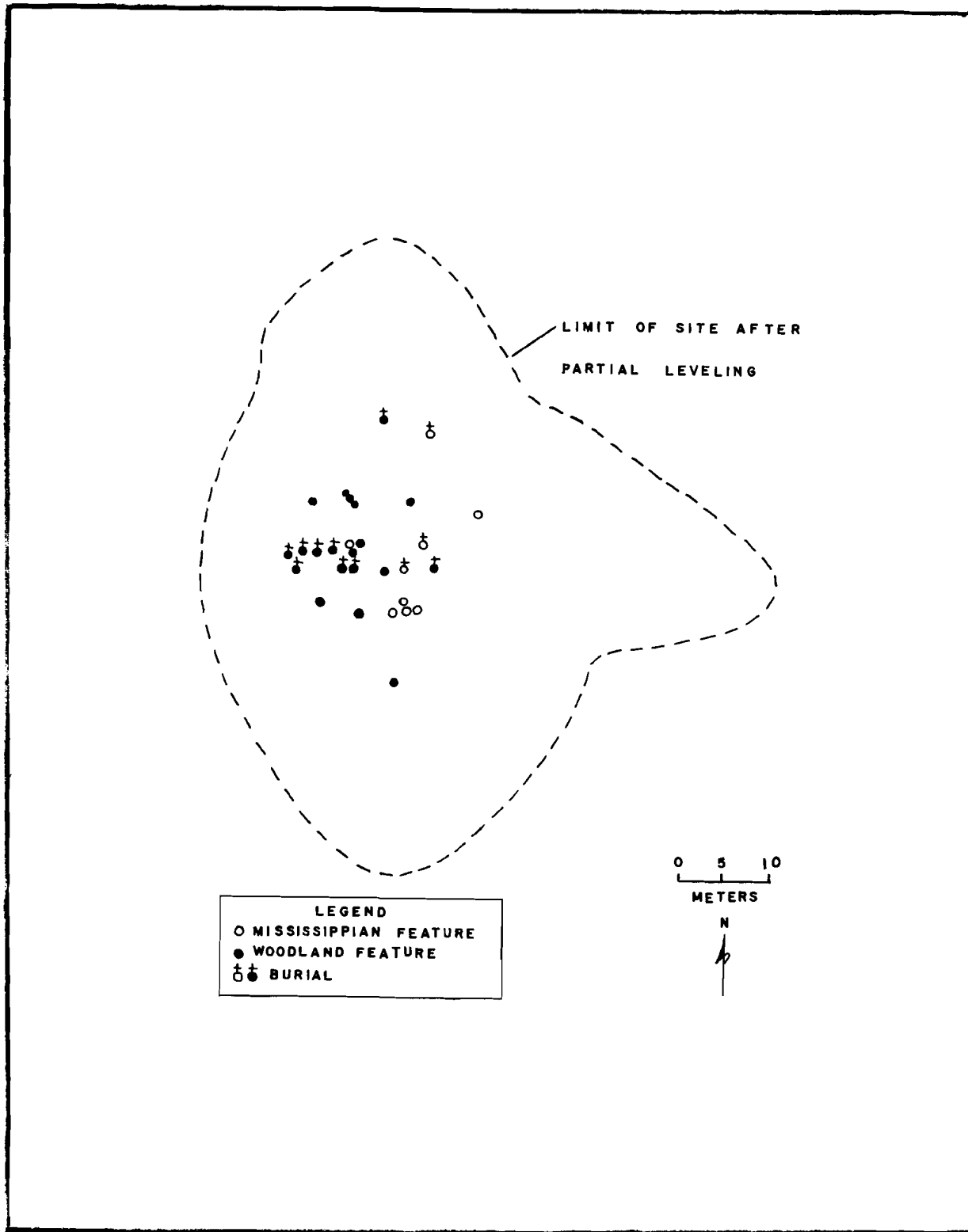


Figure 7.2 Site plan of the McCarty site.

several centuries, possibly due to contamination of the bone, but the ceramics do indicate a date in Late Tchula (Weinstein and Rivet 1978). Tchula is traditionally dated to between 500 B.C. and 0. The McCarty site component might date from the latter portion of that time period.

A C₁₂/C₁₃ study of the skeleton in Feature 8 indicates a basic temperate climate plant subsistence rather than dependence upon tropical cultigens. This finding is similar to results from Archaic skeletons and contrasts with results from Mississippian and Historic skeletons. It is barely conceivable that corn was grown at the McCarty site during the Tchula period, but it is evident that corn was not part of the basic subsistence of the site's inhabitants during that period.

FEATURES

Twenty-nine features were salvaged and recorded in the field (Table 7.1). Nine were identified as Mississippian and included three pits, three burials, two postholes, and one trench (?). Based on the ceramics and other artifacts, the Mississippian period component should date about A.D. 1000 - A.D. 1050, transitional from the Early to the Middle Mississippian period. The component seems to have been a farmstead measuring at least 500 m² based on the spatial distribution of freshly disturbed artifacts and features.

The remaining 20 features were dated to the Tchula period. One was a tree disturbance with only Tchula period artifacts in its fill, and the other 19 were deliberate features of human origin: 7 storage (?) pits, 10 burials, 1 earth oven (?), and 1 mussel shell deposit.

Burial Features

All but two of the ten skeletons identified to the Tchula period were concentrated together in the west central portion of the knoll. One was located near the north edge of the site, and the second may not date to the Tchula period. Considerable disturbed human bone was also observed in this same central area. There probably was a small cemetery located here and we recorded only the remnants remaining from several days of leveling activity. No one recalled a mound existing here, but because the field had been farmed much of the present century, a low mound could have been destroyed earlier. However, cemeteries unassociated with mounds constitute a Late Archaic pattern (Morse 1967), and there is no real need to assume the presence of a mound. Mounds have been recorded for Tchefuncte (Ford and Quimby 1945:20-27), but burials in site midden or in cemeteries seem to be a common characteristic for this time period in most of the eastern United States.

At McCarty, skeletons were found in oval pits. These skeletons were flexed or semi-flexed on the side. Where observable, the orientation was east to west with the skull most often toward the east. Because of their disturbed condition when discovered, little more could be observed during the salvage project.

Artifacts were associated with several burials. A freshly broken Cormorant Cord Impressed bowl found on the surface during the first trip to the site almost certainly was grave furniture. The "burial" in Feature 6 was represented by a greenstone celt discovered in a tractor wheel track with fragments of disturbed human bone nearby. The copper beads were definitely with the badly disturbed skeleton in Feature 8 and

Table 7.1. Features Salvaged at 3-Po-467. MS = Mississippian; TC = Tchula.

Feature Number	Cultural Affiliation	Type of Feature	Comments
1	MS	Pit	100 cm x 100 cm x 36 cm deep
2	TC	Pit	51 cm x 34 cm x 20 cm deep
3	MS	Burial	Disturbed. Extended(?)
4a	TC	Burial	Disturbed. Flexed(?)
4b	TC	Burial	Disturbed
5	MS(?)	Trench(?)	6 cm wide and 10 cm deep
6	TC	Burial(?)	Greenstone celt found in vicinity of disturbed bone.
7	MS	Posthole	32 cm dia. and 45 cm deep
8	TC	Burial	Disturbed. Flexed. 9 copper beads in association
9	TC	Pit	150 cm x 150 cm x 55 cm deep
10	MS	Posthole	35 cm dia. and 35 cm deep. Burned on edge; probably near hearth
11	MS	Pit	100 cm x 100 cm x 20 cm deep
12	MS	Burial	Disturbed. Extended.
13	TC	Tree Disturbance	150 cm x 200 cm in extent
14	TC	Burial	Disturbed. Flexed(?)
15	TC	Burial	Disturbed. Flexed
16	TC	Burial	Disturbed. Flexed.
17	TC	Shell deposit	Circa 40 cm x 40 cm in extent
18	TC(?)	Burial	Disturbed. Flexed(?)
19	TC	Burial	Disturbed. Flexed.
20	TC	Pit	150 cm x 150 cm x 40 cm deep
21	TC	Burial	Disturbed. Point and 3 adzes in Burial Pit
22	TC	Earth oven(?)	Disturbed and in disc zone 200 cm x 300 cm in extent
23a	TC	Pit	110 cm x 110 cm x 45 cm deep
23b	TC	Pit	100 cm x 100 cm x 65 cm deep
23c	TC	Pit	100 cm x 100 cm x 40 cm deep
24	MS	Burial	Potted by tenant. Shell face gorget and other(?) artifacts associated
25	MS	Pit	100 cm x 100(?) cm x 10 cm deep
26	TC	Pit(?)	Disturbed. Salvaged by Jim McCarty

seemed to be part of a necklace. Only three beads were found in the field near fragmentary cervical vertebrae; the other six were recovered by fine screening the feature fill. Feature 21 contained disturbed human bone plus a lithic cache consisting of one point and three small bifaced transverse-edge tools (adzes?). The burial may have been disturbed by the Mississippian component, or possibly had been dug by a treasure seeker earlier in the twentieth century.

Pit Features

Six measurable, basin-shaped pits were recorded of the seven discovered. One (Feature 2) was small in size and five were relatively large, 1 m to 1.5 m in diameter and 40 cm to 60 cm deep. These five large pits averaged 322 liters in capacity, with a range of 183 to 530 liters. Undoubtedly the original pits were larger than these remnants recovered through archaeological salvage means and these values must be considered minimal. Volume was computed using the following formula: $Volume = \pi r^2 (depth - 1/3r)$ (Spears 1978: Figure k.2).

The most reasonable interpretation of function for those pits is food storage. The artifactual fill contained within them probably is coincidental and is most valuable as an indication of age, based on the latest artifacts recovered in them. In addition, larger, fragile artifacts probably represent primary deposition in contrast to smaller, fragile artifacts which would seem to have been moved about more often.

Storage of certain foodstuffs in pits is a reasonable expectation. While experimentation has primarily investigated domestic grain foods (Coles 1973:39-45), vegetables are storable as long as respiration of carbon dioxide occurs, causing the stored food to become dormant and hence preserved. The assessment of the value of these storage (?) pits to the inhabitants of the McCarty site would involve considerable experimentation in storage along the lines suggested by Coles (1973).

Possible Earth Oven Feature

Because a relatively large number of biconical pottery objects were in evidence during the salvage period, we expected to record at least one earth oven feature. However, the only observed possibility was completely disturbed by the disking and all that remained to be recorded was a tightly dispersed area of fire cracked rock and burned clay fragments (Feature 22).

Other Features

Feature 17 was a small deposit of mussel shell, probably discarded rather than cached or purposely placed at the base of a storage pit similar to later Woodland practices (Morse and Morse 1980). Feature 13 was a tree disturbance with mixed debris in the upper portion and only Tchula debris in the lower portions. The tree probably dates to somewhere between the two major site components, about 200 B.C. and A.D. 1000.

ARTIFACTS

Tables 7.2 and 7.3 list the 4,023 artifacts recovered at the McCarty site. Emphasis in this paper is upon the Tchula or Woodland related

Table 7.2. Pottery Sherds Recovered at the McCarty Site. F = Feature. T. P. = Test Pit Including feature. See Table 3 for category explanations.
 WD = Woodland MS = Mississippian

Category	F-1	F-2	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11	F-12	F-13	F-14-18	F-20	F-21	F-22	F-23	F-24	F-25	F-26	Total	Exc.	Total	Surf.	Total				
	T.P.			T.P.			T.P.			T.P.			T.P.			T.P.			T.P.			T.P.			T.P.			T.P.		
A-1	1	1							2		1	1	2		1	2	1	5	1	1		18	46	64						
A-2	6	9		6	2	1	4	12					47		1	6		71	1	1	1	68	552	720						
A-3	1	1						1					1			2	1	2				9	92	101						
A-4	3	17	3	7	8	11	8		8	20	8	8	21	4	4	8	2	4	4	2		30	1003	1133						
A-5		4	4	2			1		1								2	16		1		24	35	59						
A-6						1							2									3	4	7						
A-7		1					1						1					29				32	8	40						
A-8		1															1					2	0	2						
A-9												2						1				3	0	3						
A-10								1														1	9	10						
A-11																						0	5	5						
A-12		1		5	3		25	20		1	1	8	1			17		9		2		92	42	134						
B-1																						0	35	35						
B-2		1			2		4															7	247	254						
B-3																						0	8	8						
B-4		1					2			1												4	70	74						
B-5						1		1														2	1	3						
B-6																						0	1	1						
B-7																						0	2	2						
B-8																						0	2	2						
B-9								2	5													7	0	7						
C																						0	2	2						
Total WD	4	26	21	0	20	17	1	49	51	0	20	11	82	5	6	37	4	138	2	5	3	502	2164	2666						
D-1			1										1			1				1		4	33	37						
D-2			42	2	1	1	7		1	93		24				4				2		75	312	487						
D-3										8						1						11	3	14						
D-4		5								39		3								3		50	8	58						
D-5																						0	3	3						
D-6																						0	1	1						
Total MS	5	0	43	2	1	1	0	7	0	1	140	0	28	0	0	6	0	0	0	6	0	240	360	600						
TOTAL	9	26	64	2	21	18	1	56	51	1	160	11	110	5	6	43	4	138	2	11	3	742	2524	3266						

Table 7.3. Pottery Categories Used in Table 7.2.

A. Sandy/Sand-Grog Paste

1. Plain Rims
2. Plain Other
3. Cord Marked Rims
4. Cord Marked Other
5. Punctated Sherds
6. Noded Sherds
7. Tchefuncte Stamped
8. Cord Impressed Sherds
9. Incised Sherds
10. Net Impressed Sherds
11. Check Stamped Sherds
12. Eroded Sandy Paste Sherds

B. Grog Paste

1. Baytown Plain Rim
2. Baytown Plain Other
3. Mulberry Creek Rim
4. Mulberry Creek Other
5. Punctated Sherds
6. Cormorant Cord Impressed
7. Withers Fabric Marked
8. Incised Sherds
9. Eroded Grog Tempered Sherds

C. Other Woodland Sherds

D. Shell Paste

1. Mississippi Plain Rim
2. Mississippi Plain Other
3. Varney Red Rim
4. Varney Red Other
5. Cord Marked Sherds
6. Wickliffe Thick Upper Rim

artifacts. The following description is not meant to be exhaustive or definitive. At the end of this section is a brief description of the Mississippian assemblage. All artifacts are accessioned as 81-315 and are currently curated at the Arkansas State University Station of the Arkansas Archeological Survey.

Pottery

The two major categories of Woodland ceramics in the Central Mississippi Valley are grog (broken sherd) temper and sand temper. The near mutual exclusiveness of these two pastes geographically is most evident in the Baytown period, approximately A.D. 400 A.D.-700/800 (Morse and Morse 1980). It is a distinct possibility that these two pastes relate to major tribal differences in the Baytown period.

Continuity in sand tempered ceramics throughout the Woodland periods along the Western Ozark Highland Escarpment in southeast Missouri is evident. "The ceramics of this Middle Woodland substage are sand-tempered" (Price and Price 1981:479). The Tchula period in Ripley County, Missouri, and Randolph County, Arkansas, is "represented by sand-tempered ceramics as opposed to the clay tempered Tchefuncte series to the south" (Price and Price 1981:473).

This continuity is also evident to a certain degree in the eastern lowlands of southeastern Missouri. The grog tempered ceramics of the Burkett phase are restricted to the Cairo Lowland and the sand-tempered ceramics of the Pascola phase are restricted to the more western Little River drainage within the Braided stream topography west of Sikeston Ridge and east of Crowley's Ridge (Phillips 1970: Figure 443).

The McCarty site is located south of the Pascola phase, but within a generally similar environmental setting continuous with that of the Pascola phase. This continuity is reinforced by the abundance of sandy paste ceramics at McCarty. Fully 85% of the Woodland ceramics are either sand tempered or sand and grog tempered. The distinction between grog and sand-tempered pottery is not as straightforward as in the Baytown period, nor is the percentage of one category over another nearly as exclusive as in that later period. However, it is apparent that the closest affinity of McCarty is with the Pascola phase and that the Pascola and Grimes phases occupy the same basic geographical region later occupied by the Dunklin phase, characterized by sand-tempered ceramics, in the Baytown period.

The two major pastes at McCarty overlap to a considerable degree. Most of the sand and grog tempered pottery may simply be variations of a paste which emphasizes both sand and grog. The two "other" sherds are a possible fiber tempered body sherd and a sherd which evidently resulted from a firing accident. Examples of sherd pastes were submitted to Dr. James Stoltman (Department of Anthropology, University of Wisconsin) for cross-sectioning and for comparison to Tchefuncte ceramics.

Cormorant and Other Cord Impressed (Phillips 1970:77). Four sherds representative of a single broken small and deep bowl or jar were found at the McCarty site (Plate 7.1a). This vessel is typical of Cormorant Cord Impressed in exhibiting a complex decoration. The other two cord impressed sherds found exhibit respectively a single impression and two parallel impressions and are made on a very sandy paste.

The vessel is made on a very compact paste and the surfaces are highly polished. Remnants of a red film are apparent on the lip and on

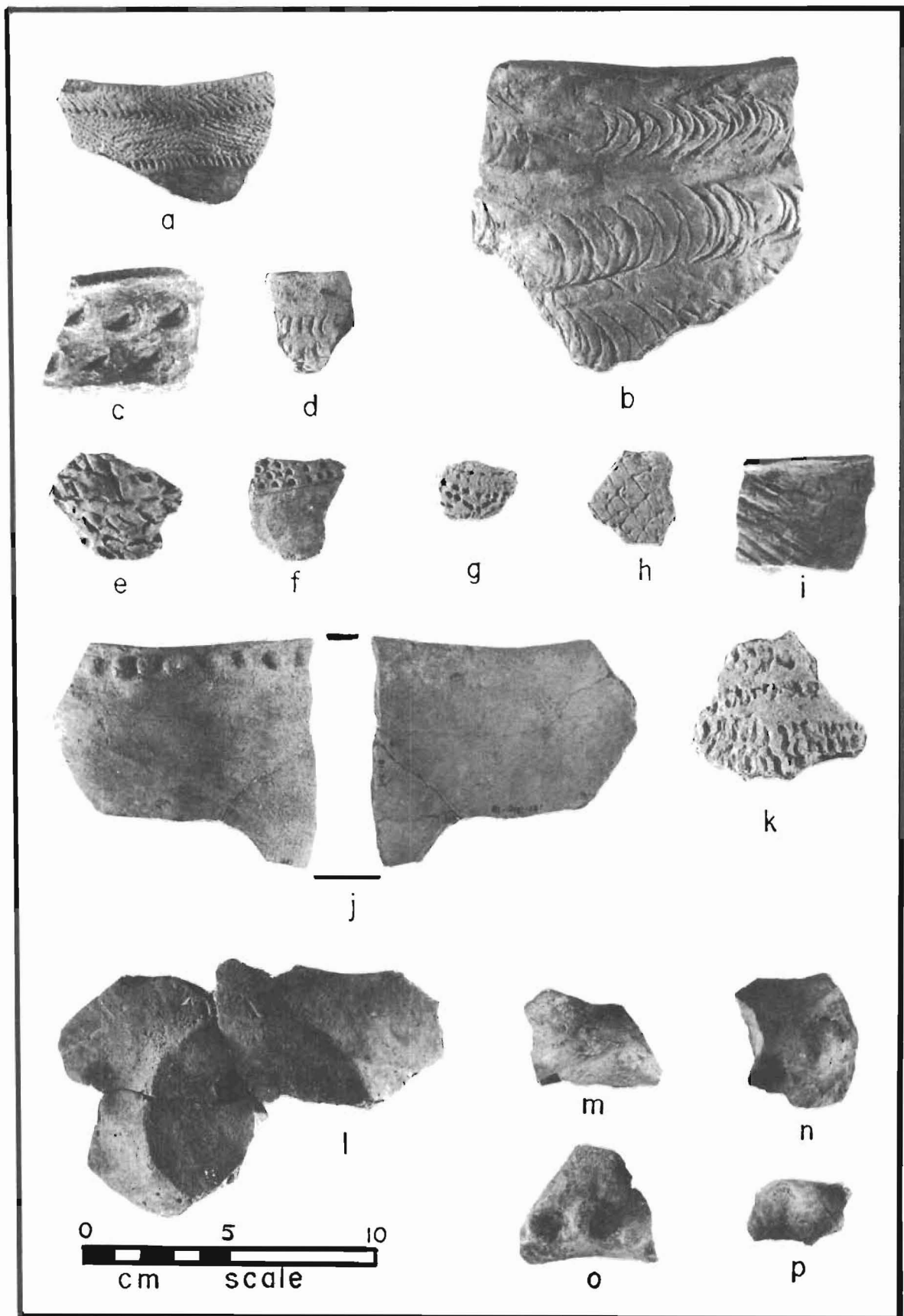


Plate 7.1. Ceramics recovered at the McCarty site. a, Cormorant Cord Impressed; b, Tchefuncte Stamped; c-g, i, punctated; h, net impressed; j, noded; k, fabric impressed; l, flat base; m-p, podal supports.

the thickened upper rim portion of the cord impressed design. The interior margin of the lip has short cord-impressed notches probably made by a cord-wrapped stick or dowel. The upper herringbone and the lower triangular motifs are bordered by punctations evidently made with the end of a cord-wrapped dowel. These punctations border the lower margin of the overall design and divide the thickened upper rim from the lower rim. This vessel shape and decoration is a forerunner of the "Hopewell rim" jars which appear in the succeeding Marksville period (Phillips 1970:119, 122). The freshly broken sherds belonging to this vessel indicate that a complete vessel probably was present before the recent grading. The sherds were collected near the center of the site at the edge of an apparent cemetery and probably represent grave furniture and/or ceremonial ware. A ceremonial function is typical of the later vessels with "Hopewell rims."

Tchefuncte Stamped (Phillips 1970:164-165). Although many of the sherds may have originated from one vessel, provenience variation was sufficiently high to indicate that this decorative style was popular. Horizontal bands of rocker stamping are characteristic and it appears that much of the vessel's exterior surface was involved (Plate 7.1b). Rim sherds indicate that relatively large jars constitute the vessel shape. Clay impressions of the decoration shown in Plate 1b indicate that a beveled disc-like instrument was used to make the design by rocking it back and forth across the vessel surface. The arc fits nicely with the anterior margin of a mussel shell (Quadrula quadrula) common to the St. Francis River. Experiments with a shell upon molding clay produced virtually identical impressions to that observed under a 10 power glass on the sherd.

Rocker stamping is most often associated with the ceremonial ware of the succeeding Marksville period. In the Tchula period, Tchefuncte Stamped evidently is associated with kitchen rather than ceremonial pottery.

Tammany and Other Punctated (Phillips 1970:97-98, 149-158, 161). The sandy pastes of some of these sherds make identification of the nature of the punctations very difficult. The large majority of the sherds appear to be typical of the type Tammany Punctated. Most punctations are deep enough to have thrown up a bordering hill of clay displaced by the penetration of the tool used. Rarely, triangular or circular punctations were observed. Normally, the punctations are in horizontal rows (Plate 7.1c-d, i). They are seldom haphazard (Plate 7.1e) or run into each other. Where it was possible to determine vessel form, jars were punctated, and with two cord marked exceptions, plain surfaces were decorated with punctations.

One sherd found on the surface is reminiscent of Orleans Punctated (Plate 7.1f). This unique sherd exhibits a narrow incision adjacent to the punctations. This single example of zoned punctation is the only zoned decoration found at the site. A lack of zoned decorated sherds is a major reason why this site is not classified as Marksville period.

Two sherds are classifiable as Lake Borgne Incised (Plate 7.1g). This is actually a linear punctate technique whereby an instrument is rhythmically jabbed as it is drawn across the vessel surface. It combines the basic technique of incising and punctation and results in a dentate-like decoration, particularly on eroded sand tempered sherds. The two sherds tentatively identified as Lake Borgne were found on the surface.

Tchefuncte Incised (Phillips 1970:161-162). A preliminary analysis of the collection did not reveal any incised sherds except for the zoned

punctated example. Because incising is an expectation, the collection was reexamined and three very small sherds with narrow parallel lines, one small sherd with a cross-hatched treatment, and a larger rim sherd from a bowl with cord wrapped stick notched interior lip and parallel horizontal wide lines on the exterior surface were discovered. This is still much less incising than expected given neighboring contemporary assemblages, which reflect incising as a prominent decorative technique. As with the other "types" named here, it is assumed for the present that the incised sherds can be ascribed to varieties of the type Tchefuncte Incised. I do not wish to imply that this is Tchefuncte pottery somehow transported to northeast Arkansas; the similarity is obvious, but only in the sense of horizon style. Determination of types and varieties will have to wait until larger samples from area sites with good context are recovered.

Withers Fabric Marked (Phillips 1970:174-175). While the type is well represented at some sites in northeast Arkansas, its virtual absence at the McCarty site indicates that Phillips is correct in dating the "peak" of the type to the Early Marksville period. Only two sherds were recovered at the McCarty site (Plate 7.1k).

Net Impressed. Several sherds exhibited a net impressed surface treatment similar to Yates Net Impressed (Phillips 1970:176). While Yates is characteristic of Baytown period sites located immediately west of Marked Tree, evidently net impressed sherds are also traits of earlier Woodland periods in the Central Mississippi Valley. Price (personal communication, March 3, 1981) tentatively includes net impressed pottery in the Grimes phase, so its presence at the McCarty site is not totally unexpected.

Check Stamped. This carved paddle decorative treatment is similar to Wheeler Check Stamped (Phillips 1970:170). However, Wheeler is characteristic of a much later time period in the Mississippi Valley. It is always possible that a paddle was traded into the region from elsewhere because check stamping is characteristic of contemporary assemblages in southern Alabama.

Noted or Embossed. On some vessels, nodes had been produced on the exterior surface immediately beneath the lip by pushing a dowel into the surface from the interior of the vessel. The McCarty site specimens are unusual in that the interior holes were covered with pottery clay before firing. Alexander ceramics from northern Alabama have similarly treated rim bosses (personal observation).

Cord Marked. Oddly, only 40% of the sandy paste pottery is plain, while almost 80% of the grog-tempered pottery is plain. Most plain pottery seems to be from bowls, while almost all cord marked pottery is from jars. These figures mean that most of the grog tempered pottery is from bowls.

Cord marked treatment varies quite a bit in terms of cord size, but for the most part the cords were relatively coarse (Plate 7.2a-h). Almost the entire exterior surface was involved. A standard jar form with a conical base (Plate 7.2m) is indicated by many sherds.

Plain sherds were evidently from decorated vessels or from bowls (Plate 7.21-1). Jar forms have flat bases (Plate 7.21). Often, podal supports were present (Plate 7.1m-p). These ranged from tetrapods (Plate 7.1n-p) to multiple lateral pods (Plate 7.1). This variation in podal support is characteristic of similarly dated complexes in northern Alabama (Wimberly 1960).

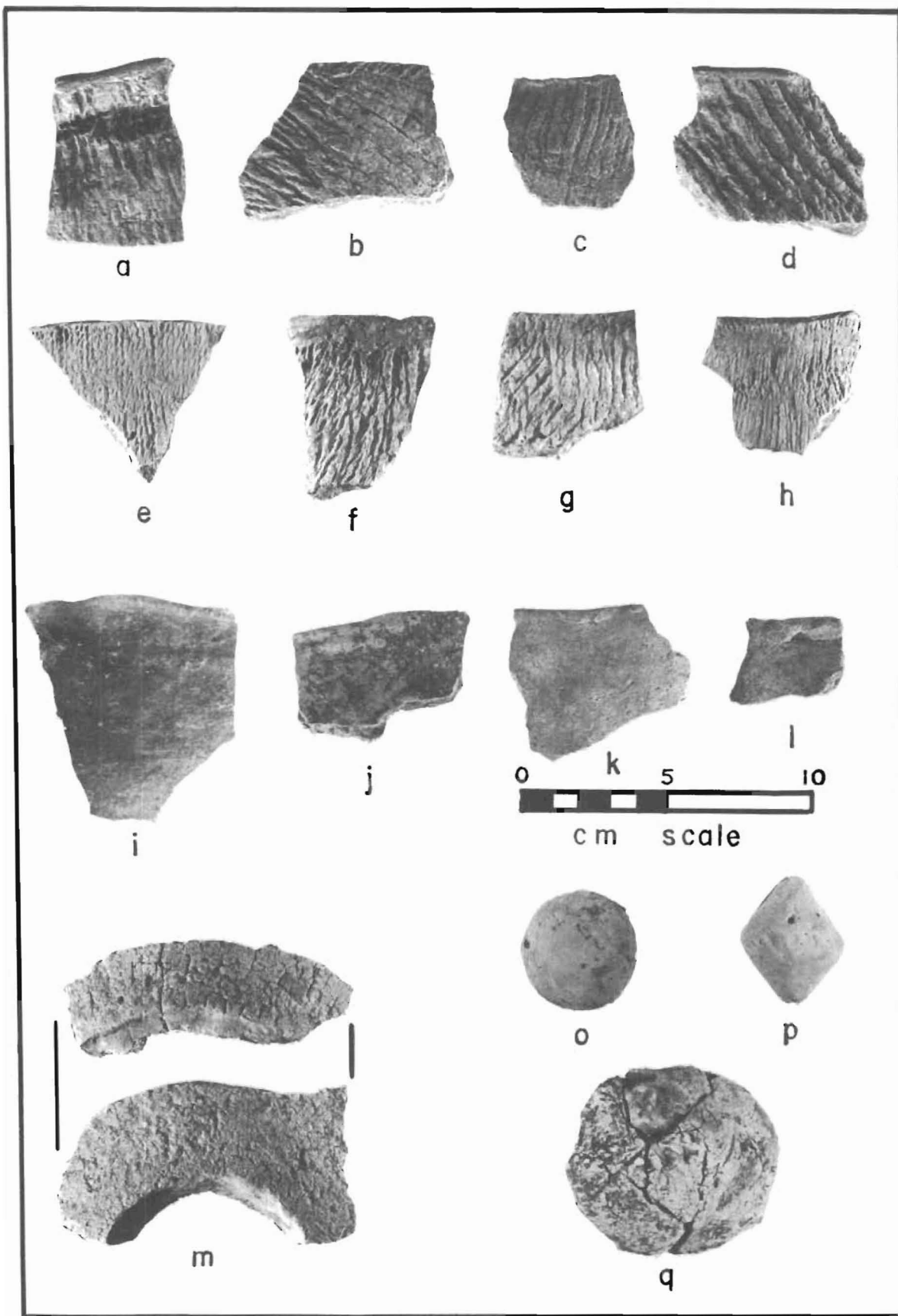


Plate 7.2. Ceramics recovered at the McCarty site. a-h, cord marked; i-l, plain; m, cord marked conical base showing coil break; o-q, biconical pottery objects.

While this pottery is well made, the potter was having some problems. Weight of paste dictated that the bases of larger jars should be flat or conical (Morse and Morse 1983). Welding of coils was not yet perfected as well as it would be later in time, and obvious coil breaks exist in the assemblage (Plate 7.2m). There is a great deal of restriction in basic shape and decoration, but the ceramics indicate that the inhabitants of the McCarty site were participating fully in the traditional pottery manufacture of the period and that this pottery industry anticipated the succeeding Marksville period to a significant degree.

Other Artifacts

This section will only involve those artifacts which are obviously on a Tchula period time level (Table 7.4). It is possible that artifacts will be omitted inadvertently from the discussion which are later discovered to be of that date. Conversely, it is also possible that some artifacts listed here date earlier or later than the Tchula period.

Biconical Pottery Object. Called Poverty Point Objects and Baked Clay Objects as well, all those found at the McCarty site are biconical in shape (Plate 7.2o-q). Those which are spherical evidently are in an eroded state and originally were biconical in basic shape. The variation seen in the Poverty Point period in northeast Arkansas (Morse and Morse 1983) was gone by the time of the McCarty site. In the succeeding Marksville period, these pottery objects tended to become more and more spherical (Morse and Morse 1983).

These biconical pottery objects almost certainly were used as the heating element in earth ovens. Fire cracked rock also constitutes an important heating element of cooking pits. Feature 22 evidently was an earth oven. An example of the biconical pottery object from McCarty was submitted to James Stoltman for cross-sectioning and comparison to Poverty Point and Tchefuncte examples.

Chert Projectile Points. One point is a Mississippian Schugtown type. The other 31 appear to belong to the Tchula component. By far the most numerous class is the Weems type (Plate 7.3a-d; Morse and Morse 1983). This is essentially a barbed, expanded stemmed point which is part of a major geographical horizon style dating between 1000 B.C. and 0. There were 14 Weems points recovered at the McCarty site including one from Feature 3.

Two McCarty points were found which are exaggerated Weems in the sense of expanded stems and barbs (Plate 7.3e-f). These two ovoid points exhibit squared corner notches, and one is even made on thermally treated Burlington chert. They are nicely made and evidently anticipate the succeeding Marksville period "Snyders point," most associated with burial activity in Illinois Hopewell (Montet-White 1968). McCarty points found in northeast Arkansas occasionally are significantly large. One found near Marked Tree and in the Arkansas State University Museum is shown in Figure 7.1g.

Other stemmed points may be variants of the Weems type. One narrow stemmed example made on Pitkin chert was found in Feature 21 (Plate 7.3h), and two wide stemmed examples were found on the surface (Plate 7.3i). These latter points are similar to what Chapman calls Rice Side Notched (1980:311).

Bulbous based and side notched points were also numerous at McCarty (Plate 7.3j). Ten were recovered including one in Feature 9. These may

Table 7.4. Other Artifacts Recovered at the McCarty Site. F = Feature. T.P. = Test Pit including feature. x = present; weighed rather than counted.

	F-1	F-2	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-11	F-12	F-13	F-14-18	F-20	F-21	F-22	F-23	F-24	F-26	Exc.	Surf.	Total	
	T.P.		T.P.		T.P.		T.P.		T.P.														
Biconical Pottery Object	1																						75
Elbow Pipe																							2
Perforated Pottery Disc																							2
Clay Plug (?)																							1
Pottery Coll																							6
Pottery Squeezes																							5
Fabric Impressed Clay																							5
Burned Clay																							2
Fire Cracked Rock	x																						16
Polished Chip																							10
Chert Point																							5
Chert Uniface	1																						37
Chert Biface																							8
Chert Adzes	1																						61
Chopper																							13
Lithic Debitage/Core	1																						2
Hammerstone																							387
Other Cobble Tool																							27
Abrader																							2
Stone Bead/Gorget																							15
Greenstone Celt																							2
Basalt Adz/Celt																							3
Antler Baton/Flaker																							1
Bone Awl																							2
Bone Point	2																						6
Raccoon Canine Pendant																							1
Perforated Mussel Shell																							2
Shell Mask Gorget	1																						2
Anculoosa Beads																							6
Red Ocher/Hematite																							2
Copper Beads																							2
Hematite Plummet																							1
Persimmon Seeds																							1
Nut Fragments	x	x																					4
Wood Charcoal																							4
Unworked Animal Bone	x	x																					4
Unworked Mussel Shell	x	x																					11
																							13
TOTAL ARTIFACTS	4	6	6	3	4	11	2	26	10	5	3	12	1	2	20	9	23	13	12	172	585	757	

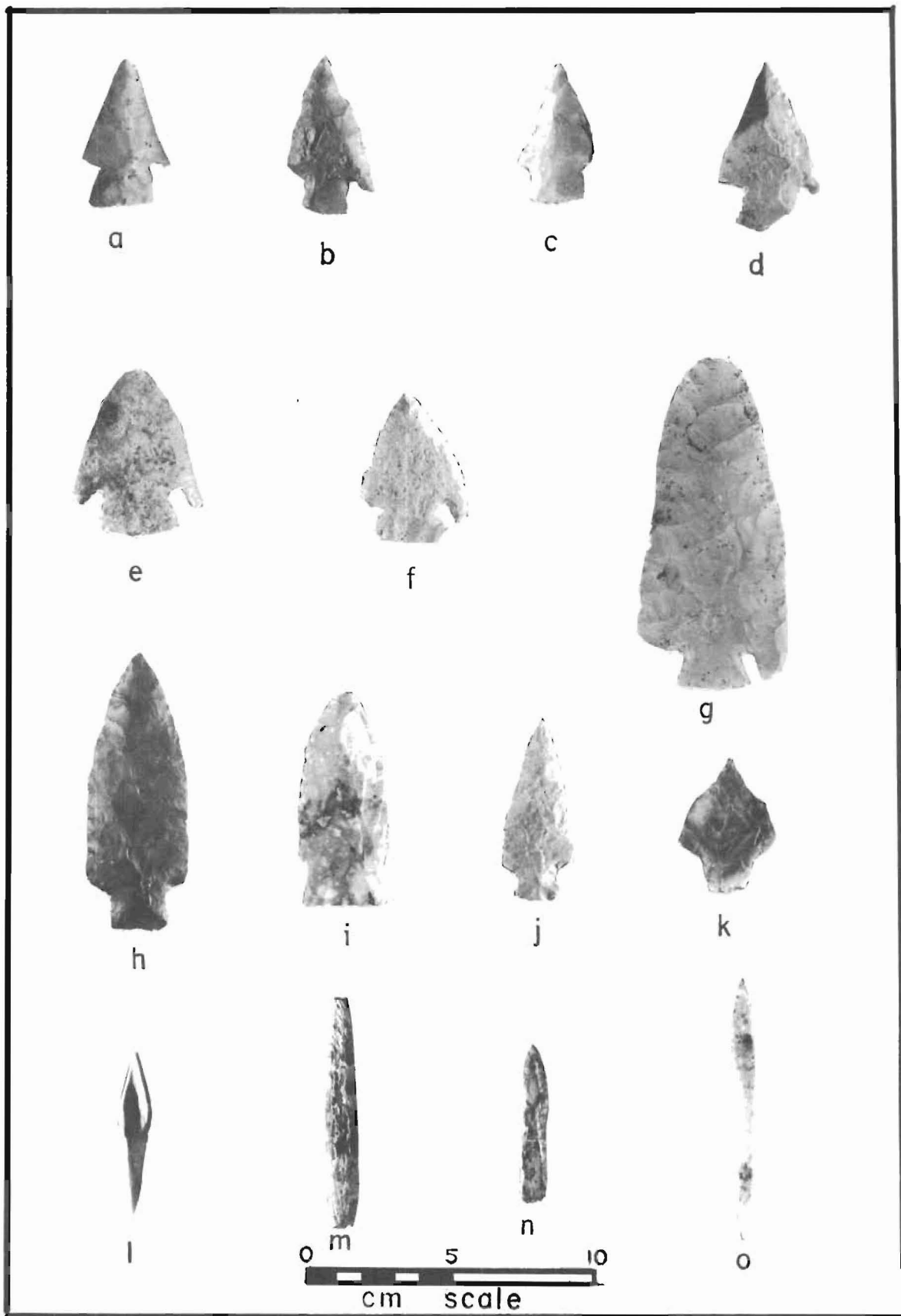


Plate 7.3. Chert and bone points recovered at the McCarty site. a-d, Weems; e-f, McCarty; g, McCarty point found near Marked Tree (Arkansas State University Museum cat. #16195); h-i, stemmed; j, side notched; k, contracting stemmed; l-o, bone points.

anticipate somewhat similar styles of points characteristic of the succeeding Marksville period (Montet-White 1968). Seven points are stemmed and similar to the Gary type (Plate 7.3k). One was found in Feature 8. Another was recycled into an awl or drill and is listed under the biface category. A fragmentary point found in Feature 9 was not classified.

Bone Points. Points made of bone were found during the McCarty salvage (Plate 7.3l-o) which are reminiscent of Late Archaic artifacts found elsewhere (Webb 1946). These clearly demonstrate a continuity from the Poverty Point period into the Tchula period. Other bone artifacts not figured, but which are probably Tchula in association, are the raccoon canine pendant and awl fragments. The two definite points were found on the surface (Plate 7.3l,n) and the two other "points" (classified in Table 4 as "awls") were recovered from Feature 2.

Basalt Adz. A heavy classic basalt adz was recovered from the surface (Plate 7.4a). Another basalt cutting tool, a celt, was similarly recovered and had been completely exhausted as a useable cutting tool. Basalt is available in the Ste. Francois Mountains, to the north of the Central Mississippi Valley. There is no evidence that basalt was being processed at the McCarty site, but the presence of this adz is a clear indication that heavy wood working was being accomplished there. The most logical function is use in the manufacture of dugout canoes.

Chert Adz. An example of the smaller wood working adz is shown in Plate 7.4b. These lighter tools may have been used to manufacture wooden bowls or in sculpturing items such as masks. Very little is known about the wood manufacturing of prehistoric Indians in the Central Mississippi Valley, but these tools should provide sufficient data for inferring such activities.

Greenstone Celt. An extraordinary discovery was a greenstone celt (Plate 7.4f). Greenstone is available in east-central Alabama and the celt evidently demonstrates trade from that region. The celt itself has never been used and provides the archetype form before resharpening reduces it to the usual Archaic/Woodland short celt form. Artifacts of this kind are very important in understanding lithic technology.

Hammerstones. A variety of hammerstones was recovered. An example of a chert core or chopper, probably recycled as a hammerstone, is shown in Plate 7.4d. Chert debitage and antler flakers demonstrate together with the hammerstones that lithic reduction was being accomplished at the site. Because screens were not used for recovery at the site due to the nature of the soil matrix, the recovered debitage represents only a fraction of that present.

Hematite Plummet. The midsection of a hematite plummet or plumb bob was recovered (Plate 7.4c). These are more characteristic of the Poverty Point period, particularly north of the Central Mississippi Valley. Plummetts are rare within the Central Valley at any time period. Other hematite fragments also were found at the McCarty site, but these appear to have been utilized for red paint. One may have been a preform for a plummet.

Stone Bead. A cylindrical chert bead, also more characteristic of the Poverty Point period, was recovered (Plate 7.4e). Evidently this bead was made from a portion of the core by-product resulting from the drilling of an atlatl weight. Because of this, the bead probably is an antique from an earlier time period, either an heirloom or simply found

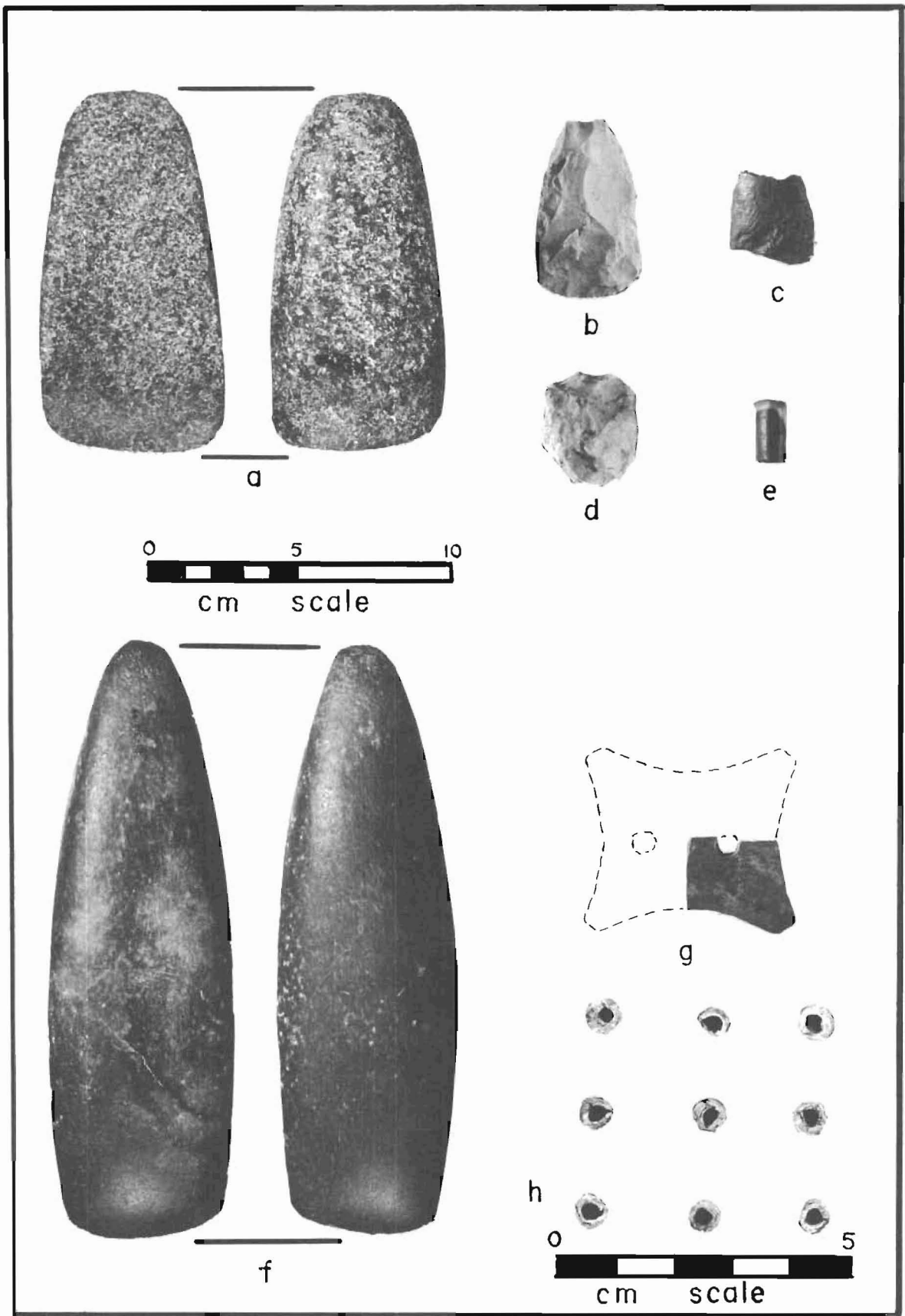


Plate 7.4. Other lithic and copper artifacts recovered at the McCarty site. a, basalt adz; b, chert adz; c, hematite plummet midsection; d, hammerstone made on chopper; e, chert bead; f, greenstone celt; g, limonite gorget fragment; h, copper beads (note special scale for beads).

by the inhabitants of the McCarty site somewhere else and carried to this location. The bead had been used for a long time, an observation based on the ground over chips on one end. Another bead is indicated by a minute novaculite chip with a ground surface recovered in the fine screened sample from Feature 8.

Stone Gorget. One-fourth of a reel-shaped gorget is made of limonite-like material (Plate 7.4g). The break to the left in the figure is lightly worn while the upper broken edge is clean and fresh-looking. These observations probably indicate the gorget was broken in half, but was still used until lost or broken still further. The perforation is drilled from one face rather than biconically from both. The reel-shape is not as pronounced as later (Copena in particular) gorgets, yet more pronounced than typical Late Archaic and transitional Archaic/Woodland (e.g., Red Ocher) gorgets. In other words, the shape is just about what is expected for the Tchula time period.

Copper Beads. Nine copper beads were discovered near the neck of a skeleton and in the fine screened sample recovered from the burial pit (Plate 7.4b). They are heavy and thick, an expectation of this early copper industry. Copper occurs in the Ste. Francois Mountains. The beads are made on a solid strip wrapped around a dowel with imperfectly welded ends. This discovery evidently constitutes the earliest copper recorded for Arkansas.

The Mississippian Assemblage

Mississippian shell-tempered sherds constituted 18.4% of the total sherd population in Table 7.2. Over 87% of the sherds are plain but plain rim sherds are only about three times as numerous as red filmed rim sherds. Both pan and jar forms are represented. A single Wickliffe Thick sherd together with this relatively high Varney Red representation indicates a final Early period Mississippian or at the latest an initial Middle period Mississippian assemblage. The guess date thus is bracketed by about A.D. 900 and A.D. 1050. The presence of shell tempered cord marked ceramics suggests the date is in the later portion of this range, because there was no cord marked pottery at the Zebree site (Morse and Morse 1980) and rare cord marked ceramics are characteristic of the Middle period Mississippian (Price and Griffin 1979).

A relatively early date is also indicated by the clay plugs, similar to Kersey pottery objects in the Early period Mississippian (Morse and Morse 1980). Polished chips (Mill Creek Chert and Illinois "Novaculite" for the most part), elbow pipe, perforated pottery discs, and Anculosa beads are not characteristic of a specific period within Mississippian. The shell mask gorget and a Schugtown point (Morse 1969) are characteristic of the Middle period Mississippian. A date of around A.D. 1000 - A.D. 1050 seems a conservative but appropriate date at this time.

The Mississippian component was represented by burials, storage pits, and evidently at least one structure in an area measuring approximately 500 m². Such sites are usually interpreted as farmsteads and support at least a single nuclear family (Smith 1978). This is a common type of site for the Early and Middle periods of Mississippian in the Central Mississippi Valley (Morse and Morse 1983).

THE TCHULA PERIOD AS SEEN FROM THE MCCARTY SITE

The McCarty site represents the first good assemblage of Tchula period artifacts found to date in northeast Arkansas. The ceramics, the earliest known for the Central Mississippi Valley, are not crude, but represent a highly skillful ceramic industry. It is primitive in relation to later pottery, but is comparable to Early Woodland pottery found elsewhere in the eastern United States. It is as good, if not better than Tchefuncte, Alexander, Black Sand, and other pottery of the same time period. Because of this and the evident anticipation of later Marksville period types in the assemblage, we suppose that this McCarty component dates relatively late within the Tchula period. This inference is supported in part by the lateness of the radiocarbon date.

Non-ceramic artifacts clearly indicate the transition between the Poverty Point and Marksville periods in the sense of continuity through time. This cultural continuity reinforces the sense of biological continuum so that new populations with innovative ways do not have to be hypothesized to explain the gradual cultural evolution reflected by those data at the McCarty site. Ceramics is the main observable new trait. Trade in exotic material and specific artifact types bridges the Poverty Point and Marksville expressions. This artifactual sophistication is reinforced by the sophistication of the site features at the McCarty site, particularly the cemetery and the burial of exotic burial furniture. The sophistication in artifacts and features negates the concept of an Early Woodland hiatus in cultural evolution in preparation for a Marksville "revolution."

REFERENCES CITED

- Boutton, Thomas W., Mark J. Lynott, and James E. Price
1983 Isotopic Analysis of Fossil Human Diet in Southeast Missouri and Northeast Arkansas. Paper being prepared for the XI International Congress of Anthropological and Ethnological Sciences, Vancouver, B.C.
- Chapman, Carl H.
1980 The Archeology of Missouri, II. University of Missouri Press, Columbia.
- Coles, John
1973 Archaeology by Experiment. Hutchinson, London.
- Ford, James A., and George I. Quimby, Jr.
1974 The Tchefuncte Culture, an Early Occupation of the Lower Mississippi Valley. Society for American Archaeology Memoir No. 2. Reprint Kraus, New York.
- Griffin, James B., and Albert C. Spaulding
1952 The Central Mississippi Valley Archaeological Survey, Season 1950: A Preliminary Report. In Prehistoric Pottery of the Eastern United States, edited by James B. Griffin. Museum of Anthropology, University of Michigan.

- Montet-White, Anta
 1968 The Lithic Industries of the Illinois Valley in the Early and Middle Woodland Period. University of Michigan Museum of Anthropology Anthropological Papers No. 35.
- Morse, Dan F.
 1967 The Robinson Site and Shell Mound Archaic Culture in the Middle South. Ph.D. dissertation, University of Michigan. University Microfilms, Ann Arbor.
 1969 The Schugtown Point. Arkansas Archeological Society, Field Notes No. 59:3-5.
- Morse, Dan F., and Phyllis A. Morse
 1983 The Archaeology of the Central Mississippi Valley. Academic Press, New York.
- Morse, Dan F., and Phyllis A. Morse (editors)
 1980 Zebree Archeological Project: Excavation. Data Interpretation, and Report on the Zebree Homestead Site, Mississippi County, Arkansas. Arkansas Archeological Survey. Submitted to the U.S. Army Corps of Engineers, Memphis, Contract No. DACW66-76-C-0006. Copies available from U.S. Army Corps of Engineers, Memphis.
- Phillips, Philip
 1970 Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Peabody Museum of Archaeology and Ethnology Papers No. 60.
- Phillips, Philip, James A. Ford, and James B. Griffin
 1951 Archaeological Survey in the Lower Mississippi Alluvial Valley, 1940-1947. Peabody Museum of Archaeology and Ethnology Papers No. 25.
- Price, James E., and Cynthia R. Price (editors)
 1981 Changing Settlement Systems in the Fourche Creek Watershed in the Ozark Border Region of Southeast Missouri and Northeast Arkansas. Center for Archaeological Research, Southwest Missouri State University. Submitted to Interagency Archaeological Services, Contract No. C35001.(79). Copies available from Interagency Archaeological Services, Denver.
- Price, James E., and James B. Griffin
 1979 The Snodgrass Site of the Powers Phase of Southeast Missouri. University of Michigan Museum of Anthropology Anthropological Papers No. 66.
- Smith, Bruce D.
 1978 Variation in Mississippian settlement patterns. In Mississippian Settlement Patterns, Bruce D. Smith (ed.) 479-503. Academic Press, New York.

- Spears, Carol S.
1978 The DeRossitt Site (3SF49): Applications of Behavioral Archeology to a Museum Collection. Master's thesis, Department of Anthropology, University of Arkansas, Fayetteville.
- Webb, William S.
1946 Indian Knoll. University of Kentucky, Reports in Anthropology and Archaeology No. 7:115-365.
- Weinstein, Richard A., and Philip G. Rivet
1978 Beau Mire: A Late Tchula Period Site of the Tchefuncte Culture, Ascension Parish, Louisiana. Louisiana Archaeological Survey and Antiquities Commission Anthropological Report No. 1.
- Williams, Stephen
1954 An Archaeological Study of the Mississippian Culture in Southeast Missouri. Ph.D. dissertation, Yale University. University Microfilms, Ann Arbor.
- Wimberly, Steve B.
1960 Indian Pottery from Clarke County and Mobile County, Southern Alabama. Alabama Museum of Natural History Museum Paper No. 36.

CHAPTER 8

AN ASSESSMENT OF ARCHAEOLOGICAL DATA FOR THE TCHULA PERIOD IN SOUTHEASTERN ARKANSAS

Martha Ann Rolingson and Marvin D. Jeter

Tchula period sites are difficult to recognize in southeastern Arkansas. At present, identification is based on a few diagnostic ceramic types and known sites are rare. Sites are located in the Ouachita River Valley and on an ancestral meander belt of the Arkansas River, now occupied by Bayou Bartholomew. Large portions of southeastern Arkansas have not yet been surveyed adequately, so the scarcity of sites may reflect the archaeological coverage rather than the real distribution.

"Southeastern Arkansas" is used here to encompass the southeastern quadrant of the state, drawing a line from Little Rock eastward to the Mississippi River near Helena and southward to the Louisiana state line near El Dorado. The rarity of Tchula period diagnostic artifacts in southeastern Arkansas suggests that there is considerable research to do before a review such as this can have much substance. In fact, there are only a few sites with a handful of diagnostic potsherds to discuss, or perhaps more appropriately, to debate. In this phase of investigation, there are few clues to site distribution or settlement pattern, to artifacts that may be diagnostic or characteristic, or to any broader cultural patterns such as subsistence, mortuary practices, and relationships to other phases or cultures in the Lower Mississippi Valley.

There are two geologic formations in southeastern Arkansas (Figure 8.1), the Mississippi Embayment and the West Gulf Coastal Plain, with a distinct north-south escarpment from Little Rock south to the state line (Haley 1976). Roughly conforming to this geologic division are six physiographic/archaeological regions (Davis 1982). On the West Gulf Coastal Plain are the Middle Saline and Felsenthal regions. The Felsenthal region is unusual, because while it is in the Ouachita River Valley in the Gulf Coastal Plain, it has an environment similar to that of the Mississippi Embayment. The archaeological patterns in the Felsenthal region also parallel those of the Lower Mississippi Valley. The Mississippi Embayment portion includes the Bartholomew-Macon, Arkansas River Lowland, Grand Prairie, and Lower White River regions.

The modern Arkansas River has a southeasterly course from Little Rock to the Mississippi River, but this is not significant for Tchula period prehistory. An ancestral meander belt of the Arkansas River, now occupied by Plum Bayou and Bayou Bartholomew, skirted the edge of the Gulf Coastal Plain, to join the Ouachita River near present-day Monroe, Louisiana, and then the Red River, before emptying into the Mississippi

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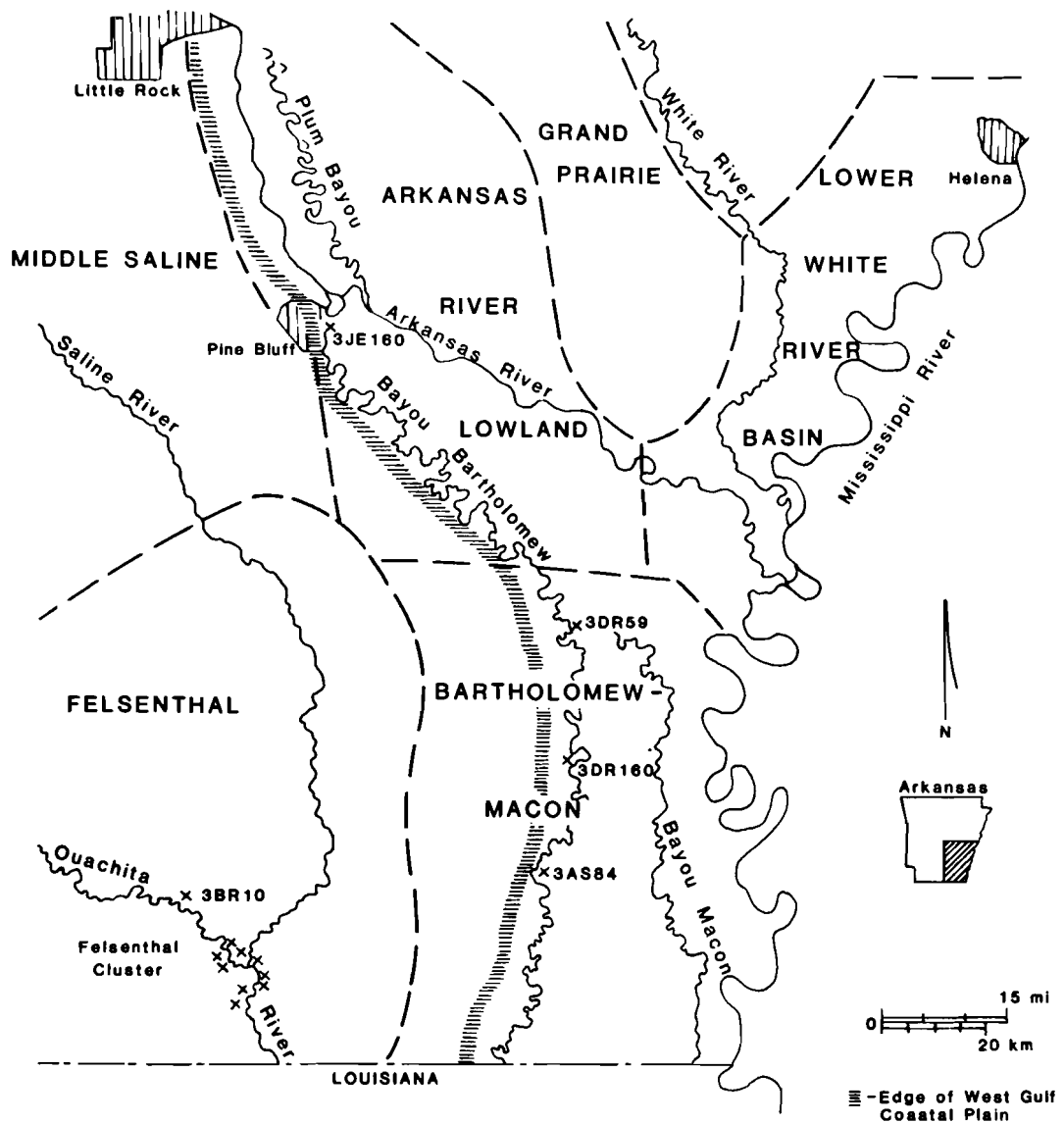


Figure 8.1 Map of southeastern Arkansas with location of the six archaeological regions and Tchula period sites.

River. Saucier (1974: Figure 3) has identified this Plum-Bartholomew course as the Stage 6 meander belt of the Arkansas River, dating roughly 1000 B.C. to A.D. 1000. The Ouachita River was, therefore, a tributary of the Arkansas River in this period.

The Phillips, Ford, and Griffin (1951:335-337, Figure 64) survey of 1940-1947 touched lightly on southeastern Arkansas and recorded no sites attributed to the Tchula period. Even the more recent overview of the Lower Mississippi Valley by Phillips (1970: Figure 443) showed a lack of knowledge for sites in this area. The present picture is scarcely better, even after 14 years of activity by the Arkansas Archeological Survey.

Based on the excavations at the Jaketown site in west-central Mississippi, Ford, Phillips, and Haag (1951:63ff) identified an assemblage of diagnostic ceramic types for the Tchula period. These include Alexander Incised, Wheeler Simple Stamped and Punctated, Tchefuncte Plain, Stamped, and Incised, Tammany Pinched, Lake Borgne Incised, and Jaketown Simple Stamped, and possibly Withers Fabric Marked (or Fabric Impressed) (Ford, Phillips, and Haag 1951:80) as well as fiber tempered wares and baked clay tetrahedrons. Traits absent at Jaketown, but thought to be characteristic of Tchefuncte culture, were tetrapodal supports on vessels, redware, and thickened rims of vessels (Ford, Phillips, and Haag 1951:75-6). No other artifacts were considered diagnostic of this period. The identification of sites as Tchula period in southeastern Arkansas is based on the presence of any of these diagnostics. The sites in southeastern Arkansas with Tchula period ceramics on them generally are not single component sites, and the amount of Tchula ceramics is quite low. Of the diagnostic ceramics, only some of the types occur some of the time. These sites are recorded in only three of the regions, Felsenthal, Bartholomew-Macon, and the Arkansas River Lowland, but information in general is less detailed in the other three regions. The sites are on the Stage 6 (Bartholomew) meander belt of the Arkansas River, and in the Ouachita Valley, so that the distribution may be reflecting selected environmental situations and not merely an uneven archaeological data base (Figure 1).

There is one site in the Arkansas River Lowland. The Roberts site (3-Je-159/160) (Jurney 1979) is located on a sandy point bar deposit of an abandoned Arkansas River channel just east of Pine Bluff. The site has a reasonably good Marksville component, but has only been surface collected. Ceramics include four Tchefuncte Incised, one Withers Fabric Impressed, seven Marksville Incised, and one Alligator Incised, var. Oxbow, as well as two biconical clay balls. The lithics are mostly cherts from local gravel, some novaculite, and some quartz crystal. Two projectile points are shallow barbed, expanded stemmed forms that are similar to the Edgewood and Ellis types (Suhm and Jelks 1962:184, 187), and to the Weems type (Morse and Morse 1983: Figure 6.2e, 7.8a).

There are three sites worth noting in the Bartholomew-Macon region, all near Bayou Bartholomew. First, and northernmost, is the Loggy Bayou site (3-Dr-59) (Birch 1971; Rolingson 1971; Weber and Webb 1970), located on an abandoned channel of the river. This site is somewhat puzzling. It consisted of a single quite distinct fire pit that was exposed by subsoil plowing. The pit had no cultural material around it and no habitation area could be found. It was packed with black carbonized soil, biconical and amorphous clay balls, and sherds. The sherds are Withers Fabric Impressed and Tchefuncte Plain. Typologically, the

pottery would indicate a Tchula period affiliation. Thermoluminescence analysis produced dates of A.D. 290 + 260 on the balls and A.D. 410 + 130 on the sherds (Weber and Webb 1970). These dates are later than was predicted when the sample was submitted and would put the site in the Marksville period. Stephen Williams (personal communication, 1982) states that the large size of the clay balls suggests a chronological placement during the Tchula period rather than Marksville period and that they are comparable to material from the Burkett phase in southeastern Missouri (Phillips 1970:876-877).

The second site in the Bartholomew-Macon region is the Sandy Hill site (3-Dr-160) on Bayou Bartholomew, southwest of Dermott. It is located on an old Arkansas River point bar deposit of exceptionally sandy soil. There is a low, wet area next to the site which is reported by local people never to go dry. The site was briefly visited by Jeter. Surface collections indicate that it consists of several scatters of artifacts for a few hundred meters along the sandy ridge line. Most of the artifacts are lithics and some probably Late Archaic points and novaculite debitage have been found. There is a small concentration of sherds, mostly Baytown Plain, in one area. Decorated sherds include one rim of Alexander Incised, comparable to var. Green Point (Phillips 1970:37), one Marksville Incised, and two Marksville Stamped. The site also produced a small, expanded stemmed, corner notched and barbed point resembling the Weems type found in both Late Archaic and Tchula period contexts in northeastern Arkansas (Morse and Morse 1983: Figure 6.2-e, 7.8-a).

Third is the Grampus or Lloyd's Bayou site (3-As-84) and adjacent sites. These are located on two abandoned channels of the Arkansas River, one (Lloyd's Bayou) older than the other (Lake Grampus), in far southeastern Arkansas. The Grampus site was test excavated in 1968 by Burney B. McClurkan, then Survey Archeologist at the University of Arkansas at Pine Bluff. The site appeared as a low mound, but proved to be a buildup of midden accumulation and point bar deposits. Two features were found, one a charcoal stain with masses of burned clay and the other a partial human burial.

The pottery included a small, restricted orifice jar of rather soft paste. The decorated sherds included one Tchefuncte Stamped, two Lake Borgne Incised, one each of zoned rocker stamped, line-filled triangles, Churupa Punctated, Mulberry Creek Cord Marked, and also a few unclassifiable sherds. There was one biconical clay ball. Surface collections from this and adjacent sites have produced other clay balls, hematite plummets, a sandstone gorget, and Late Archaic types of projectile points, such as Gary, Delhi, Macon, Motley, and Carrollton. Clarence Webb (1977:8) identifies a Poverty Point component at this site in his recent survey of site distribution.

The situation is quite different in the Felsenthal region, where ten sites have been recorded in the vicinity of the juncture of the Saline River with the Ouachita River. Here, the bottomland of the Ouachita River is 8 km wide, in contrast to the narrow valley both upstream and down. The Coon Island site (3-Br-10) is the type site for the Tchula period Coon Island phase (Schambach and Rolingson 1981:181). This site is located on an abandoned channel of the Ouachita River upstream from the mouth of the Saline River. The Coon Island site was tested ten days in January, 1972 by Rolingson and Schambach (Rolingson 1972a) and more extensively in the summer of 1973 by Joseph Lischka,

then Survey Archeologist at the University of Arkansas at Monticello. The artifacts have not been analyzed in detail nor a report prepared. The site is multiple component and ceramics range from Poverty Point through the Mississippi period. The Tchula period assemblage includes Tchefuncte Incised, Lake Borgne Incised, Tchefuncte Stamped, Tchefuncte Plain, and the distinctive Tchefuncte vessel bases (Schambach and Rolingson 1981:181).

Four sites with Tchula period ceramics were located during the 1971 site survey of the Felsenthal National Wildlife Refuge (Rolingson 1972b). The sites include Shallow Lake (3-Un-52), Disturbed Mound (3-Un-63), Bent Tree (3-Un-75), and Palmetto (3-Un-86). Each of these had a few sherds of either Tchefuncte Incised or Lake Borgne Incised present in the 1971 survey collections and two were subsequently tested, but without defining a Tchula period component stratigraphically (Lischka 1973; Rolingson 1972b; Rolingson and Schambach 1981:170, 181). These four sites are located on the edge of the Pleistocene age Deweyville terrace, some 10 m above the adjacent floodplain.

Additional site survey was carried out by Thomas Hemmings in 1980, with attention focused on the Ouachita and Saline River banklines (Hemmings 1981). He found 132 prehistoric seasonal camps, of which five had Tchefuncte ceramics, including False Indigo (3-As-285), River Birch 2 (3-As-321), Marie Saline (3-As-329), Eagle Creek 3 (3-Br-65), and Hunter's Swan (3-Br-70). Only the False Indigo site had an abundance (47 sherds) of Tchula period pottery with types Tchefuncte Plain, Tchefuncte Incised, and Lake Borgne Incised. Four of these components were buried under more than 50 cm of alluvial silts and would not have been exposed except for the cutting of the modern river.

The recent intensive archaeological work in the Felsenthal region has uncovered a cluster of Tchula period sites that distinguishes this from the other regions of southeastern Arkansas. There is still the question of whether this distinctiveness is a result of the intensive archaeology or reflects prehistoric differences. Frank Schambach identifies the Coon Island phase with Tchefuncte culture in the Felsenthal region, although this still requires confirmation. The basis for this identification is the presence of assemblages at several sites and the fact that Tchefuncte culture would not be out of place here because of the Lower Mississippi Valley environment (Schambach 1982). Schambach also recognizes Poverty Point culture in the Ouachita Valley. While Marksville pottery types occur in small percentages on a few sites in the Felsenthal region, Marksville culture has not been confirmed due to lack of adequate investigation.

The situation is different in the Bartholomew-Macon and Arkansas River Lowland regions. These two regions are linked by the fact that the Arkansas River meander belt followed the escarpment between the Mississippi Embayment and the West Gulf Coastal Plain during the Tchula period. Despite considerable archaeological investigation along the ancestral Arkansas River, only four Tchula period sites have been identified. Assuming that relative dating of ceramic types is reliable, then the scattered sherds are sufficient to suggest a human presence in this part of southeastern Arkansas during this period. Certainly the people did not produce an abundance of decorated pottery, but perhaps the lack of interest in decorating pottery, which is evident in later times in southeastern Arkansas, had an early beginning. Unfortunately, the sherds are most often found on sites with other components, primarily

Table 8.1. Tchula Period Ceramics from Southeastern Arkansas Sites.

<u>Region Site</u>	<u>Tchefunc</u> <u>Incised</u>	<u>Tchefunc</u> <u>Stamped</u>	<u>Tchefunc</u> <u>Plain</u>	<u>Lake Borgne</u> <u>Incised</u>	<u>Alexander</u> <u>Incised</u>	<u>Withers</u> <u>Fabric</u> <u>Marked</u>
Arkansas River Lowland						
Roberts (3-Je-159-160)	4					1
Bartholomew-Macon						
Loggy Bayou (3-Dr-59)			Present			Present
Sandy Hill (3-Dr-160)					1	
Lloyd's Bayou (3-As-84)		1		2		
Feisenthal						
Coon Island (3-Br-10)	Present	Present	Present	Present		
Shallow Lake (3-Un-52)	3					
Disturbed Mound (3-Un-63)	1					
Bent Tree (3-Un-75)				2		
Palmetto (3-Un-86)				1		
False Indigo (3-As-285)	18		9(?)	20		
River Birch 2 (3-As-321)	1(?)	1				
Marie Saline (3-As-329)	14					
Eagle Creek 3 (3-Br-65)		1				
Hunter's Swan (3-Br-70)		2				

Marksville period, and separation is not yet possible for other artifact classes. The full range of Tchula period pottery types is not present. Tchefuncte culture does not appear to be present in this part of southeastern Arkansas.

The occurrences of ceramic types diagnostic of the Tchula period in southeastern Arkansas are summarized in Table 8.1. Although the samples are small and unsystematically collected, it is perhaps worth noting again that the Tchefuncte culture types make a better showing in the Felsenthal region, and the more northerly types, Alexander Incised and Withers Fabric Marked, have only been found in the other regions.

Venturing briefly westward beyond southeastern Arkansas as defined here, we also note that some Tchefuncte pottery has been found farther up the Ouachita Valley, as far as the Cooper site (3-Hs-1) just north of Arkadelphia, and a site with Tchefuncte ceramics has recently been found in extreme northwest Louisiana, on a Red River cutoff lake just below the Arkansas line (Frank Schambach, personal communication). The Resch site (41-Hs-16) (Webb et al. 1969) in Harrison County, Texas, seems to mark the western limit of Tchefuncte pottery distribution, as presently known.

As yet, nothing can be said about subsistence, internal site plan, structures, or mortuary pattern in any of the regions. Perhaps the lack of sites in the Boeuf swamps, along Bayou Macon, in the northern half of the Arkansas River Lowland, and in the Lower White River basin is due to insufficient archaeological investigation. It is possible that sites are deeply buried both along the major river courses (as recently discovered along the Ouachita River) and perhaps also in what are now thought of as swamps (cf. the McCarty site in northeastern Arkansas reported by Dan Morse, this volume). If much of southeastern Arkansas was swampy, then perhaps the sites are primarily ephemeral fishing and collecting camps that will be extremely difficult to find and to identify.

REFERENCES CITED

- Birch, Clifton L.
1971 The Place. Arkansas Archeological Society Field Notes No. 74:6-8.
- Davis, Hester A. (editor)
1982 A State Plan for the Conservation of Archeological Resources in Arkansas. Arkansas Archeological Survey Research Series No. 21.
- Ford, James, A., Philip Phillips, and William G. Haag
1955 The Jaketown Site in West-Central Mississippi. American Museum of Natural History Anthropological Papers Vol. 45:1-164.
- Haley, Boyd R.
1976 Geologic Map of Arkansas. Arkansas Geological Commission, Little Rock.

- Hemmings, E. Thomas
 1981 Human Adaptation in the Grand Marais Lowland: Intensive Archeological Survey and Testing in the Felsenthal Navigation Pool, Ouachita and Saline Rivers, Southern Arkansas. Arkansas Archeological Survey Research Series No. 17.
- Journey, David H., Jr.
 1979 An Archeological Survey of the Proposed Pine Bluff Railroad Relocation Transect. Arkansas Archeological Survey. Submitted to Harland Bartholomew and Associates (Memphis). Copies available from Arkansas Archeological Survey, Fayetteville.
- McClurkan, Burney B.
 1968 The Grampus Sites, Ashley County, Arkansas. Ms. on file, Arkansas Archeological Survey, Fayetteville.
- Morse, Dan F., and Phyllis A. Morse
 1983 Archaeology of the Central Mississippi Valley. Academic Press, New York.
- Phillips, Philip
 1970 Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Peabody Museum of Archaeology and Ethnology Papers No. 60.
- Phillips, Philip, James A. Ford, and James B. Griffin
 1951 Archaeological Survey in the Lower Mississippi Alluvial Valley, 1940-1947. Peabody Museum of Archaeology and Ethnology Papers No. 25.
- Rolingson, Martha A.
 1971 Significance of the Birch Discovery. Arkansas Archeological Society, Field Notes 74:8.
- 1972a Preliminary Report on the Test Excavation at the Coon Island Site. Arkansas Archeological Society Field Notes 88:4-5.
- 1972b Report on the Preliminary Site Survey of the Felsenthal National Wildlife Refuge, 1971. Ms. on file, Arkansas Archeological Survey, Fayetteville.
- Rolingson, Martha A., and Frank F. Schambach
 1981 The Shallow Lake Site (3UN9/52) and its Place in Regional Prehistory. Arkansas Archeological Survey Research Series No. 12.
- Saucier, Roger T.
 1974 Quaternary Geology of the Lower Mississippi Valley. Arkansas Archeological Survey Research Series No. 6.
- Schambach, Frank F.
 1982 SW Study Unit 28: Coon Island Phase, Tchefuncte Culture, Tchula Period, Felsenthal Region. In Hester A. Davis (ed.),

A State Plan for the Conservation of Archeological Resources
in Arkansas, Part II, Research Study Units, 87-88. Arkansas
Archeological Survey, Research Series No. 21.

- Schambach, Frank F. and Martha A. Rolingson
1981 Conclusions. In Martha A. Rolingson and Frank F. Schambach
(eds.), The Shallow Lake Site (3UN9/52) and its Place in
Regional Prehistory, 177-203. Arkansas Archeological Survey,
Fayetteville Research Series No. 12.
- Suhm, Dee Ann and Edward B. Jelks
1962 Handbook of Texas Archeology: Type Descriptions. The Texas
Archeological Society and the Texas Memorial Museum, Austin.
- Webb, Clarence H.
1977 The Poverty Point Culture. Louisiana State University
School of Geoscience Geoscience and Man Vol. XVII.
- Webb, Clarence H., Forrest E. Murphey, Wesley G. Ellis, and H. Roland
Green
1969 The Resch Site, 41HS16. Harrison County, Texas. Texas
Archeological Society Bulletin 40:3-106.
- Weber, J. Cynthia and Clarence H. Webb
1970 Compilation of Recent Radiocarbon and Thermoluminescence Dates,
with Dominant Poverty Point Object and Projectile Point Types,
at Sites of the Poverty Point Complex. Southeastern
Archaeological Conference, Bulletin 12:102-103.

CHAPTER 9

TCHEFUNCTE OCCUPATION IN THE LOWER MISSISSIPPI DELTA AND ADJACENT COASTAL ZONE

Richard A. Weinstein

The Lower Mississippi Delta and its adjacent coastal zone are areas rich in sites containing Tchula period components. These components represent various Tchefuncte or Tchefuncte-like occupations stretching from the central Mississippi coast westward into east Texas. The past 40 years of Tchefuncte-related research in this area has led to the recognition of six areally, and possibly temporally, distinct phases. Individual phases can be distinguished by their differing ceramic assemblages, settlement patterns, burial practices, etc. Additionally, radiocarbon dates pinpoint a slow cultural shift westward, commencing with an eastern Pontchartrain phase occupation at about 300 B.C. and terminating in a western Clear Lake phase occupation at about A.D. 200.

INTRODUCTION

It has been almost 40 years since Ford and Quimby (1945) provided the first full description of the Tchefuncte culture in their now classic "The Tchefuncte Culture, An Early Occupation of the Lower Mississippi Valley." As most know, that study detailed the results of WPA-sponsored excavations at the Tchefuncte site (16-St-1), Big Oak Island (16-Or-6), and the Little Woods Middens (16-Or-1-5) situated around the eastern edge of Lake Pontchartrain in southeastern Louisiana. The report also discussed the excavation of what is believed to have been a Tchefuncte burial mound site, the Lafayette Mounds (16-Sm-17), in St. Martin Parish, Louisiana, and offered limited data on probable Tchefuncte components at Lake Louis (16-Ct-24), Bayou Rouge (16-Sl-3), and Copell (16-Vm-102).

Since Ford and Quimby's study, additional works have revealed Tchefuncte and Tchefuncte-like components to be distributed from Alabama to Texas along the Gulf Coast and up the Lower Mississippi Valley as far as southern Missouri. This paper will briefly review the more recent Tchefuncte-related studies of the coastal region and provide data on what is now beginning to emerge as a set of Tchefuncte or Tchefuncte-like cultural phases along the Central Gulf Coast. Many of these phases and their associated components have only lately been reported, and it is important to make their presence known to would-be investigators.

GEOGRAPHICAL SETTING

For the purposes of this paper, the area in question stretches along the Gulf Coast from the Alabama-Mississippi border to just west of Houston, Texas (Figure 9.1). Inland, the region covers the coastal marshes, bays, and southern margins of the Pleistocene Prairie terrace (known in Texas as the Beaumont).

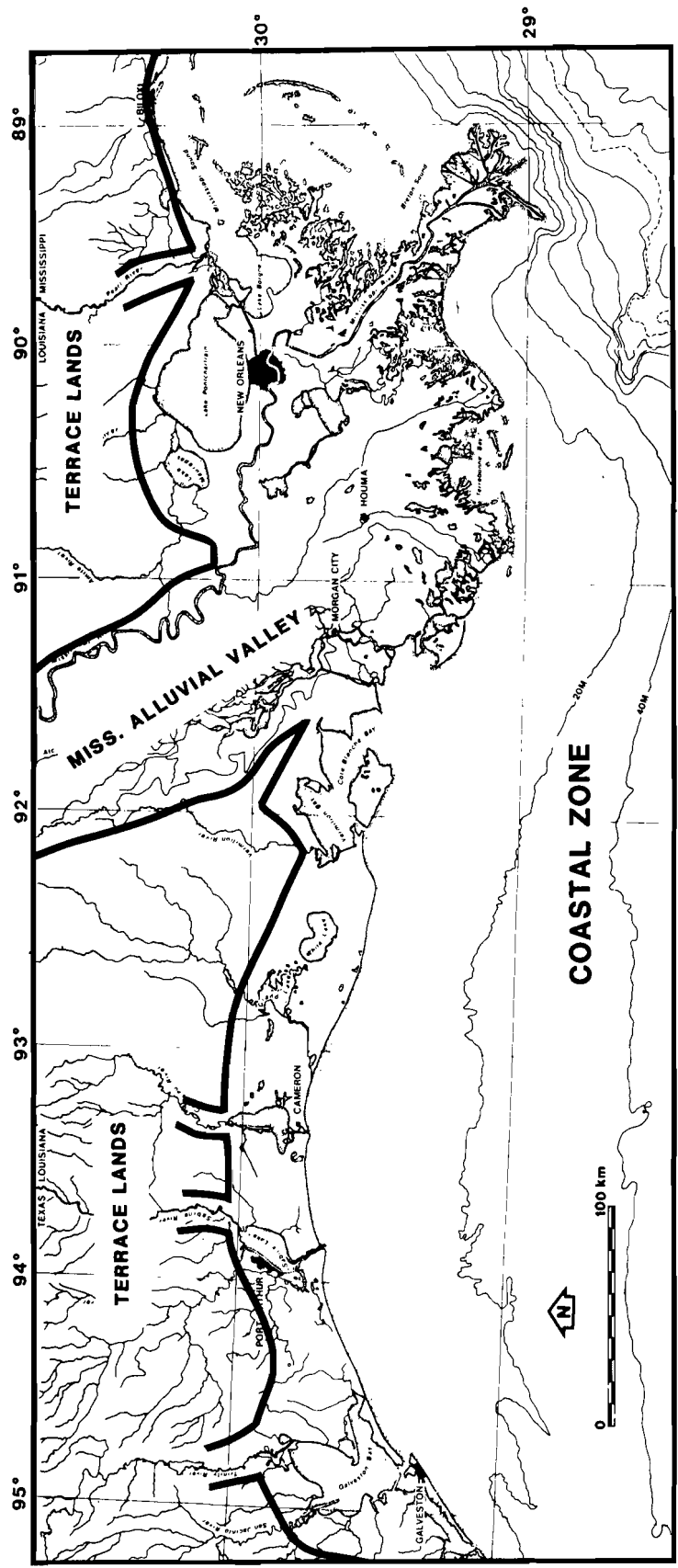


Figure 9.1. The Lower Mississippi Delta and adjacent coastal zone.

The lower delta portion of the study area is a highly dynamic unit both created and continually modified by the shifting courses of the Mississippi River. A recent study by Frazier (1974) has identified five major Mississippi Delta complexes, with an additional 16 separate lobes, that collectively form the deltaic plain (Gagliano et al. 1979).

While several of the delta lobes formed subsequently to the end of the Tchefuncte culture, estimated at about A.D. 1 for this portion of the study area, many of the most prominent lobes and their related delta complexes were either in existence or active during Tchula times. The Bayou Teche lobe, for example, on which is situated the Lafayette Mounds and associated Tchefuncte sites, was formed between approximately 5800 and 5000 years B.P. (Frazier 1974).

In the eastern portion of the deltaic plain several relict beach ridges, such as the Pine Island Beach Trend, were in existence prior to the development of the surrounding delta lobes. These beaches formed the base for several Tchefuncte habitation sites, such as Big Oak Island, and are believed to date between 5500 and 4500 years ago (Gagliano 1980). Once the Bayou Sauvage lobe of the Mississippi River moved into the area, the beach trend islands were surrounded by fresh and brackish water swamps and marsh and became highly attractive locations for settlement.

Eastward along the Mississippi coast, a series of similar barrier islands developed offshore from the mainland. These also contain Tchefuncte occupation sites, particularly Campbell Lagoon (22-Ha-537) near the mouth of the Pearl River estuary (Gagliano 1980: Figure 5-10).

Southwest Louisiana is noted for its series of cheniers or beach ridges which form a row of parallel highs across an otherwise flat expanse of marsh. These ridges developed as longshore currents moved shell and sediment westward, depositing the material during stable periods of shoreline growth. The oldest ridges, dated to about 3000 B.P. (Gould and McFarlan 1959), are situated farthest inland, while the youngest, some as recent as only 300 years, lie nearer the Gulf. Tchefuncte sites, such as Veazey (16-Vm-7 and 8) on the Pecan Island chenier, are known from these features.

Southwest Louisiana is noted also for its so-called "prairies." These are actually deltaic remnants of Pleistocene courses of both the Mississippi and Red Rivers. Although active about 100,000 years B.P. (Saucier 1974), these rivers have left natural levees and relict channels in numerous places across the region. Where the distal ends of these courses today meet the more recent Holocene marsh, they provide some of the highest and best suited land for settlement. Tchefuncte sites are known from these relict natural levees.

Southeast Texas is basically a mirror image of southwest Louisiana, containing similar marshes, cheniers, and relict Pleistocene-age Trinity River delta channels. Around Houston the present Trinity River valley has provided a series of relict channels and courses on which are situated many Tchefuncte-like sites (Aten 1983).

ARCHAEOLOGICAL BACKGROUND

Knowledge of coastal Tchefuncte sites and settlement has been aided by a steady stream of site reports, cultural resource surveys, specialized analyses, and regional syntheses. While it was not possible to examine all of the recent "contract archaeological" surveys conducted in

the study area, most of the published literature was reviewed along with some of the more important unpublished reports.

To begin, it should be noted that although Ford and Quimby (1945) first described the Tchefuncte culture, an earlier paper by J. Richard Czajkowski in 1934 was actually the first to report coastal Tchefuncte sites, the now well-known Little Woods Middens (16-Or1-5) in east New Orleans. Ford and Quimby incorporated into their 1945 study what little they could salvage of Czajkowski's data, for unfortunately the notes and provenience records were lost.

With the publication of Ford and Quimby's study, other archaeologists working in nearby coastal areas began to recognize similar, Tchefuncte-like material. Joe Ben Wheat (1947, 1953), while surveying the Addicks Dam Reservoir west of Houston, identified certain stamped pottery sherds as Tchefuncte (Aten 1983). Steve B. Wimberly, while involved in working up reports on WPA-sponsored excavations around Mobile Bay, realized that some of the pottery was very similar to Tchefuncte types (Wimberly 1953). This material was considered part of a ceramic assemblage termed "Bayou La Batre-Tchefuncte" (Wimberly 1960).

In the late 1950s and early 1960s several geographers and geologists in Louisiana were concerned with the role archaeological sites could play in helping to unravel the complex sequence of Mississippi River channels and delta lobes. Foremost of these was William G. McIntire who in 1958 produced a synthesis of coastal Louisiana geology and archaeology. McIntire (1958: Plates 12 and 13) noted 33 sites with Tchefuncte components, most of which were located in Orleans and Cameron Parishes, Louisiana. In 1963 Roger T. Saucier detailed sites in the Pontchartrain Basin of southeast Louisiana. His study discussed 12 sites with Tchefuncte components, principally in St. Tammany and Orleans Parishes. That same year Sherwood M. Gagliano (1963) noted four Tchefuncte sites in coastal Mississippi and Orleans Parish, Louisiana.

Harry Shafer provided additional information on Tchefuncte sites in Texas with a 1966 report on initial survey work in the Wallisville Reservoir, a segment of the Lower Trinity River valley. This was followed by additional Texas data from Ambler in 1967.

Two studies by Gagliano in 1967 provided the first attempt at formally recognizing specific Tchefuncte phases, although the earlier Ford and Quimby (1945) and McIntire (1958) studies identified significant clusters of Tchefuncte sites. Gagliano (1967a, 1967b) suggested that coastal Tchefuncte be divided into an eastern Pontchartrain phase, formed around shell middens at the Tchefuncte site (16-St-1), Big Oak Island (16-OR-6), and the Little Woods Middens (16-Or-1-5); a central Teche phase, based on the Lafayette Mounds (16-Sm-17) and other mound sites on Bayou Teche; and a western Grand Lake phase, based on McIntire's cluster of shell middens around Grand Lake in Cameron Parish.

Towards the close of the 1960s Lawrence Aten and Charles Bollich (1969) published a short article detailing a suggested chronology, based on ceramics, for the Sabine Lake area of Louisiana and Texas. This study provided the first firm evidence that Tchefuncte ceramics existed in the Sabine Lake region.

The 1970s may be considered the most important decade yet in the understanding of Tchefuncte culture. The advent of contract archaeological studies and the publication of Phillips' 1970 synthesis of the Lower Mississippi Valley became the basis for the renewed and

refined methods of dealing with cultural variation. Phillips reworked the 1945 Ford and Quimby classification of Tchefuncte ceramic types into the type-variety system. This system has been employed since that time by almost every worker who has had the occasion to study Tchefuncte ceramics, and has led, in several instances, to the recognition or clarification of Tchefuncte cultural phases. In fact, one of Phillips' contributions was the revised grouping of Tchefuncte components into the three coastal phases proposed by Gagliano (1967a, 1967b). Phillips, however, changed the name of Gagliano's Teche phase to the Lafayette phase, in recognition of the importance of the Lafayette Mounds site. Overall, Phillips identified 15 components in the Pontchartrain phase, eight in the Lafayette phase, and five in the Grand Lake phase.

Research on the peripheries of the Tchefuncte region continued in the early 1970s. Studies by Ambler (1970, 1973) identified several more Tchefuncte-like components in the Lower Trinity Valley of Texas, while work by Trickey and Holmes (1971) provided the first radiocarbon dating of a Bayou La Batre component in the Mobile Bay area.

By the mid-1970s research emphasis began to shift toward the Tchefuncte core area of coastal Louisiana. Excavations by Robert W. Neuman at the Morton Shell Mound (16-Ib-3) in Iberia Parish, by Gagliano and later J. Richard Shenkel at Big and Little Oak Islands (16-Or-6 and 7) in Orleans Parish, and by Jon Gibson at several sites near Lafayette, all began to provide data for specialized studies and regional interpretation (Byrd 1974, 1976a, 1976b; Gibson 1974; Shenkel 1974, 1979; Shenkel and Gibson 1974; and Shenkel and Holley 1975). Perhaps most significant of these studies was that of Gibson (1974) in which the Lafayette phase, until then only a vague entity, was more clearly defined and 11 components recognized. Shenkel's (1974) and Shenkel and Holley's (1975) reports on Big and Little Oak Islands were also a milestone in adding important new data on the Pontchartrain phase. During the same period, Philip G. Rivet (1973) offered a reanalysis of Tchefuncte pottery from the Tchefuncte site, utilizing the type-variety classification system.

During the mid to late 1970s several survey reports, most due to contract archaeological requirements, began to provide additional Tchefuncte components (Brown, Fuller, and Lambert-Brown 1979; Brown and Lambert-Brown 1978a, 1978b; Gagliano, Weinstein, and Burden 1975; Gagliano et al. 1979; Gibson 1976a, 1976b; Neuman 1977; Neuman and Servello 1976; Weinstein 1974; and Weinstein, Burden, and Gagliano 1977). These reports combined to offer information on 99 Tchefuncte components within Louisiana. Several of these studies, such as Gibson's (1976b) survey of the Vermilion River and Brown, Fuller, and Lambert-Brown's (1979) survey of the marshes of Iberia and Vermilion Parishes, provided data on sites within the Lafayette and Grand Lake phases, respectively.

Additional Louisiana site-related data were contributed by Bonnin and Weinstein (1975, 1978) who described a Tchefuncte component at the Stroke site (16-Jd-10) on the Prairie Terrace in Jefferson Davis Parish and by Toth (1977), who identified several components in the Lower Mississippi Delta. Perhaps one of the more interesting of these was a study by Weinstein and Rivet (1978) which concerned the analysis of an almost pure Tchefuncte assemblage from the Beau Mire site (16-An-17) in Ascension Parish. This research led to the formation of the Beau Mire phase, of which more will be related shortly.

Work in Texas continued in the mid to late 1970s. In 1975 Dillehay reported on excavations at several sites in the Trinity River delta. Four of these contained Tchefuncte-like components. Aten et al. (1976) provided data on the Harris County Boys School site (41-Hr-80 and 85), the first major excavation to yield a relatively large sample of Tchefuncte ceramics. The Texas data recently have been synthesized and bolstered by Aten (1983). This study has brought together all known information on east Texas coastal archaeology, and has devoted much of its effort to incorporating the Texas coast ceramics into the type-variety system. A chronological framework, based partly on the earlier study by Aten et al. (1976), places the Tchefuncte-like components of the area into the Clear Lake period (Aten 1983). Six Clear Lake sites are identified and excavations at each discussed. Two additional Tchefuncte sites are noted from the Sabine Lake area, but are not assigned to the Clear Lake period.

To the east, in Mississippi, there appeared only one report on a Tchefuncte component: a short article by Geiger (1975) on Tchefuncte ceramics recovered from Point aux Chenes near Pascagoula. What is most interesting about this is that Geiger makes no mention of any Bayou La Batre ceramics at the site, suggesting that good Tchefuncte pottery extends almost to the Bayou La Batre core area before any blending of the two assemblages occurs. The identification of the geographical line between Bayou La Batre and Tchefuncte (if such a line exists) is one of the future research endeavors that needs to be conducted.

In the 1980s several new studies have further advanced our knowledge of coastal Tchefuncte culture. Gibson (1982) has added data on two sites within the Atchafalaya Basin of south-central Louisiana, while Aten and Bollich (1981) have offered intriguing information on a Tchefuncte component at the Pipkin Ranch B site (41-Jf-31), a pimple mound at the edge of the southeast Texas marsh.

Perhaps most significant of these studies is Shenkel's (1980) culminating report on the past decade of excavations at Big and Little Oak Islands. The study follows a "cultural ecological" approach and attempts to define Pontchartrain phase Tchefuncte in relation to the exploitation of selected resources, the most important of which was the clam *Rangia cuneata*. In the study data are presented on Tchefuncte burials, possible Tchefuncte house structures, ceramic vessel morphology, and a lithic analysis by James Morehead (1980). The last, the first complete analysis of coastal Tchefuncte lithics, includes reduction strategy and functional interpretations.

A recent paper by Gertjerjansen (1982) may be one of the most enlightening of all. Modern ceramic vessels were created out of local Pontchartrain Basin clays in an attempt to identify the cause for the well-known laminated quality of Tchefuncte paste. It was found that the clay was not wedged, but rather taken from the ground as collected and then rolled into coils before forming the vessel.

COASTAL TCHEFUNCTE PHASES

Following the above review, it is now possible to look more closely at specific coastal Tchefuncte and Tchefuncte-like phases (Figure 10.2). Because Bayou La Batre is now recognized as a separate culture (Walthall 1980), it will not be discussed. It should be noted that illustrations of sites and artifacts were chosen from those which have not been

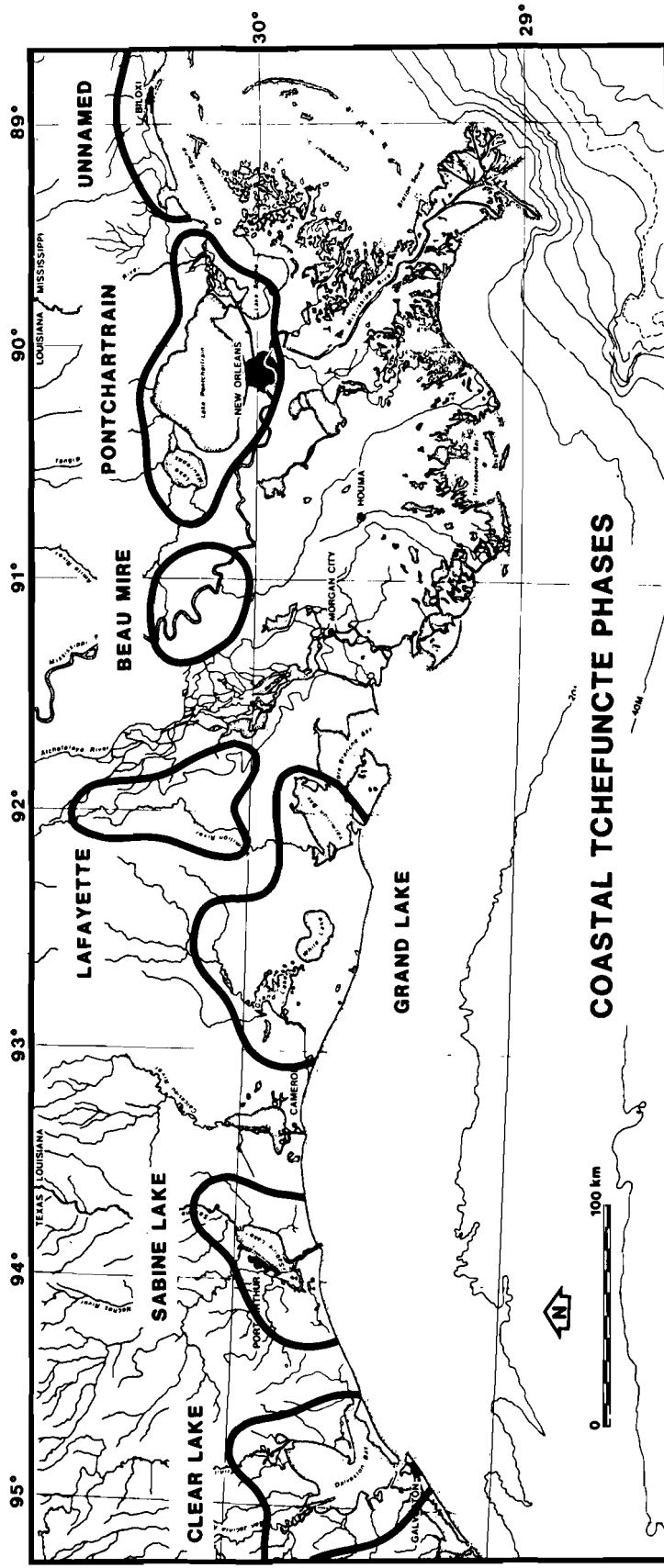


Figure 9.2. Coastal Tchefuncte and Tchefuncte-like phases.

previously published, or those published only as drawings. For the illustrations of the more common artifacts, particularly the various ceramic types and varieties, the reader is directed to the references cited. It is hoped that this will avoid repetition and make the discussion below more interesting.

Pontchartrain Phase

Beginning with Czajkowski's 1934 excavations at the Little Woods Middens, continuing with the Big Oak and Tchefuncte site excavations reported by Ford and Quimby (1945), and culminating with Shenkel's (1974, 1979, 1980) and Shenkel and Holley's (1975) reports on Little and Big Oak Islands, sites of this phase have received the greatest amount of exploration of any Tchefuncte grouping in the coastal zone. When the Bayou Jasmine site (16-Sjb-82), which was recently excavated by Neuman but is not yet reported, is included, the quantity of potential Pontchartrain data is impressive.

The sites are deeply stratified shell middens, almost exclusively composed of the clam Rangia cuneata. The Tchefuncte site consisted (in 1940) of two middens about 150 and 250 feet long by about 100 feet wide. Plate 9.1 shows the site as it appeared during initial clearing and staking in December 1940. The Little Woods sites were slightly smaller middens which had been damaged badly by shell dredging operations (Plate 9.2). In 1939 Preston Holder reexcavated the sites, but failed to find any significant undisturbed areas (Plate 9.3).

Big Oak Island is a large, crescent-shaped midden situated in the marshes of eastern New Orleans. In 1939, it was accessible only by pirogue (Plate 9.4). Little Oak Island is a circular midden similarly located in the marshes of eastern New Orleans. In 1939 it was much the same as it is today.

Ceramics from these sites long have been used to define the Pontchartrain phase. The most significant ceramic aspect is the presence in the assemblages of sandy paste and sand-tempered types and varieties. Many of these are mirror images of the well-known Alexander Series wares from the Tennessee and Tombigbee Valleys. Varieties of O'Neal Plain, Alexander Incised, Alexander Pinched, and Smithsonia Zone Stamped make up the Alexander Series. Chinchuba Brushed probably can be included with these because it occurs on paste similar to the Nott variety of O'Neal Plain.

Sandy paste sherds, which originally were included in a "Mandeville Series," have since been relegated to varieties of Tchefuncte Series types (Weinstein and Rivet 1978). These have the same poorly wedged, laminated paste as the Tchefuncte wares, with the addition of slight amounts of sand. Examples of these are Mandeville Stamped, var. Mandeville, a linear dentate stamping; Tchefuncte Plain, var. Mandeville; Tammany Punctated, var. Cane Bayou; Lake Borgne Incised, var. Ponchitolawa; Tchefuncte Stamped, var. Lewisburg; and Tchefuncte Incised, var. Abita Springs (Ford and Quimby 1945; Weinstein and Rivet 1978).

Associated with the above wares are a host of varieties of the original Tchefuncte Series. Discussions of these have been provided in Weinstein and Rivet (1978), with several additions by Shenkel (1980). Specifically, these include varieties of the types Tchefuncte Plain, Tchefuncte Incised, Tchefuncte Stamped, Tammany Punctated, Orleans



Plate 9.1. The Tchefuncte site (16-St-1) staked and ready for excavation. View to the west-northwest, January 10, 1941. Photograph by Edwin B. Doran.



Plate 9.2. One of the Little Woods Middens (16-0r-1), showing the mutilated condition of the site. View to the north, July 12, 1939. Photograph by Preston Holder.



Plate 9.3. One of the Little Woods Middens (16-0r-3) undergoing excavation. View to the northwest, July 28, 1939. Photograph by Preston Holder.



Plate 9.4. Poling a pirogue towards the Big Oak Island site (16-0r-6), November 1939.

Punctated, Lake Borgne Incised, Tchefuncte Red, Tchefuncte Cord Impressed, and Tchefuncte Bold Check Stamped.

Other significant Pontchartrain phase artifacts are the relatively common clay, tubular pipes (Plate 9.5), bone points (Plate 9.6), and an array of dart points (Plate 9.7). Originally classified as Type SH 1-A (Ford and Quimby 1945:32-33), A through G and J (in Plate 9.7) now would be classified as Pontchartrain projectile points, while H and I possibly would be classified as Kent projectile points. Poverty Point objects found at the Tchefuncte site and Little Woods Middens (Ford and Quimby 1945) may be holdovers into the Tchula period.

Numerous burials have been recorded from Pontchartrain phase sites. All were in shallow pits and lacked grave goods. Of the 43 burials at the Tchefuncte site, 21 were flexed (Plate 9.8), while 22 were secondary bundle burials (Ford and Quimby 1945:26). At Big Oak Island, Shenkel (1980) has reported two intact and at least 29 scattered individuals. While it was not possible to identify all 29 scattered burials as Pontchartrain phase interments, because Marksville ceramics were incorporated in the surrounding midden levels, Shenkel (1980) suggests that these individuals may represent a mass cemetery.

Two of the more interesting finds at Little Oak Island were what Shenkel and Holley (1975) and Shenkel (1980) have interpreted as Tchefuncte houses. Post molds were found in two areas on the site, but no patterns could be recognized. One set of post molds did, however, cover an area of about 6 m by 8 m (Shenkel 1980:23, Figures 9 and 10).

A relatively abundant number of radiocarbon dates is available on Pontchartrain phase Tchefuncte. These include a date of 2200 ± 100: 250 B.C. from the Tchefuncte site and the dates of 1900 ± 110: A.D. 50 and 1430 ± 100: A.D. 520 from the Bayou Liberty site (16-St-12) (Ford and Webb 1956:121). The latter is almost certainly contaminated. Shenkel (1974, 1980) notes dates of 2470 ± 65: 520 B.C., 2220 ± 200: 270 B.C., and 2185 ± 70: 235 B.C. from Big Oak Island and 2165 ± 70: 215 B.C. from Little Oak Island. Two additional dates of 2160 ± 115: 210 B.C. and 2040 ± 105: 90 B.C. are reported from a mixed Tchefuncte-Marksville context at Big Oak Island (Shenkel 1980: 27). Both may be good Tchefuncte dates. Although Shenkel considers the 520 B.C. date as acceptable, it may, in fact, be several hundred years too early. If one disregards that date and the A.D. 520 date from the Bayou Liberty site, then a tight time range of ca. 300 B.C. to A.D. 50 emerges.

In his Big and Little Oak Island study, Shenkel (1980) provides several hypotheses worth discussing. Based on the fact that Little Oak Island, when compared to Big Oak, contained a much greater amount and diversity of ceramics and lithics, lacked the tremendous quantity and depth of shell, and contained far fewer burials, Shenkel argues that Big Oak served as a special activity, shellfish-gathering station and cemetery, while Little Oak was a base camp. Data from faunal, floral, and pollen analysis indicate that Little Oak was inhabited as a base camp for the entire year.

Overall, the Pontchartrain phase consists of large and moderately sized shell middens ringing Lake Pontchartrain. Ceramics contain sandy paste and Alexander Series wares which serve to aid in separating the phase from nearby coastal phases. Other differences in ceramic types and varieties and related percentages help identify Pontchartrain sites. One of the major tasks confronting archaeologists dealing with Pontchartrain sites is separating the phase chronologically. To date it

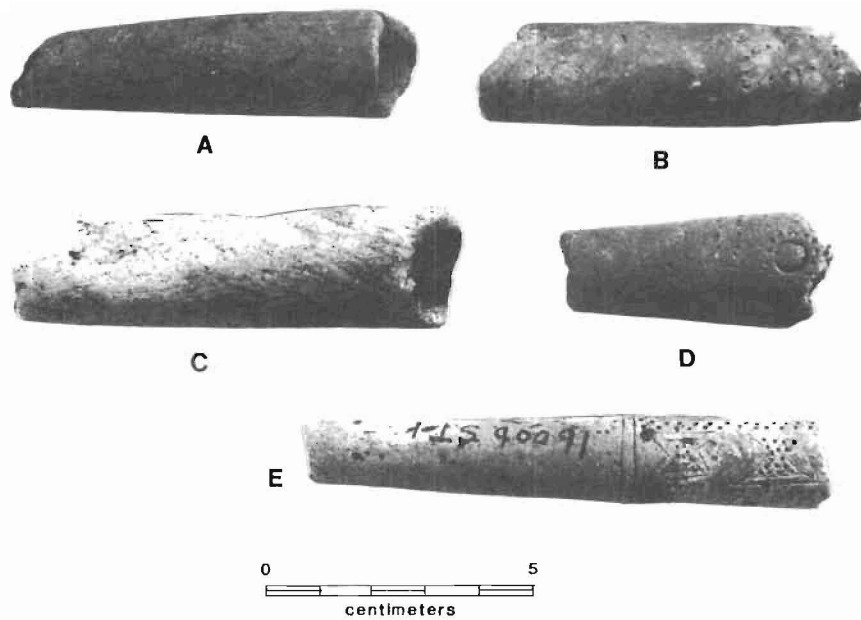


Plate 9.5. Clay tubular pipes from the north midden at the Tchefuncte site (16-St-1). Printed from negative dated March 24, 1941.

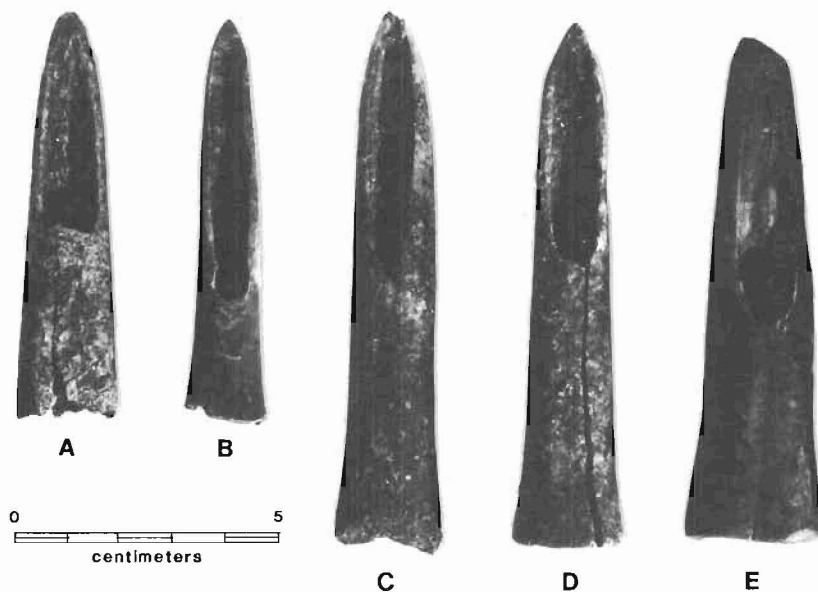


Plate 9.6. Socketed bone points from the north midden at the Tchefuncte site (16-St-1). Printed from negative dated April 1941.

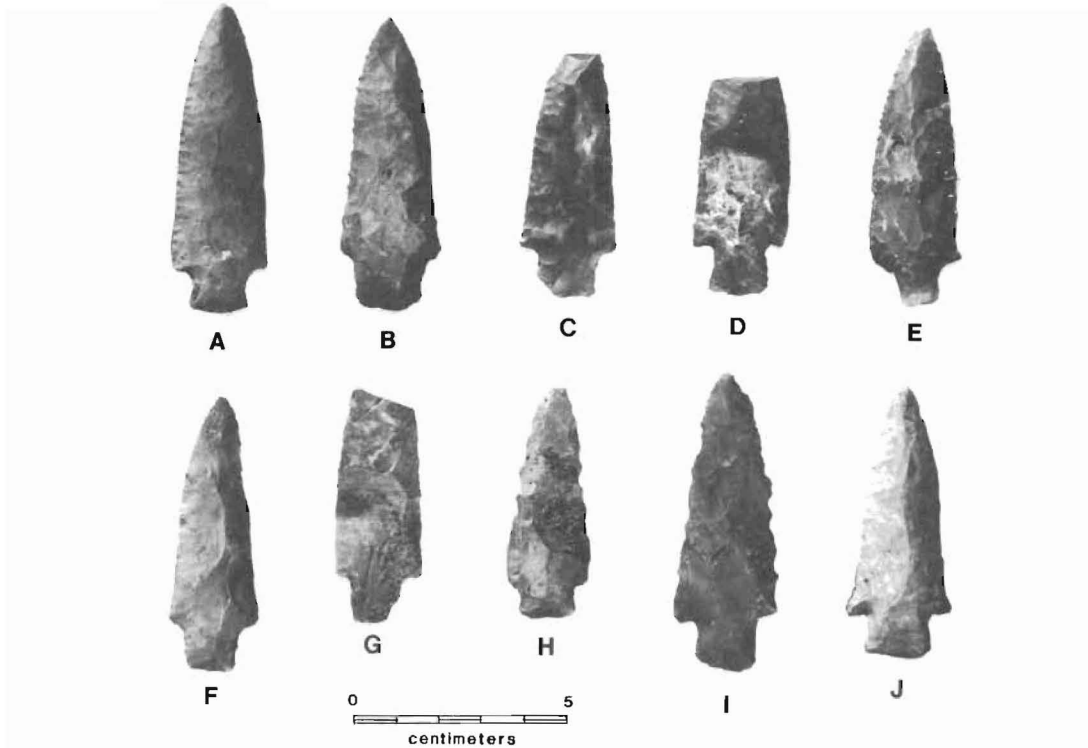


Plate 9.7. Dart points from the Tchefuncte site (16-St-1). Printed from negative dated April 1941.

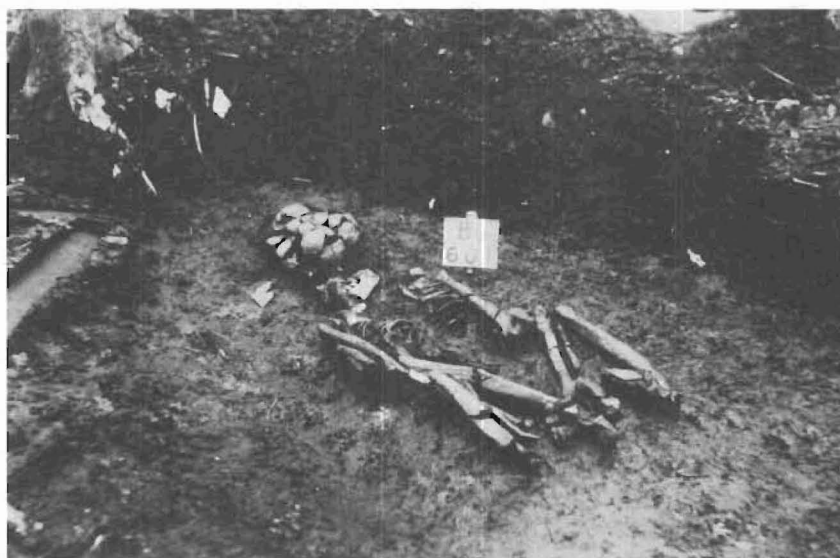


Plate 9.8. Burial 601, a flexed interment at the Tchefuncte site (16-St-1). View to the southeast, February 3, 1941. Photograph by Edwin B. Doran.

still covers too long a temporal span for use in specific settlement pattern and socioeconomic studies.

Beau Mire Phase

Although not as well known nor as intensely explored as the Pontchartrain phase, the Beau Mire phase represents an initial attempt at subdividing the coastal Tchula period into early and late components, with Beau Mire falling within the latter group.

The Beau Mire site is an earth midden situated in a cane field along the banks of New River in Ascension Parish. New River is a crevasse distributary which several thousand years ago emanated from the modern meander belt of the Mississippi River (Weinstein and Rivet 1978).

Principally based on ceramics, Beau Mire phase sites can be separated from nearby Pontchartrain phase sites by much greater amounts of the types Orleans and Tammany Punctated along with Lake Borgne Incised, and much smaller amounts of Tchefuncte Stamped. Similarly, design elements suggestive of Marksville influence, such as broad-line incising and crosshatched rims, serve to place Beau Mire in the Late Tchula period. The complete lack of Alexander Series and sandy paste Mandeville wares confirms the geographical separation from the Pontchartrain phase.

Lithics from Beau Mire consist of dart points, principally of the Shumla type, and several forms of chipped adzes or celts, suggestive of a woodworking industry. Poverty Point culture Jaketown Perforators have been noted at the Beau Mire site and may represent a carryover into Tchula times.

Eight Beau Mire components are presently known--all earth middens, several of which are associated with an ancient Mississippi River meander dated to Stage 4 by Fisk (1944). No radiocarbon dates nor detailed floral or faunal analyses have been conducted at any of the sites. Burials, similarly, are lacking.

Lafayette Phase

The type-site for the Lafayette phase is the Lafayette Mounds site (16-Sm-17), excavated in 1941 and very briefly reported upon by Ford and Quimby (1945). Located along the natural levee of the ancient Teche-Mississippi channel, the site consisted of three low, circular mounds (Plate 9.9). These measured 5 feet high by 60 feet in diameter, 4 feet high by 50 feet in diameter and one foot high by 40 feet in diameter (Ford and Quimby 1945:21). Only one of the mounds, the tallest, was excavated. To date, this structure is the sole excavated mound believed related to the Tchefuncte culture within the coastal area; therefore, it is worth summarizing.

The pre-mound surface consisted of a shallow, irregular depression apparently scooped out of the natural levee deposits, and upon which several structures were built and burials laid. An arc of post molds suggests that at least one of the pre-mound structures was circular. All of the approximately 30 burials were placed either on the pre-mound floor or on one or two earthen levels piled atop the floor. All were then covered by a thick mantle of soil creating a primary mound. Of the 30 burials, eight were flexed (Plate 9.10) and 12 were bundled or reburials. Ten burials could not be interpreted adequately. No burial furniture



Plate 9.9. View of one of the low mounds at the Lafayette Mounds site (16-Sm-17), April 10, 1941. Photograph by Edwin B. Doran.



Plate 9.10. One of the flexed burials from the Lafayette Mounds site (16-Sm-17). View to the northeast, May 19, 1941. Photograph by Edwin B. Doran.

was found. All of the ceramics incorporated within the primary mantle were Tchefuncte types.

A secondary mantle, which lacked burials, was constructed upon the primary mantle. Sherds in the secondary mantle consisted of Tchefuncte, Marksville, and Plaquemine types. Although several authors have questioned the Tchefuncte association of the mound, based upon the latter ceramic types, their actual numbers are miniscule when compared to the Tchefuncte types: 12,910 Tchefuncte sherds vs. 3 Marksville and 268 Plaquemine. The Marksville sherds, Crooks and Marksville Stamped, could actually represent Early Marksville, Hopewellian influence in a resident Tchefuncte population and may not be of a different time period. The Plaquemine sherds are likely surface or near surface finds, although provenience within the secondary mantle is not given. The most striking aspect of the overall mound is its similarity to the Crooks site (16-La-3) (Ford and Willey 1941). There, however, what was clearly an Early Marksville population was still utilizing some Late Tchefuncte ceramic modes and types, principally vessels with tetrapodal feet, and small amounts of Tchefuncte Incised and Tammany Punctated pottery.

In addition to the original "Tchefuncte Report," the most detailed description of Lafayette phase sites is supplied by Gibson (1974, 1976b). In his 1974 study of 11 Lafayette phase components, Gibson attempted to identify the Lafayette settlement system based on site-soil associations. He found that all but one of the locales was on either high Teche-Mississippi natural levees or atop the Prairie Terrace adjacent to the alluvial valley of the Mississippi River. The high lands were situated above all but the most severe winter-to-spring floods typical of the area. As Gibson (1974:85) notes, "The settlement system of the Lafayette phase seems to have been one very efficient means of coping with a dynamic flood environment." Further, of the 11 sites discussed, Gibson notes that three contained low, conical mounds, while the rest were small earth middens. He suggests the mounds served as communal burial locales for the dispersed population residing at small, seasonal base camps or semi-permanent villages (Gibson 1974:85), an hypothesis which seems quite logical in light of the available data.

As is usual in phase identification, ceramics play a large role in sorting the Lafayette phase from the nearby Beau Mire and Grand Lake phases. This role is not as pronounced, however, when one considers the other salient factors involved: conical burial mounds, small dispersed camps or villages, and a preference for site locations along the Teche-Mississippi natural levees and the edge of the Prairie Terrace.

There are no published radiocarbon dates for the Lafayette phase, and this, along with the overextended temporal range, suggests that more chronological control is necessary.

Grand Lake Phase

As of this writing, the Grand Lake phase is still one of the least known of coastal Tchefuncte phases. Originally designed around a number of sites identified by McIntire (1958) as Tchefuncte, there has been some question of whether the ceramics he identified are truly Tchefuncte wares (see Gagliano, Weinstein, and Burden 1975).

Despite this problem, however, the phase does deserve to be recognized, as recent excavations at the Morton Shell Mound (16-Ib-3) by Robert W. Neuman in the 1970s, and by Ian W. Brown at Veazey (16-Vm-7

and 8) on Pecan Island have confirmed the presence of Tchefuncte ceramics along the eastern portion of this stretch of the Louisiana coast.

When fully published, excavation results from the Morton Shell Mound, situated near the Weeks Island salt dome, should prove to contain a wealth of data on the southwest Louisiana Tchefuncte. To date, several studies by Byrd (1974, 1976a, 1976b) have indicated the potential for acquiring information on perishable Tchefuncte remains. While excavating at the edge of the shell mound, Neuman uncovered excellent stratigraphic information, and at the base of one unit came upon a rich, black peat full of faunal and floral remains and perishable artifacts.

Byrd's (1974, 1976a) analysis of the faunal remains from this peat shows that the Grand Lake peoples principally were exploiting deer, alligator, raccoon, goose, crane, turtle, gar, bowfin, catfish, and sunfish. Floral remains indicated that hickory nuts, acorns, plum, grape, persimmon, and squash were eaten. The finding of squash seeds is the first documented evidence that Tchefuncte peoples practiced a form of limited horticulture.

Another important contribution provided by the Morton Shell Mound excavation was a series of six radiocarbon dates from the Grand Lake levels. These assayed as 2275 ± 230: 325 B.C., 2020 ± 215: 70 B.C., 1800 ± 150: A.D. 150, 1675 ± 160: A.D. 275, 1655 ± 375: A.D. 295, and 1455 ± 745: A.D. 450 (Byrd 1974). Because of its large standard deviation, the A.D. 450 date is considered unreliable. The other dates cluster nicely, and when deviations are considered, fall within the last 200 years B.C. to the first 200 years A.D. Somewhat later than those dates retrieved from Pontchartrain phase sites, the variance may be due to either differences in the dating media (bone, shell and charcoal for the Pontchartrain phase, and charcoal for the Grand Lake phase), the laboratories conducting the dates, or an actual time lag in the spread of Tchefuncte culture westward along the Gulf Coast.

Aside from the Morton Shell Mound and Veazey, the only other excavated Grand Lake component was from an earth midden at the Strohe site (16-Jd-10) on the Prairie Terrace in Jefferson Davis Parish. Reported upon by Bonnin and Weinstein (1975, 1978), this site contains a viable Grand Lake component. Principal ceramic markers are Tchefuncte Plain and Tchefuncte Stamped, many occurring on a sandy paste similar to the Mandeville variety of Tchefuncte Plain.

Other Grand Lake ceramics appear to be similar to, but sandier than, those of the more eastern phases. Brown, Fuller, and Lambert Brown (1979) report the types Tchefuncte Plain, Tchefuncte Incised, and Jaketown Simple Stamped from the Veazey site. Although not formally analyzed, Byrd (1974:29) notes that the Grand Lake levels at the Morton Shell Mound yielded Tchefuncte Plain, Tchefuncte Stamped, Tchefuncte Incised, and Orleans Punctated. The absence of Tammany Punctated from all three excavated Grand Lake components is notable.

Sabine Lake Phase

This is a poorly known phase described here for the first time. Until now, those Tchefuncte sherds found around Sabine Lake in extreme southwest Louisiana and southeast Texas were either classed as belonging to the Grand Lake phase (Weinstein, Burden, and Gagliano 1977) or left in a nebulous state (Aten 1983). Several unique ceramic traits, to be discussed shortly, warrant the establishment of the phase.

Sites from the Sabine Lake area containing Tchefuncte ceramics were first noted by McIntire (1958), and Aten and Bollich (1969). The latter authors identified four sites, based on pottery seriation, which were considered to have Tchefuncte components.

In his recent monograph, Aten (1983) notes several excellent Sabine Lake components, particularly the Conway D (16-Cu-108) and Pipkin Ranch B (41-Jf-31) sites. The former is a shell midden in the marsh of Calcasieu Parish (Plate 9.11). Profile clearing at this site yielded Tchefuncte ceramics in association with a radiocarbon sample dated at 2020 ± 110 : 70 B.C. (Aten 1983). The latter site is an earth midden atop a pimple mound at the edge of the marsh in Jefferson County (Plate 9.12).

As mentioned earlier, the ceramic inventory suggests that sites of the Sabine Lake phase can be separated from those of Grand Lake. The most distinguishing ceramic is a variety of O'Neal Plain, complete with rim bosses, known as var. Conway (Aten 1983). This variety is presently lacking in Grand Lake Tchefuncte. Accompanying var. Conway in the Sabine Lake assemblage are sherds of Tchefuncte Plain, Goose Creek Plain, and what Aten (1983) labels Mandeville Plain, but which probably would be equivalent to Tchefuncte Plain, var. Mandeville (see Rivet 1973; Weinstein and Rivet 1978). Other artifacts include dart points, sandstone abraders, and microflints similar to Jaketown Perforators.

Clear Lake Phase

Originally defined as the Clear Lake period (Aten 1983; Aten et al. 1976), based on data from excavations at the Harris County Boys School site (41-Hr-80 and 85), the presence of significant quantities of Tchefuncte ceramics suggests that phase designation is in order. It is not clear, however, whether the Clear Lake phase is a true Tchefuncte cultural phase, or whether it represents an unidentified Texas coast equivalent. Only with more detailed data from the intervening region, principally the Sabine Lake and Grand Lake phase areas, will a better understanding of the western Tchefuncte and Tchefuncte-like assemblages be acquired; then it may be possible to examine the continuity, or lack thereof, of Tchefuncte culture across the Louisiana and Texas coasts.

Excavations at Harris County Boys School, a large earth midden and late prehistoric cemetery site, yielded, in its lower levels, sherds of the types Tchefuncte Plain, Tchefuncte Incised, Mandeville Plain, Goose Creek Plain, and var. Conway of O'Neal Plain (Aten and Chandler 1976). More recently, Aten (1983) has reported Clear Lake components at a number of small shell and earth midden sites, many of which have been excavated. Single component Clear Lake sites include 41-Ch-52, 41-Hr-61, and 41-Hr-161. These contain ceramics of identical types and varieties as noted at Harris County Boys School. Other artifacts in the Clear Lake assemblage include socketed bone points, dart points, and sandstone abraders. One important contribution of these excavations is the data supplied on Clear Lake burial practices. At 41-Ch-3 Ambler (1973:32-38) located four burials associated with Clear Lake ceramics. All were in a sitting position and were accompanied by conch shells, shell beads, and red ochre.

Aten (1983) reports seven radiocarbon dates from Clear Lake components. These are: 1900 ± 105 : A.D. 50; 1840 ± 90 : A.D. 110; 1560 ± 100 : A.D. 390; 2040 ± 90 : 90 B.C.; 1880 ± 90 : A.D. 70; 1890 ± 90 : A.D.

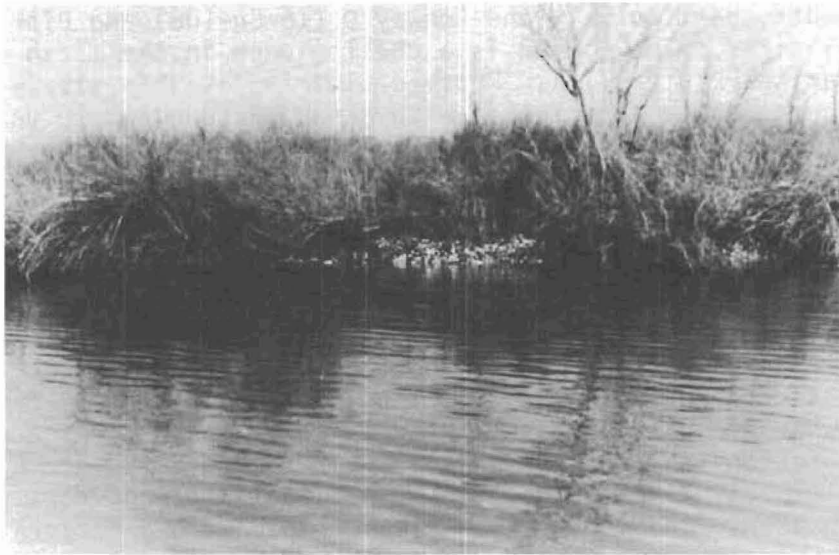


Plate 9.11. Exposed shell midden at the Conway D site (16-Cu-108). View to the east, February 13, 1983. Photograph by Charles N. Bollich.



Plate 9.12. The Pipkin Ranch B site (41-Jf-31), showing excavation in progress atop the pimple mound, 1970. Photograph by Charles N. Bollich.

60; and 1780 + 100: A.D. 170. The A.D. 70, 170, and 390 dates are on charcoal, while the remainder are on Rangia shell. All but the A.D. 190 date cluster nicely and offer a tentative Clear Lake time range of between 50 B.C. and A.D. 200. Aten applied a correction formula to the shell dates which consistently produced ages 200 years later than the B.P. dates, leading him to suggest that the Clear Lake period existed between about A.D. 50 and A.D. 375 (Aten 1983: Plate 12.2). It seems to this author that such corrections may not have been necessary, and that the uncorrected dates may be a more realistic estimation of the time span for the Clear Lake phase.

Whatever the case, when one considers the dates from the Morton Shell Mound, a progressive time lag for the westward spread of Tchefuncte cultural influences is suggested. By way of review, the Pontchartrain dates indicate occupation from about 300 B.C. to A.D. 50, the Grand Lake dates indicate occupation between 200 B.C. and A.D. 200, and the Clear Lake dates indicate Tchefuncte occupation between 50 B.C. and A.D. 200.

SUMMARY

This paper has served to indicate the quantity and diversity of topics which have been studied in relation to coastal Tchefuncte culture. The research potential is unlimited, and refinements to the data and assumptions presented here will no doubt occur. The basic framework has been laid by 40 years of Tchefuncte-related studies, and the formulation of six areally, and possibly temporally, distinct phases, stretching from Mississippi to east Texas. These phases should provide for a healthy foundation upon which to build our conceptions of Tchefuncte culture.

Acknowledgements. The author wishes to express his thanks to those individuals who aided in the preparation of this paper. Robert W. Neuman of the Museum of Geoscience, Louisiana State University, Baton Rouge, allowed access to the museum's records and provided the photographs of WPA-era excavations and artifacts (Plates 1 through 10). Dr. Charles N. Bollich, Beaumont, Texas, offered comments on the manuscript and provided photographs of Sites 16-Cu-108 and 41-Jf-31 (Plates 11 and 12).

REFERENCES CITED

- Ambler, Richard J.
1967 Three Prehistoric Sites near Cedar Bayou, Galveston Bay Area. Texas State Building Commission Archeology Program Report No. 8.
- 1970 Additional Archeological Survey of the Wallisville Reservoir Area, Southeast Texas. Texas Archeological Salvage Project Survey Report No. 6.
- 1973 Excavations in the Trinity River Delta: the Lost River Phase. Texas Archeological Survey Unnumbered Report.

- Aten, Lawrence E.
1983 Indians of the Upper Texas Coast. Academic Press, New York.
- Aten, Lawrence E., and Charles N. Bollich
1969 A Preliminary Report on the Development of a Ceramic Chronology for the Sabine Lake Area of Texas and Louisiana. Texas Archeological Society, Bulletin 40:241-258.
- 1981 Archeological Evidence for Pimple (Prairie) Mound Genesis. Science 213:1375-1376.
- Aten, Lawrence E., and Charles K. Chandler
1976 Description and Analysis of the Aboriginal Technology. In Lawrence E. Aten, Charles K. Chandler, A. B. Wesolowsky, and Robert B. Malina, Excavations at the Harris County Boys School Cemetery: Analysis of Galveston Bay Area Mortuary Practices, 15-53. Texas Archeological Society Special Publication No. 3.
- Aten, Lawrence E., Charles K. Chandler, A. B. Wesolowsky, and Robert M. Malina
1976 Excavations at the Harris County Boys School Cemetery: Analysis of Galveston Bay Area Mortuary Practices. Texas Archeological Society Special Publication No. 3.
- Bonnin, Jack C., and Richard A. Weinstein
1975 The Strohe Site. Louisiana Archaeological Society, Newsletter 2:8.
- 1978 The Strohe Site (16-JD-10), Jefferson Davis Parish, Louisiana. Paper presented at the 4th Annual Meeting of the Louisiana Archaeological Society, Baton Rouge.
- Brown, Ian W., and Nancy Lambert-Brown
1978a Untitled. Lower Mississippi Survey, Petite Anse Project, Peabody Museum, Research Notes No. 2.
- 1978b Archaeological Investigation at Hayes Pond Ridge (33-I-8), Vaughn's Clearing (33-I-12), and Middle Gate Bottom (33-I-33). Lower Mississippi Survey, Petite Anse Project, Peabody Museum, Research Notes No. 7.
- Brown, Ian W., Richard S. Fuller, and Nancy Lambert-Brown
1979 Site Survey in the Petite Anse Region, Southwest Coast, Louisiana. Lower Mississippi Survey, Petite Anse Project, Peabody Museum, Research Notes No. 11.
- Byrd, Kathleen M.
1974 Tchefoncte Subsistence Patterns, Morton Shell Mound, Iberia Parish, Louisiana. Master's thesis, Department of Geography and Anthropology, Louisiana State University, Baton Rouge.

- 1976a Tchefuncte Subsistence: Information Obtained from the Excavation of the Morton Shell Mound, Iberia Parish, Louisiana. Southeastern Archaeological Conference, Bulletin 19:70-75.
- 1976b The Brackish Water Clam (Rangia cuneata): a Prehistoric "Staff of Life" or a Minor Food Resource. Louisiana Archaeology 3:23-31.
- Czajkowski, J. Richard
1934 Preliminary Report of Archeological Investigations in Orleans Parish. Louisiana Conservation Review 4:12-18.
- Dillehay, Tom D.
1975 Prehistoric Subsistence in the Lower Trinity River Delta, Texas. Texas Archeological Survey Research Report No. 51.
- Fisk, Harold N.
1944 Geological Investigations of the Alluvial Valley of the Lower Mississippi Valley. U.S. Army Corps of Engineers, Mississippi River Commission, Vicksburg.
- Ford, James A. and Gordon R. Willey
1940 Crooks Site, a Marksville Period Burial Mound in La Salle Parish, Louisiana. Department of Conservation Louisiana Geological Survey Anthropological Study No. 3.
- Ford, James A. and George I. Quimby, Jr.
1945 The Tchefuncte Culture, An Early Occupation of the Lower Mississippi Valley. Society for American Archaeology Memoir No. 2.
- Ford, James A. and Clarence H. Webb
1956 Poverty Point, a Late Archaic Site in Louisiana. American Museum of Natural History, Anthropological Papers Vol. 46:1-136.
- Frazier, David E.
1974 Depositional Episodes: Their Relationship to the Quaternary Stratigraphic Framework in the Northwestern Portion of the Gulf Basin. Louisiana Geological Survey Bureau of Economic Geology Geology Circular 74(1).
- Gagliano, Sherwood M.
1963 A Survey of Preceramic Occupations in Portions of South Louisiana and Mississippi. Florida Anthropologist 16:105-132.
- 1967a Occupation Sequence at Avery Island. Louisiana State University Coastal Studies Institute Report 22.
- 1967b Late Archaic-Early Formative Relationships in South Louisiana. Southeastern Archaeological Conference, Bulletin 6:9-22.

- 1980 Cultural Resources Studies in the Pearl River Mouth Area, Louisiana-Mississippi: Chef Menteur and Rigolets Passes Hurricane Control Structures, Orleans and St. Tammany Parishes, Louisiana. Coastal Environments, Inc., Baton Rouge. Submitted to U.S. Army Corps of Engineers, Contract No. DACW29-77-D-0272. Copies available from U.S. Army Corps of Engineers, New Orleans.
- Gagliano, Sherwood M., Richard A. Weinstein, and Eileen K. Burden
 1975 Archeological Investigations along the Gulf Intracoastal Waterway: Coastal Louisiana Area. Coastal Environments, Inc., Baton Rouge.
- Gagliano, Sherwood M., Richard A. Weinstein, Eileen K. Burden, Katherine L. Brooks, and Wayne P. Glander
 1979 Cultural Resources Survey of the Barataria, Segnette and Rigaud Waterways, Jefferson Parish, Louisiana. Coastal Environments, Inc., Baton Rouge. Submitted to U.S. Army Corps of Engineers, Contract No. DACW29-77-D-0272. Copies available from U.S. Army Corps of Engineers, New Orleans.
- Geiger, Carey L.
 1975 A Closer Look at Point Aux Chenes. Mississippi Archaeology 10:9-10.
- Gertjersjansen, Doyle J.
 1982 Laboratory Simulation of Tchefoncte Period Ceramic Vessels from the Pontchartrain Basin. Paper presented at the 8th Annual Meeting of the Louisiana Archaeological Society, Thibodaux.
- Gibson, Jon L.
 1974 The Tchefoncte Culture in the Bayou Vermilion Basin, South-Central Louisiana: a Developmental Case Study. Texas Archeological Society, Bulletin 45:67-95.
- 1976a Archeological Survey of the Mermentau River and Bayous Nezpique and Des Cannes, Southwest Louisiana. University of Southwest Louisiana Center for Archeological Studies Report No. 1.
- 1976b Archeological Survey of Bayou Teche, Vermilion River and Freshwater Bayou, South-Central Louisiana. University of Southwest Louisiana Center for Archeological Studies Report No. 2.
- 1982 Archeology and Ethnology on the Edges of the Atchafalaya Basin, South-Central Louisiana: A Cultural Resources Survey of the Atchafalaya Basin Protection Levees. Center for Archeological Studies, University of Southwest Louisiana, Lafayette. Submitted to U.S. Army Corps of Engineers, Contract No. DACW29-79-C-0265. Copies available from U.S. Army Corps of Engineers, New Orleans.

- Gould, H.R., and E. McFarlan, Jr.
 1959 Geologic History of the Chenier Plain, Southwestern Louisiana. Transactions of the Gulf Coast Association of Geological Societies 9:1-10.
- McIntire, William G.
 1958 Prehistoric Indian Settlements of the Changing Mississippi River Delta. Coastal Studies Institute Louisiana State University Report No. 1.
- Morehead, James R.
 1980 Lithic Analysis. In J. Richard Shenkel, Oak Island Archaeology: Prehistoric Estuarine Adaptations in the Mississippi River Delta, 148-287. Archaeological and Cultural Research Program, University of New Orleans, New Orleans. Submitted to National Park Service, Contract No. PX J7530-0-0112. Copies available from Jean Lafitte National Historical Landmark, New Orleans.
- Neuman, Robert W.
 1977 An Archaeological Assessment of Coastal Louisiana. Louisiana State University Museum of Geoscience Melanges No. 11.
- Neuman, Robert W., and A. Frank Servello
 1976 Atchafalaya Basin Archaeological Survey. Department of Geography and Anthropology, Louisiana State University, Baton Rouge. Submitted to U.S. Army Corps of Engineers, Contract No. DACW29-75-C-0061. Copies available from U.S. Army Corps of Engineers, New Orleans.
- Phillips, Philip
 1970 Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Peabody Museum of Archaeology and Ethnology Papers No. 60.
- Rivet, Philip G.
 1973 Tchefuncte Ceramic Chronology: A Reappraisal. Master's thesis, Department of Geography and Anthropology, Louisiana State University, Baton Rouge.
- Saucier, Roger T.
 1963 Recent Geomorphic History of the Lake Pontchartrain Basin, Louisiana. Louisiana State University Coastal Studies Institute Report No. 9.
- 1964 Quaternary Geology of the Lower Mississippi Valley. Arkansas Archeological Survey Research Series No. 6.
- Shenkel, J. Richard
 1974 Big Oak and Little Oak Islands: Excavations and Interpretations. Louisiana Archaeology 1:37-65.

- 1979 Tchefuncte Site Specialization. Paper presented at the 30th Annual Meeting of the Southeastern Archaeological Conference, Atlanta.
- 1980 Oak Island Archaeology: Prehistoric Estuarine Adaptations in the Mississippi River Delta. Archaeological and Cultural Research Program, University of New Orleans, New Orleans. Submitted to National Park Service, Contract No. PX J7530-0-0112. Copies Available from Jean Lafitte National Historical Landmark, New Orleans.
- Shenkel, J. Richard and Jon L. Gibson
1974 Big Oak Island: An Historical Perspective of Changing Site Function. Louisiana Studies 8:173-186.
- Shenkel, J. Richard and George Holley
1975 A Tchefuncte House. Southeastern Archaeological Conference, Bulletin 18:226-242.
- Toth, Alan
1977 Early Marksville Phases in the Lower Mississippi Valley: A Study of Culture Contact Dynamics. Ph.D. dissertation, Department of Anthropology, Harvard University, Cambridge.
- Trickey, E. Bruce and Nicholas H. Holmes, Jr.
1971 A Chronological Framework for the Mobile Bay Region: Revised, 1970. Journal of Alabama Archaeology 17:116-128.
- Walthall, John A.
1980 Prehistoric Indians of the Southeast: Archaeology of Alabama and the Middle South. University of Alabama Press, University.
- Weinstein, Richard A.
1974 An Archaeological Survey of the Lower Amite River, Louisiana. Master's thesis, Department of Geography and Anthropology, Louisiana State University, Baton Rouge.
- Weinstein, Richard A., Eileen K. Burden, and Sherwood M. Gagliano
1977 Archeological Phases - Coastal Louisiana. Paper presented at the 3rd Annual Meeting of the Louisiana Archaeological Society, New Orleans.
- Weinstein, Richard A., and Philip G. Rivet
1978 Beau Mire: A Late Tchula Period Site of the Tchefuncte Culture, Ascension Parish, Louisiana. Louisiana Archaeological Survey and Antiquities Commission Anthropological Report No. 1.
- Wheat, Joe Ben
1947 Archeological Survey of the Addicks Basin: A Preliminary Report. Texas Archeological and Paleontological Society, Bulletin 18:143-145.

- 1953 An Archaeological Survey of the Addicks Dam Basin,
Southeastern Texas. Bureau of American Ethnology Bulletin
154:151-252.
- Wimberly, Steve B.
- 1953 Bayou La Batre Tchefuncte Pottery Series. In James B. Griffin
(ed.), Prehistoric Pottery of the Eastern United States.
Museum of Anthropology, University of Michigan, Ann Arbor.
- 1960 Indian Pottery from Clarke County and Mobile County, Southern
Alabama. Alabama Museum of Natural History, Museum Paper No.
36.

