

ANTHOLOGY OF MISSISSIPPI ARCHAEOLOGY
1966-1979

A Selection from the Publications of the
Mississippi Archaeological Association

Patricia Galloway
Editor

Drawings prepared by Samuel O. Brookes



Mississippi Archaeological Association
Mississippi Department of Archives and History

1985

ANTHOLOGY OF MISSISSIPPI ARCHAEOLOGY

1966-1979

A Selection from the Publications of the
Mississippi Archaeological Association

Patricia Galloway
Editor

Drawings prepared by Samuel O. Brookes



Mississippi Archaeological Association
Mississippi Department of Archives and History

1985

ADDENDA

Publication Information: ISBN 0-938896-43-1
LC 85-620003

ERRATA

P. 16: Caption belonging to right-hand view of effigy bird: "Area of old surface, but showing signs of working."

Pp. 126-127: Transpose last paragraph on page 126 to precede heading "Background" on page 127.

Pp. 142-143: Transpose source reference at bottom of page 142 to follow first paragraph at top of page 143.

P. 252: Unlabeled object should be labeled "c"; cutline should be modified to read "c, d Mulberry Creek Cordmarked, var. Edwards."

TABLE OF CONTENTS

Editor's Introduction	Patricia Galloway	vii
Bibliography of Mississippi Archaeological Association Publications, 1966-1984	Mary Neumaier	ix
<u>Preservation</u>		
For the Future of Mississippi's Past	Hilliard Griffin, L.B. Jones, Robert Thorne, Richard Marshall	3
The Development of Grand Village of the Natchez	Robert J. Bailey	6
<u>Artifacts</u>		
A Burial from Quitman County	Glenn Johnson	11
Old Material from the Delta	Richard A. Marshall	12
Deer Island Ceramics		13
Some Artifacts from Mulatto Bayou Sites		14
A Poverty Point Burial?	Roger Dean	15
Late Archaic--Poverty Point Related Red Jasper Effigy Bird	Richard A. Marshall	16
Projectile Point Type	Samuel O. McGahey	16
Points Collected By Mr. Ben Cessna, Claiborne County	Samuel O. McGahey	18
An Unusual Point from Monroe County	Samuel O. Brookes	19
Projectile Points from the North Delta	Samuel O. Brookes	20
Kirk-Like Points	Samuel O. Brookes	23
A Prehistoric Dugout Canoe	Samuel O. McGahey	24
Greenbriar Projectile Points: A Discussion of Form and Function	Samuel O. Brookes, Bruce J. Gray, Byron Inmon, and Angela Rodrigue	26

TABLE OF CONTENTS

A Closer Look at Point Aux Chenes	Carey L. Geiger	30
More Kirk-Like Points	Samuel O. Brookes	31
Where Did Odd-Style Projectile Points Come From?	Ben Cessna	32
Projectile Points from Hinds County	Samuel O. McGahey	36
A Hardin Point in the Delta	Robert C. Morris	36
Morrow Mountain Projectile Points	Samuel O. Brookes and John M. Connaway	38
Morrow Mountain Points	Samuel O. Brookes	40
A Greenbriar Point from the Mississippi Delta	Samuel O. Brookes	41
Boats Discovered by Corps of Engineers Projects	Shelia Lewis	43
Preliminary Report on a Dugout Canoe from Steele Bayou	Richard S. Fuller	44
A Report of Indian Ceramic Vessels Found while on a Junior High School Archaeology Club Trip	Rev. Claude H. Stone, Jr.	46
Pontchartrain Points in the Mid-Delta	Robert C. Morris	51
An Example of Chickachae Combed Pottery	Richard A. Marshall	51
An Unusual Object from Near Bruce, Mississippi	Richard A. Marshall	54
<u>Brief Reports</u>		
Notes on the Deer Island Site, Harrison County (22-Hr-500)	Guy C. Kraus	59
Report on the MSU-UM Summer Dig at Lyon's Bluff Site Near Starkville	Richard A. Marshall	60

TABLE OF CONTENTS

One Week Dig in the Delta	Richard A. Marshall	61
Numerous Burials Found at Lyon's Bluff this Summer	Richard A. Marshall	61
Excavation of the McCarter Mound, Panola County	Glenn Johnson	62
The Mississippi Archaeological Survey	Richard A. Marshall	63
University of Mississippi 1969 Summer Digs: Excavations at 22-Co-516	Bunker Hill	64
Discovery of an Early Site in Northeast Mississippi	Samuel O. Brookes, Samuel O. McGahey	65
Mississippian Phases at Lyon's Bluff Site (22-Ok-520), East Central Mississippi	Richard A. Marshall	70
Natchez Pottery in Southwest Louisiana	Joseph Frank III	71
The Biloxi: An Introduction	Kenneth L. Shellberg	72
Test Excavation at the Lawson Site 22-Mo-572	Samuel O. Brookes	80
In Defense of Hutchins's Natchez Indian	Joseph Frank III	83
Surface Survey From 22-Ad-522	Joseph Frank III	89
Two Radiocarbon Dates for the Lyon's Bluff Site (22-Ok-520)	Richard A. Marshall	93
Report on Archaeological Trip to Doak's Improvement and Doak's Stand	Bob Heath	94
Archaeological Survey of a Bayou Drainage in Jackson County	Carey L. Geiger	95
The Martin #1 Site (22-Tu-533) Tunica County, 1976	Alan Toth, Samuel O. Brookes	100
The Question Box	Richard A. Marshall	104
<u>Excavation Reports</u>		
Archaeological Investigation at the LeFlore Site		109

TABLE OF CONTENTS

Test Excavations Conducted at the Murphey Site, 19-0-21	William Hony	112
Food Plant Remains from Eight Prehistoric Indian Sites in the Yazoo Delta Area of Mississippi	Hugh C. Cutler, Leonard W. Blake	114
Progress Report on Field Research, 1970: Fourth Summer Field Session in Mississippi Archaeology, Mississippi State University	Richard A. Marshall	122
Archaeological Survey in Southwest Mississippi	Lower Mississippi Survey Peabody Museum	126
Excavations at the Acree Site	Carolyn Caldwell	133
Archaeological Survey of the Upper-Central Tombigbee River Valley	Marc D. Rucker, James R. Atkinson	134
Excavations at Earthworks on Mulatto Bayou	Mark J. Williams	138
A Preliminary Identification of Faunal Remains From the Claiborne Site	Brent W. Smith	143
Two Issaquena Sites	Samuel O. Brookes	151
Prehistory on the Mississippi Gulf Coast: A Report on the Mulatto Bayou Area of Southwest Hancock County	Mary G. Neumaier	153
Prehistoric Diffusion in Southeast Mississippi: A Critical Review	Jon L. Gibson	164
A Reply By Dale Greenwell to Prehistoric (Cultural) Diffusion (and Migration) in Southeast Mississippi: A Critical Review by Jon L. Gibson	Dale Greenwell	171
A Last Look at the Longstreet Site (22-Qu-523)	John Connaway	177
A Commentary on Tchefuncte Sites Along the Gulf Coast of Mississippi	Dale Greenwell	178

 TABLE OF CONTENTS

The Cedar Creek #1 Site: A Mississippian Period Site in Lowndes County, Mississippi	Samuel O. Brookes	182
Shady Grove 22-QU-525	John M. Connaway	186
An Archaeological Site Survey in Central Oktibbeha County Mississippi: June-July 1975	Crawford H. Blakeman, Jr.	188
The Portland Site (22-M-12), An Early Eighteenth Century Historic Indian Site in Warren County, Mississippi	Ian W. Brown	216
The Owl Creek Site	Samuel O. Brookes	225
Archaeology of the Ellis Site (22-Cr-507) Carroll County, Mississippi	John T. Penman	245
Greenwood Island Coffin Finds	Carey L. Geiger	264
Osteological Analysis of the Greenwood Island Skeletons	Alton K. Fisher	266
Buttons Suggest Burial Date of Greenwood Island Skeletons	William C. Wright	269
Human Bones Unearthed at Kings Crossing	John Howell	270
<u>References</u>		
Treatment of Bones from Archaeological Sources	Dr. Lucile E. Hoyme	275
Archaeological Method and Theory: Some Speculations and Inferences	Robert M. Thorne	278
Some Prehistoric Ceramic Design Modes and Motifs from Mississippi and How They are Distributed Through Time	Richard A. Marshall	284
Archaeological Provinces of Mississippi: A Tentative Definition	Richard A. Marshall	285
An Annotated Bibliography for the Identification of Faunal Remains	John T. Penman	289

TABLE OF CONTENTS

Mississippi Indians: A Bibliography. Volume 1: Prehistory	Brent W. Smith	292
The Use of the Contemporary Ecological Model in Archaeological Research: An Example from Northwest Louisiana	Brent W. Smith	302
Question Box: Archaeological Photography	Richard A. Marshall	317
Archaeological Photography A Bibliography	Richard A. Marshall	318

EDITOR'S INTRODUCTION

Patricia Galloway

In 1980 Mary Kwas, as Managing Editor of Mississippi Archaeology, made a significant format change in that publication and put its production on a more secure and regular footing. Before that date, the various avatars of the publications of the Mississippi Archaeological Association were many, and it was impossible to keep them all in print. Hence this compendium, which is a selection from all publications of the MAA of the articles and notes judged to have more than ephemeral interest--with the intention of putting into the hands of the student of Mississippi archaeology, at an affordable price, a good portion of what has been published for the years 1966-1979. The papers are relatively unedited themselves in that corrections have been made only where there were obvious typographical errors, and only a few of the papers have been condensed. References to the original publication source are given throughout for historical interest. References listed with the papers have been edited to the current Mississippi Archaeology style. Because we did not have the original copy to work from in most cases, drawings have been traced from the printed source for better reproduction. The original editors' notes have been included; all additions by the present editor are set off in square brackets.

It was decided that strict chronological arrangement would not be the most useful if this publication is to be used as a reference source, so the papers have been divided into several sections and arranged chronologically within each section. The Preservation section contains statements on archaeological preservation in Mississippi. The Artifacts section contains descriptions and analyses of isolated finds. Brief Reports collects preliminary and condensed accounts of excavations and surveys, while Excavation Reports contains lengthier and more detailed papers. Reference assembles a group of articles and bibliographies of general or thematic interest.

Since Calvin Brown's publication of Archeology of Mississippi in 1926, nothing in the nature of a comprehensive handbook on Mississippi archaeology has been attempted. Yet much has been done by researchers and institutions both in state and out of state. A good deal of that work has been published in archaeological reports of limited circulation or considerable cost, but the MAA has attempted to publish information to keep its members abreast of archaeological activities and significant advances in research in the state in a format and at a price within the reach of everyone. Publication of selections from MAA newsletters and journals, then, while it in no way pretends to offer the badly needed modern counterpart of Brown's work, collects in permanent form materials that can contribute significantly to such a handbook, materials that might otherwise be very difficult to obtain.

The years covered, 1966-1979, not only reflect the dates marking the birth of the Mississippi Archaeological Association and the metamorphosis of the journal Mississippi Archaeology, but are also the years which saw the intensive development of historic preservation and contract archaeology in the state. Thus as the years passed,

professional archaeological activity intensified, and this is reflected in the changing profile of contributors over time. But the interest of MAA amateurs was also increasing, and their contributions to the publications and often to the professional excavations in the field were ongoing.

As a relative newcomer to Mississippi archaeology, having arrived in the year that terminates this collection, reading all the past publications of the MAA to make these selections has made me regret that I was not present in the early days to enjoy the enthusiasm that marks them so distinctively. Although it is gratifying to see a growing sophistication in knowledge and method in Mississippi archaeology, it is to be hoped that the enthusiasm may never be lost.

Jackson
December 23, 1984

BIBLIOGRAPHY OF MISSISSIPPI ARCHAEOLOGICAL ASSOCIATION PUBLICATIONS,
1966-1984

Mary Neumaier

Publications of the Mississippi Archaeological Association have been listed variously as Mississippi Archaeologist, MAA Newsletter, Newsletter of the Mississippi Archaeological Association, Newsletter from the President's Desk, and Mississippi Archaeology. To define clearly the past history of the publications, both in title and numbers of issues, it would seem advisable to list them by yearly summary.

The peak years of our publications were 1969-1970 when 220 pages of print were issued. When Archives and History [MDAH] took over publication in 1974, another spurt of enthusiasm resulted. As far as Mississippi Archaeology is concerned, 1979 would be considered as the low point, with just one issue published, although the Newsletter from the President's Desk attempted to fill the void during that period. It did not miss an issue since its beginning in 1977, although the name was changed in 1983 back to simply Newsletter. A new red cover in 1971, inaugurated by Richard Marshall, gave the publication its first professional look. A sketch by Marshall of a Mississippian Period ceremonial stone disc from the Mayersville Site in Issaquena County was incorporated on that cover and remained the logo of the organization's publication until 1980. Since 1980, the format of Mississippi Archaeology has remained constant, with the 'new look' being instituted by Mary Kwas.

Abbreviations in square brackets following titles in the table below will be used in referencing the reprinted articles.

<u>Year</u>	<u>Title</u>	<u>Volume</u>	<u>Issues</u>	<u>Editor/Place of Origin</u>
1966	Mississippi Archaeological Association Newsletter [MAAN]	I	1-12	Tom Koehler, UM (Bob Morris, Greenville MAA; Barbara Daigre, Grenada MAA; perhaps others contributed)
1967	Mississippi Archaeological Association Newsletter [MAAN]	II	1-7	Tom Koehler, UM
	Newsletter of the Mississippi Archaeological Association [NMAA]		8-11	Richard Marshall, MSU

<u>Year</u>	<u>Title</u>	<u>Volume</u>	<u>Issues</u>	<u>Editor/Place of Origin</u>
1968	Newsletter of the Mississippi Archaeological Association [NMAA]	III	1-12	Richard Marshall, MSU
1969	Newsletter of the Mississippi Archaeological Association [NMAA]	IV	1-10	Richard Marshall, MSU
1970	Mississippi Archaeological Association [MAA]	V	1-9	Richard Marshall, Editor Brenda Pouncey, MSU
1971	Newsletter, Mississippi Archaeological Association [NMAA]	VI	1-10	Richard Marshall, Editor David Banks, MSU
1972	Newsletter of the Mississippi Archaeological Association [NMAA] Mississippi Archaeologist [MSA]	VII	1-3 4-7	David Banks, MSU David Banks and Ken Roman, MSU
1973	Newsletter, Mississippi Archaeological Association [NMAA]	VIII	1	Jack Elliott, MSU
1974	Mississippi Archaeological Association Newsletter [MAAN] Mississippi Archaeology [MA] Mississippi Archaeological Association Newsletter [MAAN]	IX	1-4 5-8 9-10	Sam McGahey, MDAH
1975	Mississippi Archaeology [MA]	X	1-10	Sam McGahey, MDAH
1976	Mississippi Archaeology [MA]	XI	1-2	Sam McGahey, MDAH
1977	Mississippi Archaeology [MA] Mississippi Archaeological Association Newsletter from the President's Desk [NFPD]	XII XII	J 1-3 NL 1-6	Sam McGahey, MDAH Rev. C. H. Stone, Jr., Mary Neumaier, Biloxi
1978	Mississippi Archaeology [MA] Mississippi Archaeological Association Newsletter from the President's Desk [NFPD]	XIII	J 1 NL 1-6	(same as 1977)
1979	Mississippi Archaeology [MA] Mississippi Archaeological Association Newsletter from the President's Desk [NFPD]	XIV	J 1-2 NL 1-6	(same as 1977)

<u>Year</u>	<u>Title</u>	<u>Volume</u>	<u>Issues</u>	<u>Editor/Place of Origin</u>
1980	Mississippi Archaeology [MA] Mississippi Archaeological Association Newsletter from the President's Desk [NFPD]	XV	J 1-2 NL 1-6	(same as 1977; Mary Kwas became Assoc. Ed. for MS. Archaeology)
1981	Mississippi Archaeology [MA] Mississippi Archaeological Association Newsletter from the President's Desk [NFPD]	XVI	J 1-2 NL 1-6	(same editor; Cheryl Tay- lor Assoc. Ed.; then Patricia Galloway)
1982	Mississippi Archaeology [MA] Mississippi Archaeological Association Newsletter from the President's Desk [NFPD]	XVII	J 1-2 NL 1-6	Patricia Galloway Editor; Sam McGahey, Assoc. Ed. (Newsletter editors re- main same since 1977)
1983	Mississippi Archaeology [MA] Mississippi Archaeological Association Newsletter [MAAN]	XVIII	J 1-2 NL 1-6	Patricia Galloway Patricia Galloway and James Lauro, MDAH
1984	Mississippi Archaeology [MA] Mississippi Archaeological Association Newsletter [MAAN]	XIX	J 1-2 NL 1-6	Patricia Galloway Patricia Galloway MDAH; Janet Rafferty MSU

PRESERVATION

A new interest in historic/archaeological preservation was the spur for the formation of the MAA, and support for preservation has been reflected in its publications.

FOR THE FUTURE OF MISSISSIPPI'S PASTHilliard Griffin, L. B. Jones, Robert Thorne, and Richard MarshallExtract

The Mississippi River, like the Nile which connected the empires of Upper and Lower Egypt, has been the front door to the interior of North America. Small wonder the French, having once discovered this great water system from Canada, wasted little time in beginning the colonizing at its mouth. It was the key to the continent.

The Indians had traveled the Mississippi River centuries before the French. The cultural and physical remains of these people abound in all areas, especially those adjacent to the river. The State of Mississippi is particularly rich in these remains. With their use of this country the ancient people brought ideas and objects. They built towns and cities many of which were united into powerful confederacies. They left mounds, city dumps and cemeteries, but unfortunately no written records!

Some 15,000 years of Mississippi prehistory is waiting to be discovered recorded and added to the State's written history. As yet, we have only scant knowledge of that history. The history of Mississippi, past and present, represents our priceless heritage. This is a heritage all Mississippians are proud of. Like any resource it must be exploited properly and proper conservation methods must be applied or it will be lost to us forever.

The possibility of obtaining the complete story of the Indians in Mississippi is fast diminishing. The demands for expanded industry, better and more highways and enlarged residential areas are taking their toll of the archaeological remains which can tell us what we need to know. Posing a still more serious threat to our ancient monuments is the indiscriminate destruction of sites by modern agricultural practices of deep plowing, subsoiling, and land forming or leveling. These practices, coupled with the lack of interest and appreciation of the remains, are destroying sites daily.

The sites, if briefly but carefully investigated by archaeological experts, will furnish the necessary data for recording the events that took place. A coordinated program is needed to locate, record and investigate archaeological sites in our State to contribute to the prehistory of Mississippi.

AN ANTIQUITIES LAW

In spite of a preservation oriented antiquities law passed in 1938 (House Bill No. 62, Chapter 161, pp. 362-363), there has been almost no observation and enforcement of its aims and purposes. The enforcing agency has never been adequately funded to carry out these aims. Archaeological sites have been deliberately and wantonly excavated and destroyed by uninformed and relic collecting persons. Many of these people have been officials of state and county government.

In an interest and desire to preserve and foster a study of the State's archaeological remains, a more realistic and enforceable law

is desirable. Several states now have very workable laws of this kind connected with well organized and funded state archaeological surveys.

ARCHAEOLOGICAL WORK IN MISSISSIPPI

Very little archaeological work has been carried out in our State. Some work has been conducted by out-of-state institutions, which have long recognized the importance and reward of archaeological research in Mississippi and its potential contribution to the understanding of Indian prehistory in the State and in North America. In the course of this work, the artifacts and museum specimens have left our State and are not accessible to the people for appreciation and study. It might be pointed out that considerably more work has been conducted but remains unpublished. It is therefore unavailable for other researchers. Below is a listing of work conducted by out-of-state institutions, probable fund sources and whether the results have been published.

1. The Gordon Site in southern Mississippi, National Park Service (?), published in American Antiquity.
2. Archaeology of the Bynum Mounds, National Park Service, published in the NPS archaeology reports.
3. Chickasaw and Earlier Indian Cultures of northeast Mississippi, National Park Service, published in Journal of Mississippi History.
4. The Mangum Site, National Park Service, unpublished manuscript.
5. Excavation of the Fireplace Mound, National Park Service, unpublished manuscript.
6. The Boyd Site, Madison County, Mississippi, National Park Service, unpublished manuscript.
7. Bear Creek and Cave Springs Sites, National Park Service, unpublished manuscript.
8. Archaeological Survey of Grenada Lake, Mississippi, National Park Service, unpublished manuscript.
9. Pearl River Survey and Excavation of the Wills Site, National Park Service, unpublished manuscript.
- *10. Analysis of Indian Village Site Collections from Louisiana and Mississippi, Louisiana Geological Survey, Department of the Interior (?) and Mississippi Department of Archives and History (?), Louisiana Geological Survey archaeology reports.
11. The Jaketown Site in west central Mississippi, Harvard University and the American Museum of Natural History, published in Museum of Natural History archaeology reports.

12. Issaquena: An Archaeological Phase in the Yazoo Basin of the Lower Mississippi Valley, Harvard University, published in American Antiquity.
 13. Archaeological Survey of the Lower Mississippi Alluvial Valley, Harvard University and the National Science Foundation, unpublished manuscript. Part I.
 14. Archaeological Survey of the Lower Mississippi Alluvial Valley, University of Michigan, Harvard University and the National Science Foundation, published in Peabody Museum papers. Part II.
 - *15. Archaeological Investigation of the Winterville Site, Harvard University, National Science Foundation, Mississippi Park Commission and the City of Greenville, work in progress.
 - *16. Archaeology of the Fatherland Site, National Science Foundation and Mississippi Department of Archives and History, published in American Museum of Natural History archaeology reports.
 17. The Natchez Culture Type, Chicago Natural History Museum, published in Chicago Natural History Museum archaeology reports.
 18. Archaeology of the Oliver Mound, Peabody Museum of Harvard University, unpublished manuscript.
 19. Archaeological Investigations by Clarence B. Moore, Smithsonian Institution and private funds, unpublished manuscript (?).
 - *20. Archaeological Investigations by M. B. Chambers, Department of the Interior and Mississippi Department of Archives and History, unpublished manuscripts, material destroyed in Archives fire.
 21. Archaeological Investigation of the Lake George Site, Harvard University and National Science Foundation, unpublished manuscript.
- * Some Mississippi contribution.

Even less work has been conducted by institutions in Mississippi. This has probably been brought about by a general lack of interest in the State's archaeological resources. There have been no funds available for intensive archaeological research nor an actual desire to preserve examples of the artifacts and ceremonial earthworks for our citizens to study and appreciate. Below is a listing of work conducted by in-state institutions and fund sources. The majority of fund sources are from regular departmental operating funds. Almost none of this work has found its way into the textbooks used in our public schools.

- *1. Archaeological Excavations of the Womack Mound, University of Mississippi, National Park Service and private funds, published in University of Mississippi archaeology reports.
 2. Archaeological Excavations of the Tyson Mound, University of Mississippi, in press.
 3. Archaeological Excavation of the Baker's Creek Mound, University of Mississippi, in press.
 4. Archaeological Excavation of the Clear Creek Mound, University of Mississippi, in press.
 5. Archaeological Excavation of the Lyon's Bluff Site, Mississippi State University and University of Mississippi, in progress.
 6. Archaeological Excavation of the Bramlett Site, University of Mississippi, in progress.
- * Some out-of-state contribution

[Presented to the Mississippi Legislature, February 28, 1968]

[NMAA 3 (1968) 1-2 (January-February), 1-4]

THE DEVELOPMENT OF GRAND VILLAGE OF THE NATCHEZ

Robert J. Bailey

The development and selective restoration of the Grand Village of the Natchez Indians (Fatherland Plantation Site) is finally becoming a reality. The State Building Commission, at its meeting of September 12, approved the awarding of a contract in the amount of \$106,266 to J. A. Russ Construction Company for site preparation, development, and stabilization. Basically, the contract involves clearing, grading, seeding, and erosion control at the site, and work commenced on October 9. This is the first of two contracts to be awarded in the present fiscal year. The second contract will involve the construction of a visitor's center, a maintenance building, both decorative and security fencing, a parking lot, trails, and some facilities to be utilized in interpretation. If all goes according to schedule, the archaeological site should be open for visitation in the late summer of 1975.

The Department of Archives and History's involvement with the Grand Village site has spanned three and one-half decades. Working under the auspices of the Department, Moreau B. C. Chambers first excavated portions of the Fatherland Plantation site, located within the corporate limits of Natchez, in 1930. In 1962, Robert S. Neitzel, then curator of the State Historical Museum, began his initial investigation of the site. Carried out from April to August, 1962, this work was made possible by a grant from the National Science

Foundation in the sum of \$15,500. Because the French settlers in the area left so much in the way of descriptive writing, the excavation offered an ideal situation in which to test the methods of archaeology against written historical accounts. By the completion of the 1962 study, archaeological evidence clearly demonstrated that the Fatherland Plantation site was the Grand Village of the Natchez Indians, and was the center of intense activity during the late seventeenth and early eighteenth centuries, the period of the establishment of the French settlement at Fort Rosalie. Robert S. Neitzel's Archeology of the Fatherland Site: The Grand Village of the Natchez was subsequently published in 1965 as Volume 51, Part 1 of the Anthropological Papers of the American Museum of Natural History (New York, 1965).* In that same year, the Grand Village site received a signal honor, with its designation as a National Historic Landmark--a distinction shared even today by only fourteen culturally significant Mississippi properties.

In 1971, the Board of Trustees of the Department of Archives and History selected the Grand Village of the Natchez Indians as the state's first National Register acquisition/development project under the provisions of the National Historic Preservation Act of 1966. The site's selection resulted from its overriding national significance and from the donation of 35.7 acres of the site to the state by Mrs. Grace M. S. MacNeil. This enabled the Department of Archives and History, by utilizing the appraised value of the property, to secure a grant in the sum of \$47,226.52 from the National Park Service. Title to the remaining 41.4 acres of the Grand Village site was gained by the Department of Archives and History in 1971, when the state legislature appropriated eighty thousand dollars to purchase the property from Fatherland Site, Inc., a non-profit corporation which had acquired the property in 1969 to prevent its destruction by residential and commercial expansion in the area.

The initial National Park Service grant was utilized to secure topographical mapping of the site, a comprehensive master development plan, and the stabilization and restoration of certain archaeological features at the site. The site was also selected as the state's 1972 fiscal year National Register project, and a grant in the sum of \$14,574 was awarded by the National Register office to be utilized in the development of the Grand Village of the Natchez. In addition to federal support, the Adams County Board of Supervisors lent invaluable assistance to the project.

The Grand Village of the Natchez was included in the 1973 Mississippi Legislature's House Concurrent Resolution No. 86, which authorized the State Building Commission to expend funds for the study and preplanning of numerous recommended state projects. Subsequently, a building committee for the project was appointed by the Board of

*Additional archaeological research was undertaken by Robert S. Neitzel in 1972 and 1973, and, at the time of the preparation of this report, a technical report is in progress. [This report appeared in 1983: The Grand Village of the Natchez Revisited. Mississippi Department of Archives and History Archaeological Report 12. --Ed.]

Trustees of the Department of Archives and History, and the Building Commission selected a preplanning project architect, William L. Gill. Mr. Gill is the State Preservation Coordinator, Mississippi, American Institute of Architects. Robert S. Neitzel was retained as a special consultant.

In conjunction with the building committee, Mr. Gill formulated a preliminary master site plan which emphasized education and recreation. Structures provided for included a visitor's center, a museum, a theater, an amphitheater, and necessary support buildings. Picnicking, day camping, nature areas and other recreational facilities were also included in the plan. While it was not a part of the preliminary site plan, it is hoped that living interpretation can be effected at the Grand Village of the Natchez. Living interpretation would take the form of ongoing archaeological investigations and the reconstruction of Natchez Indian structures based on the voluminous amount of available archaeological and ethnographic data.

Mr. Gill's preliminary master site plan and building plans produced a cost estimate of \$840,000, and the project was presented to the 1974 session of the Mississippi Legislature for funding by the State Building Commission. A tremendous cut in the proposed budget resulted, and \$350,000 was subsequently appropriated by the state legislature. It is encouraging to note, however, that the sum was appropriated for Phase I of the project, and hopefully it can be assumed that additional funds will be appropriated at a later date.

Subsequently Mr. Gill was officially appointed by the State Building Commission to serve as the project architect. Redesign, reordering of priorities, and rethinking of various concepts have been necessary because Mr. Gill's preliminary plans were based on optimum funding.

Whatever the case, the development of the Grand Village is well underway, and at the time of the preparation of this report, the site preparation phase is running well on schedule. Many long hours have been devoted to the project by many individuals, and the result should be a historic archaeological site development of which all Mississippi can be extremely proud.

[MAAN 9 (1974) 9 (September), 13-14]

ARTIFACTS

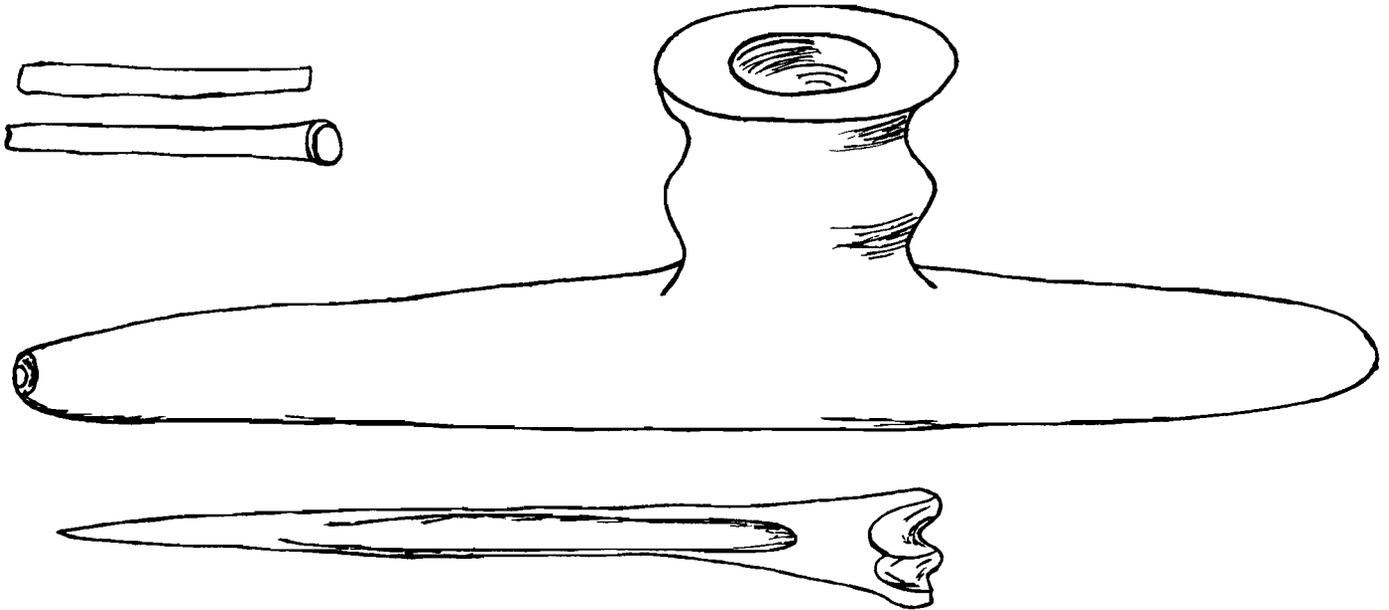
Individual artifacts and small artifact groups have been presented in the pages of MAA publications from early on. These notes and brief articles reflect not only the interest of the collector in identifying an unusual find and of the archaeologist in finding comparative data, but also an ongoing classificatory interest. Some of these notes have been reprinted simply to avoid the loss of information otherwise unavailable.

A BURIAL FROM QUITMAN COUNTY

Glenn Johnson

The Panola Chapter has been investigating sites up and down the Coldwater River in Panola and Quitman Counties. There are numerous sites and mounds on both sides of the river from Marks to just west of Charleston. There are four mounds which have been dozed. Most of the others are in poor condition due to constant cultivation.

At a site in southeast Quitman County three places were found out in the field where burials had been plowed into. Time was taken to excavate one of them, and it turned out that the time was well spent. The burial was semi-flexed, lying on its back, with the legs flexed to the right. The left arm was folded across the stomach and the right arm extended down the right side. Beside the left elbow was a clay pipe, a bone tube nine inches long, a split bone awl, a scraper, two bone or antler flaking tools, and a flat unworked gravel type rock. Also with this find was a wolf jaw (lower). The ends of the jaw had a groove cut into it, evidently for a string or something similar, so that the jaw could possibly be worn around the neck. The base of the jaw is very polished as if from being in constant contact with the body.



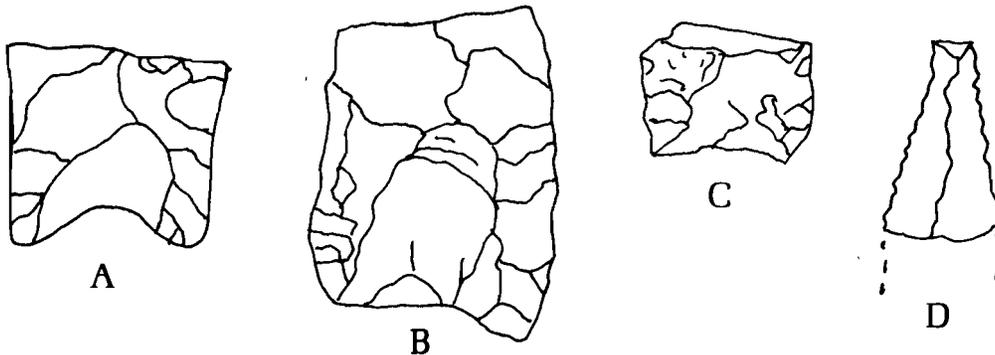
Artifacts found from burial from Quitman County.

OLD MATERIAL FROM THE DELTA

Richard A. Marshall

Carroll Neiley of Leland, Mississippi has sent in some drawings of material that he collected from several sites near Choctaw, Mississippi. This is an area of old braided stream remainants which is in large part "B" period channels according to Fisk (1944). From the looks of the material it should date 6,000 to 9,000 B.C. It all looks as if it could fit very well into the Dalton complex, an early Archaic culture.

We are just now beginning to realize that Early Archaic complexes did exist in the Delta. If any of you have similar material, let's report it and send in some drawings. Jack Lancaster of Sunflower, Mississippi has a collection of similar material from a site near Shaw. The Shaw site was destroyed by land leveling last spring. In due time and with great care, we should be able to define clearly this Early Archaic culture.



A, B, and C are base sections of projectile points. All three are smoothed on the stem edges and across the base. These are characteristics of early projectile points. All three of the point bases appear to be carefully thinned by the removal of one or more flakes from both sides. D is the midsection of an alternately beveled and serrated projectile point. This particular shape is characteristic of a great many Dalton points but is not exclusively a Dalton characteristic. These four specimens are hardly enough to make any far reaching conclusions, but on the other hand, their unique characteristics are enough to make any archaeologist take note that such early material does exist in the Yazoo Basin area.

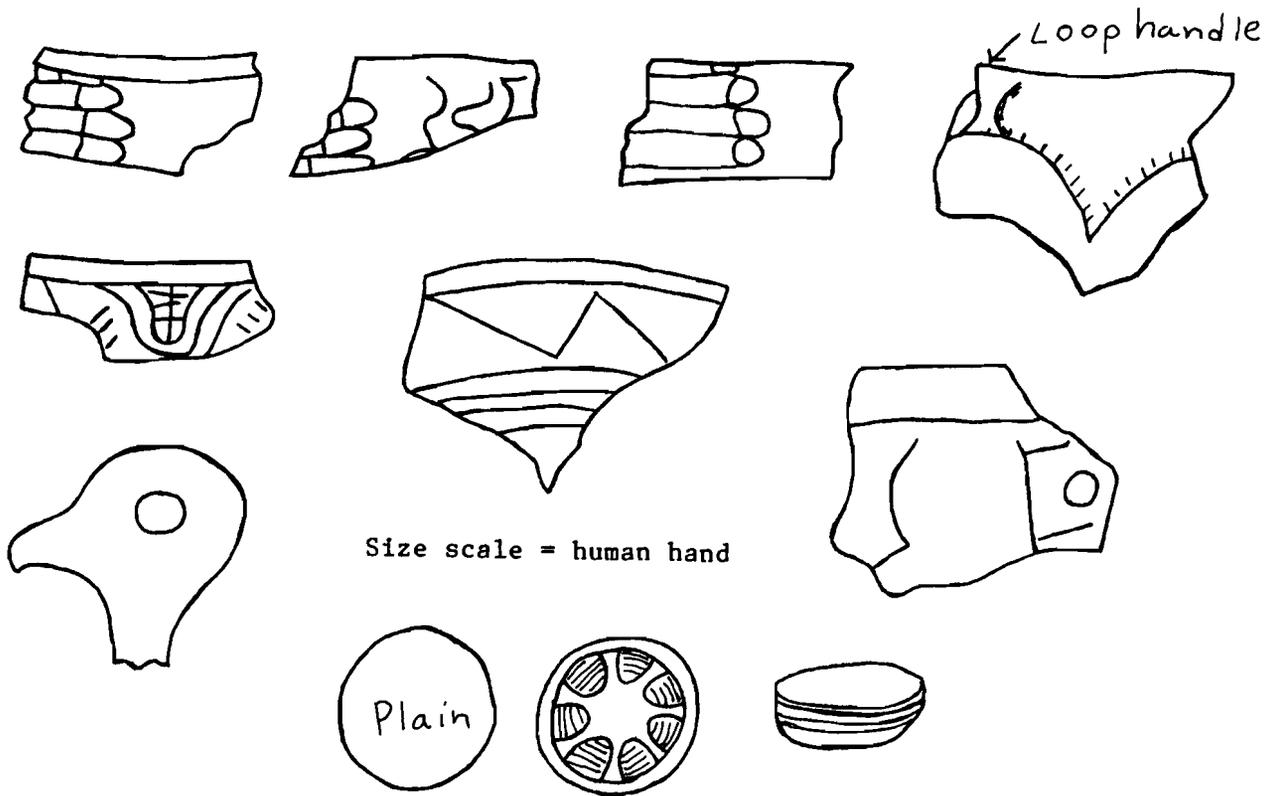
In addition to items shown above, there should be long, thin blades showing some evidence of reworking along one or more edges or across the ends. These will probably run 1.5 to 3 inches in length. There will be gravers, altered flakes, or projectile point fragments which have been worked in such a manner as to produce sharp projections (up to 2.5 mm in length) which could be used for cutting.

There will be uniface knives, large flakes showing chipping on one surface (up to 4 inches in length), and a variety of small, snubbed-nosed or snubbed-end scrapers. Many of these will have a graver-like projection off to one side, usually the right. If you find similar material to this report it!

[NMAA 4 (1969) 2 (February), 3]

DEER ISLAND CERAMICS

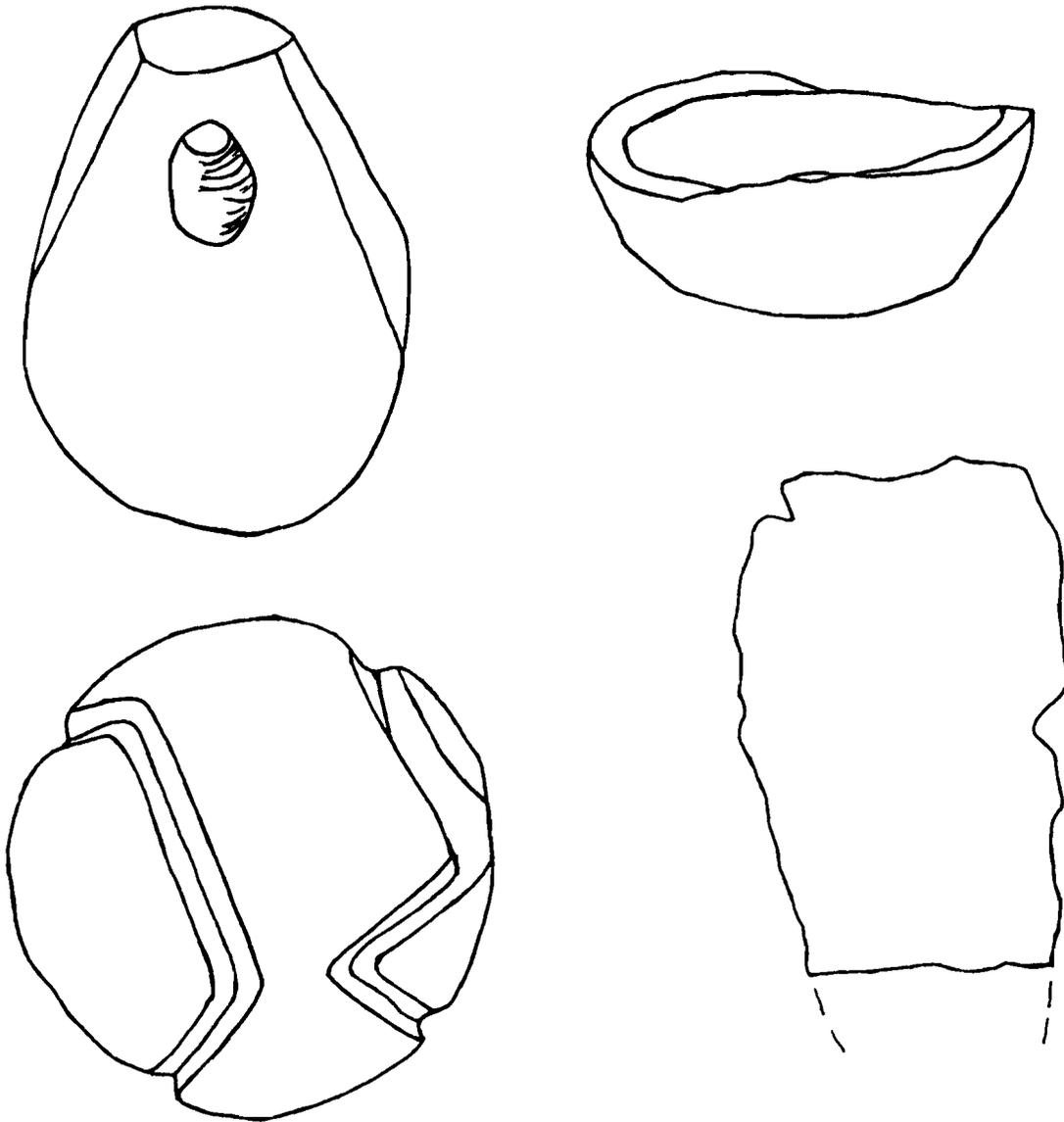
Dr. Galle of Ocean Springs sent in a report on the Deer Island site. He said that Camille leveled the mound and shell and pottery from one side of the Island to the other. Everything was heaped up in a sand dune near the north side. Below are some drawings of decorated pot sherds and several small vessels found washed from the mound site.



[NMAA 4 (1969) 8 (September), 4]

SOME ARTIFACTS FROM MULATTO BAYOU SITES

Eddie Meeks of Gulfport sent in the following drawings of artifacts from the Mulatto Bayou sites. Eddie reports the plummet, finger paint pot, and clay ball all came together at a depth of about 3 feet below the surface. He remarked that the plummet was rather typical of the site but that the finger paint pot and clay ball are rather unusual. The incised design on the clay ball is quite unlike other clay balls from the site. A hematite plummet found by the late Robert Lowry had a very similar incised design on it of this kind. The spear or knife was of white flint.



A POVERTY POINT BURIAL?

Roger Dean

The second term of the Fourth Summer Field Session in Mississippi Archaeology, Mississippi State University, was spent continuing research on the Claiborne Site (22-Hc-35) in Hancock County, Mississippi.

While working on this site, which is a part of the Poverty Point Complex, the field crew was contacted by a local collector who found a burial on the neighboring Cedarland site. No burials have been reported from any Poverty Point or Poverty Point related site in this area. We were very happy to receive such a report as it afforded a possible opportunity to provide us with some data on the burial practices and physical characteristics of the people of this period. At the time this burial was reported, it was late in the day. After discussing excavation of the burial with the collector, it was decided that to begin excavation that day and to leave a partly excavated burial in the open was dangerous, especially in that area where it was likely to be disturbed. Beginning work was postponed until the following day when a full day would be available.

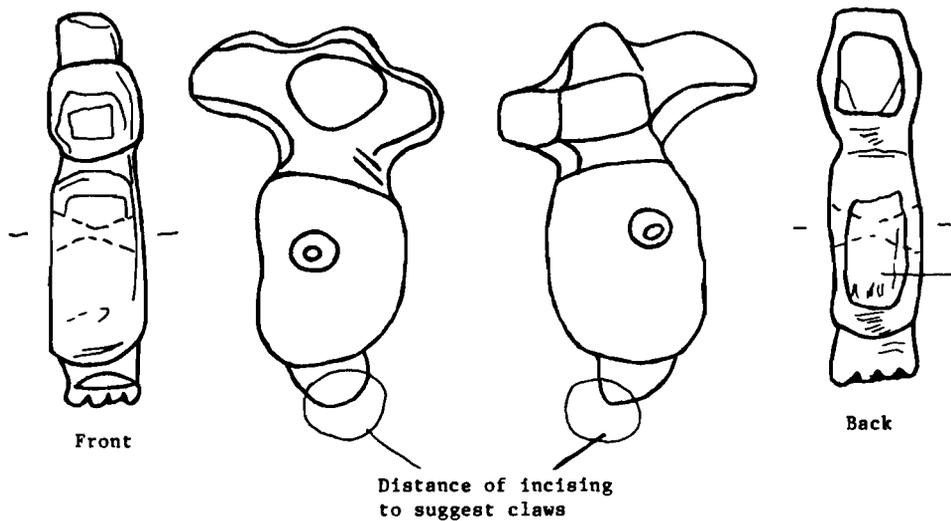
The following morning a group was assigned to remove the burial. Upon arrival at the Cedarland Site they found the burial had been completely destroyed by some unknown person or persons. It had literally been "chopped to pieces" by a shovel. Some time was then spent trying to recover the fragments with the hope that some reconstruction could be done in the fall, in the laboratory at Mississippi State University. Two bags of bone, shell, and other debris were brought in, water sifted, and dried.

Reconstruction of the skeletal remains was begun in September. Thirty pieces of the skull were fitted together, but since the complete facial region was missing, full reconstruction was impossible. The other bones were extremely shattered and reconstruction has been fruitless. The burial is presumed, by this author, to have been male, very robust, and to have had an age of 28-35 years at death. This burial is possibly the first to be reported from the complex of Poverty Point and related sites on the Gulf Coast, but it was probably not one of the Poverty Point people. The remains were more likely those of a much later Indian, possibly Proto-historic. This conclusion is reached by a comparison of human bone to that of animal bone in the immediate locale of the burial; the animal bone was far more deteriorated.

We shall never really know the age of the burial, the related cultural complex or other pertinent details, because of one individual's lack of regard, or disregard, for proper archaeological procedure and purpose.

[MAA 5 (1970) 8-9 (November-December) 1]

LATE ARCHAIC--POVERTY POINT RELATED RED JASPER EFFIGY BIRD
 [Richard A. Marshall]



Actual size: Drawn from outline and filled in. Drawn by Richard A. Marshall. Entire surface with moderately high polish with exception of area on back where area is without full working. When the effigy is suspended by perforation, the head hangs down.

Dark Red Jasper effigy bird, Scales Collection, Geology Museum, Mississippi State University, State College, Mississippi.

Possibly from the Starkville vicinity as the Scales Collection is almost entirely local. There are no records.

Features are sculpted in low relief (eyes). The only incising is that suggesting claws.

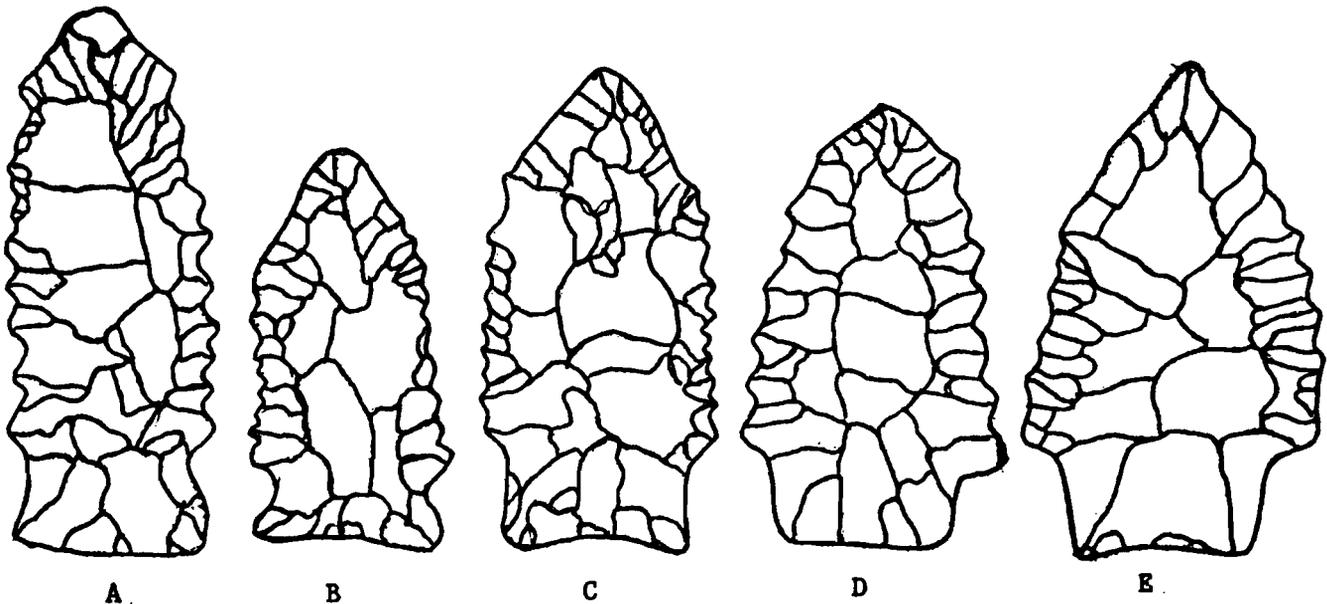
EDITOR'S NOTE* Dr. Clarence H. Webb has published an article in American Antiquity, Volume 36, Number 1, January 1, 1971, in which he discusses Archaic and Poverty Point Zoomorphic Beads found in the southern states from western Louisiana and Arkansas to Western Alabama. The article contains a detailed description of the specimens as well as detailed drawings. He also discusses the comparison of the beads with their insect prototypes. The title of the article is "Archaic and Poverty Point Zoomorphic Locust Beads."

[NMAA 6 (1971) 2 (February), 1]

PROJECTILE POINT TYPE?

Samuel O. McGahey

The editor would like to encourage the participation of the readers of these sheets in a constructive project. Illustrated below are five projectile points from the state of Mississippi. Do you have any points resembling these in your collection or do you know where others of similar form are located? If you have such information, please let us know. Drawings or photographs would be appreciated as well as provenience information and a list of associated artifacts.



The illustrations are actual size, and the thickness of the collection averages eleven millimeters. All specimens illustrated are of local gravel chert which is generally tan or cream in color. They were all found in central or south Mississippi. Specimen A is from Sharkey County, B from Rankin County, C and D from Hinds County and E from Claiborne County. Only the Claiborne County specimen can be traced to a particular site. Another specimen not presently available for illustration is pictured by John L. Cotter in a discussion of the Gordon site in Jefferson County, Mississippi (Cotter 1952: Figure 59). The assemblage at the Gordon site consisted mostly of late ceramics.

A similar and possibly related projectile point type is Kirk (Bell 1960:62), the distribution of which extends into northeastern Mississippi. The Kirk point is generally narrower in proportion, however, and has a much more acute distal end. On typological grounds these specimens appear to be Mid-Archaic in age. Many, if not most, points of that age are fairly large, broad stemmed and crudely made. Serrations are much more common on Early Archaic points though, and this may place them in the early part of the Mid-Archaic. The answer to this question must await further data; and, since surface collections can help in this respect, your aid is being sought. If the geographic distribution is continuous with that of the Kirk point, then it is quite possibly a variation of that type. Consistent surface associations with better known artifact types would also be revealing--again, it is up to you.

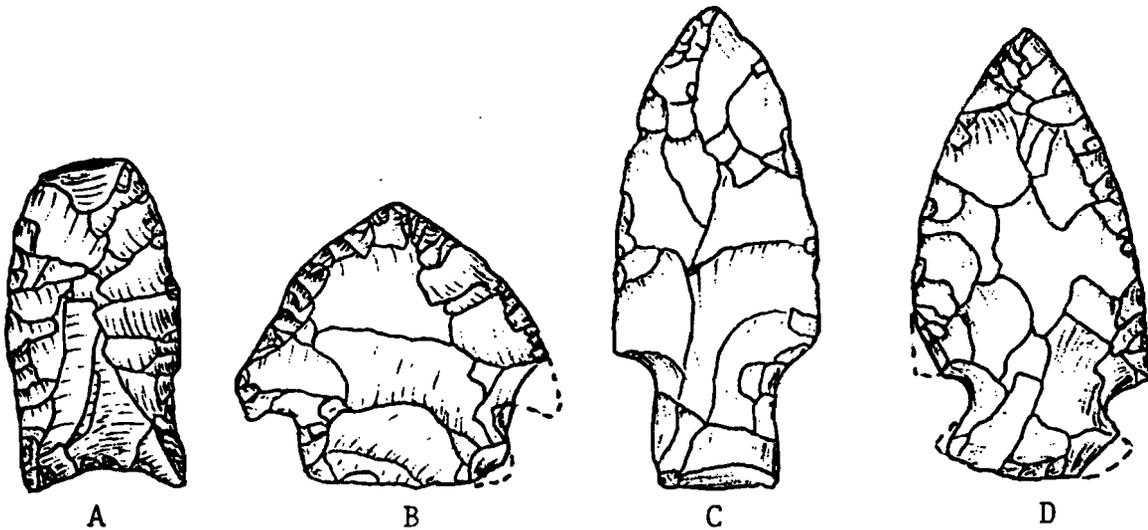
REFERENCES

- Bell, Robert E.
 1960 Guide to the Identification of Certain American Indian
 Projectile points. Oklahoma Anthropological Society Special
 Bulletin 2, Norman.
- Cotter, John L.
 1952 The Gordon Site in Southern Mississippi. American Antiquity
 18:110-126.
- [MAAN 9 (1974) 3 (March), 10-11]

POINTS COLLECTED BY MR. BEN CESSNA, CLAIBORNE COUNTY
 [Samuel O. McGahey]

Illustrated below are four projectile points from Claiborne County. Specimens A and B are from 22-Cb-553, a large Archaic site reported in Sam Brookes' and Byron Inmon's survey report of Claiborne County (Brookes and Inmon, 1973). Point types present at this site were Almagre, Collins, Denton, Kays, Pontchartrain, Little Bear Creek, Mabin, O'possum Bayou, Shumla, and the ground basal segment of a lanceolate point. Those familiar with projectile points will note that a good range of mid through late Archaic types is present, as well as a minor showing of later types represented by Collins and Mabin. Denton and O'possum Bayou points are not formally named types but will be given such status in a forthcoming site report concerning work on the Denton site, 22-Qu-522, in the Yazoo Basin. This report will hopefully be published by the Department of Archives and History in the near future. Radiocarbon dates at Denton suggest an age of around 5000 radiocarbon years for the Denton and O'possum Bayou types. Specimen A, which exhibits basal grinding and thinning or fluting, is suggestive of a Paleo Indian component, as is the ground basal segment mentioned by Brookes and Inmon. Specimen B is similar in form to numerous other points found across the entire state, with the exception of younger land surfaces in the Yazoo Basin. Broad-stemmed specimens similar to this one have been found at the Denton and Longstreet sites in the Yazoo Basin. Both of these sites are on old land surfaces and both have yielded C-14 dates of over 3000 B.C. Younger land surfaces in the Yazoo Basin yield Pontchartrain and other late Archaic types, but usually very few if any broad-stemmed specimens.

Specimen C, from 22-Cb-504, falls within the Denton type, which is characterized by a long straight stem which is fairly broad, and coarse percussion chipping. Specimen D, also from 22-Cb-504, resembles the O'possum Bayou type. It differs, however, in being more carefully made, with secondary chipping around the blade edges.



Drawings are actual size

REFERENCE

Brookes, Samuel O. and Byron Inmon
 1973 Archaeological Survey of Claiborne County, Mississippi.
Mississippi Archaeological Survey Report 1.

[MAAN 9 (1974) 4 (April), 5 and 7]

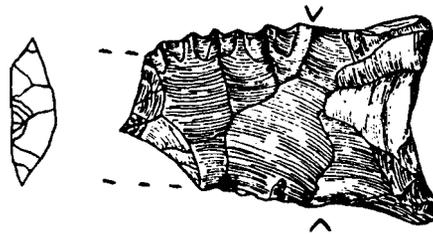
AN UNUSUAL POINT FROM MONROE COUNTY

Sam Brookes

Recently, a local collector found a Dalton point on an unrecorded site in Monroe County. This point is made of local tan chert and has the basal grinding and serrations common to this point type. One unusual feature is the acute distal end. Upon examination this point was found to have been reworked into a graver.

Two large flakes were struck from the underside (not shown) to leave a beak protruding from the center of the point. Several small flakes were then removed from the underside to sharpen the graver. It is of interest to note that the early trait of unifacial tool making was employed, even when reworking a bifacial projectile point.

The drawing is actual size:



[MAAN 9 (1974) 4 (April), 4]

PROJECTILE POINTS FROM THE NORTH DELTA

Samuel O. Brookes

Figure 1, A-J illustrates a group of eight points from the North Delta. All show a high degree of similarity in form and chipping technique. The points are described here as they do not fit into any formally recognized category. Further examples will be illustrated when found or reported to the author.

Provenience

A: 22-Qu-567	Tackett	MAS Collection
B: 22-QU-567	Tackett	MAS Collection
C: 22-Qu-567	Tackett	Austin Adkins Collection, Clarksdale
D: 22-Qu-567	Tackett	MAS Collection
E: 22-Qu-567	Tackett	MAS Collection
F: 22-Qu-567	Tackett	MAS Collection
G: 22-Qu-554	Eagles Nest 1	Mr. & Mrs. J.A. Russell Collection, Jonestown
H. 22-Co-648	Eagles Nest 3	Mr. & Mrs. J.A. Russell Collection, Jonestown
I: Near Dublin	in Coahoma County	Mr. & Mrs. J. Cheairs Collection
J: 22-Qu-567	Tackett	Mr. & Mrs. Ralph Baltzer Collection,

Clarksdale

- Form:** The points are corner notched with expanding barbs. Stems, when present are straight to slightly expanding. Bases are lightly ground. Grinding is present along the base of one specimen (Figure 1 H). Blades are triangular with acute distal ends. Edges are finished by fine retouching, often resulting in a serrated appearance.
- Material:** Point A is made of a bluish-grey chert. The material is similar to and may be Fort Payne Chert. Points B-J are made of local gravel chert. Point H shows the reddish color characteristic of Yellow Chert that has been subjected to fire. Specimen I is yellow.
- Wear:** No wear is apparent on any of the points.
- Breakage:** Stems: Five stems are missing, Figure 1 B, D, E, F, H, and I. The stems are usually snapped off at or near the point of juncture with the shoulders. One specimen, Figure 1 C, shows a fracture on one side of the stem. It is possible and indeed probably that the stems were broken while in use. The points are generally long and heavy while having slender, weak stems.
- Barbs:** Seven specimens exhibit broken barbs, Figure 1 C, D, E, F, H, I, and J.
- Tips:** Six specimens exhibit broken tips, Figure 1 B, C, G, H, I, and J.
- Blade Edges:** Only one point shows breakage along the blade edges. Figure 1 B has a break on one edge.

Measurement in Millimeters		(B = broken)
Length	Width	Thickness
A: 81	38	8
B: 76-B	42	10
C: 76-B	37-B	8
D: 44-B	33-B	6
E: 59-B	34	8
F: 48-B	28	9
G: 74-B	38	8
H: 51-B	39-B	7
I: 37-B	46	7
J: 53-B	44	10

Range: Length 55-91 (estimate); Width 18-42; Thickness 6 - 10
 Average: Length ?; Width 41.4 ; Thickness 8

Periods Represented at the Three Sites

22-Qu-567	Tackett	Poverty Point Tchula Marksville Baytown Mississippian
22-Co-554	Eagles Nest 1	Marksville Baytown
22-Co-648	Eagles Nest 3	Late Archaic Marksville Baytown Coles Creek

Comments:

The only North Delta periods for which diagnostic projectile points are known are Poverty Point and Mississippian. Since the points described in this report do not fit into any known category, it is safe to assume that they are part of an undescribed lithic assemblage. The points probably date from the Late Archaic period. The closest resemblances are to points from the Poverty Point period, a Late Archaic tradition in the Mississippi Valley.

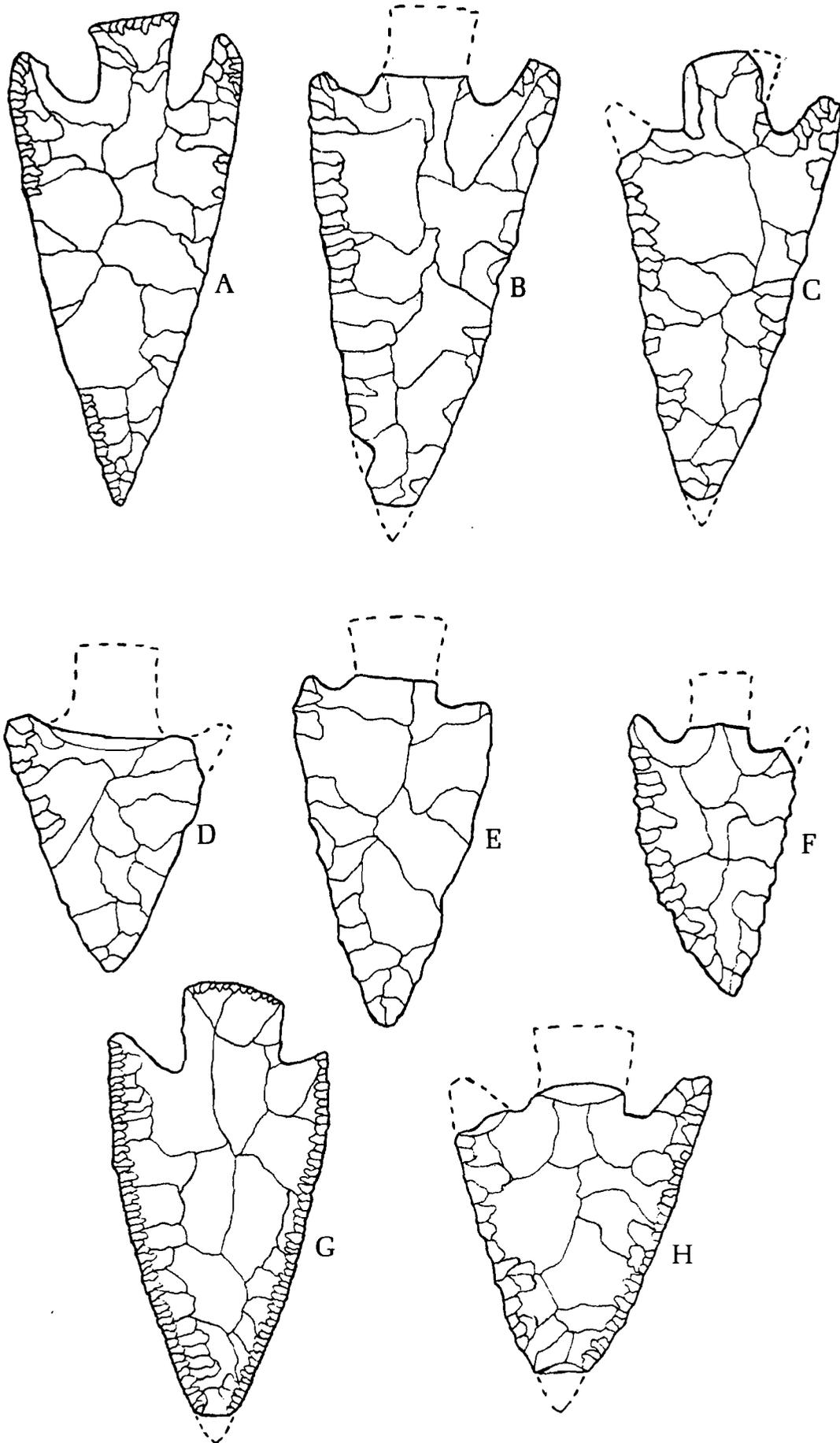


Figure 1

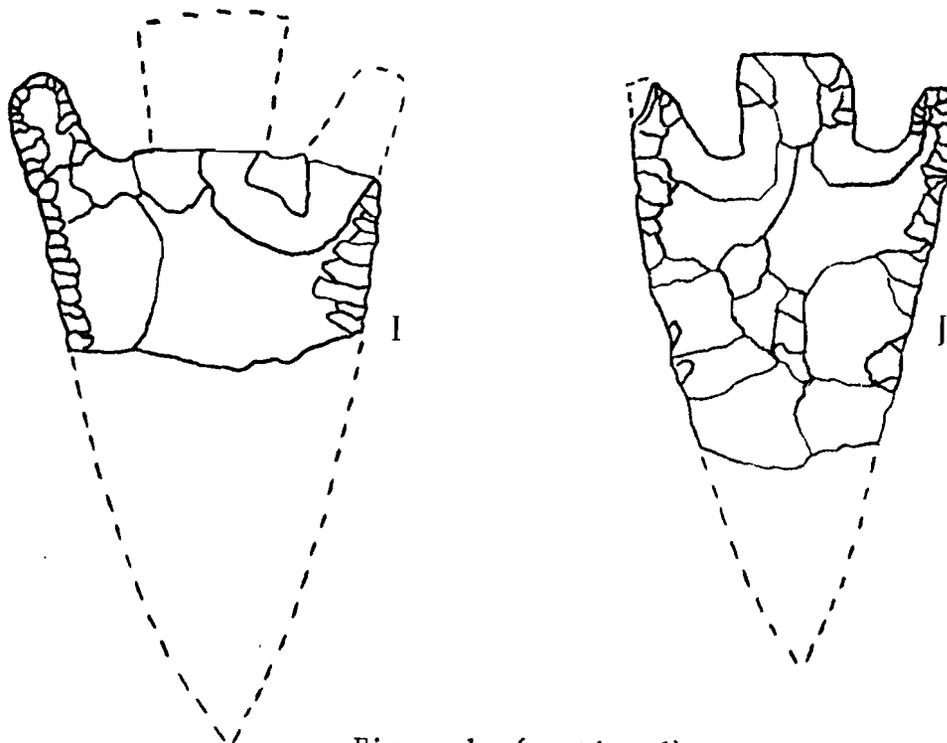


Figure 1. (continued)

[MA 9 (1974) 7 (July), 2-6]

KIRK-LIKE POINTS

Samuel O. Brookes

Figure 1 A and B are two more examples of the points shown in MAA Newsletter, Volume 9, 4. Both of these points were found in Claiborne County, Mississippi, by Ben Cessna. The site is unrecorded at this time, but it is west of the Vaughan site, 22-Co-566.

Gagliano (1963) lists Kirk Points as a representative point type for his Jones Creek assemblage. It is interesting to note that the points illustrated in his report as Kirks, actually belong to this group (Gagliano 1963, Figure 4, I-L). All four of these specimens have the peculiar distal end so characteristic of this type.

Flaking patterns, thickness, and the distal end treatment all add up to place this type well out of the range of Kirk variations. It is probably a Middle Archaic form with its distribution being the southern portions of Mississippi and parts of Louisiana.

Both the points illustrated in Figure 1 are of tan local chert. Figure 1 B shows use on the distal end, characteristic of cutting or scraping some hard substance. The tiny chips are actually pressure crushes. This artifact type could be a knife form.

REFERENCES

- Gagliano, Sherwood M.
 1963 A Survey of Preceramic Occupations in Portions of South Louisiana and Mississippi. United States Gulf Coastal Studies Technical Report 16, E, Coastal Studies Institute Contribution 63-7. Baton Rouge.

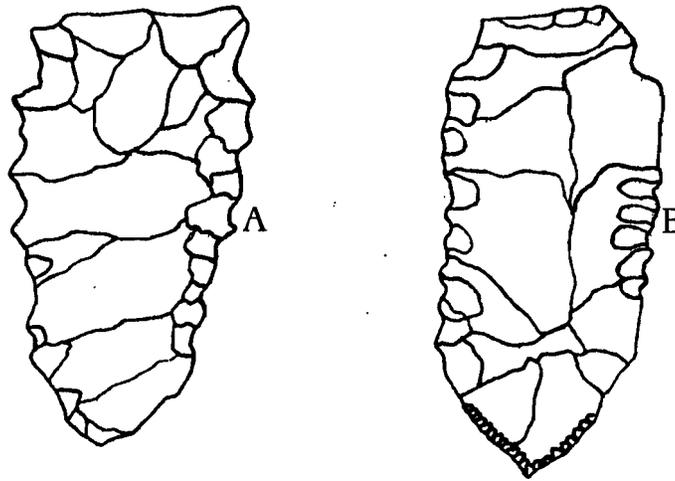


Figure 1.

West of 22-Cb-566, Vaughn Site, Middle to Late Archaic

[MA 9 (1974) 7 (July), 7-8]

A PREHISTORIC DUGOUT CANOE

Samuel O. McGahey

In April of this year a well preserved dugout was discovered in the Homochitto River by three Natchez men, Jerry Haney, Gene Lewis, and Eddie Ellis. It was brought to Natchez where it was examined by numerous people, including myself and Curtis Peterson of the Florida Department of Archives and History.

Figure 1 below indicates the size and shape of the vessel. Samples were taken for identification of wood and for radiocarbon dating. A sample submitted to the Forest Products Laboratory of the U. S. Forest Service in Madison, Wisconsin, was identified as bald-cypress (*Taxodium distichum*). The radiocarbon date determined by the Geochronology Laboratory at the University of Georgia was A.D. 1465 ± 60 (UGa803).

The method of manufacture seems to have been to use a stone adze in conjunction with burning. The interior still shows some evidence of charring. Although adze marks remain in evidence, apparently considerable effort was made to smooth the surface and much care was taken in construction of the canoe. There is a hole in the stern (?) about ten centimeters in diameter. The keyhole configuration seems to have resulted when a notch was broken out of this end. The suggestion has been made that the hole was for mooring purposes and that the break could well have occurred as the vessel was pulled away from its mooring.

The prow (?) end was apparently torn off quite recently. The wood surface at the point of this break contrasts quite sharply with that of the rest of the canoe. The recently broken end is very light in color like newly cut wood, while the remainder of the surface is the usual gray-brown color of weathered wood. Apparently the canoe was deposited in an environment favorable for its preservation shortly after its loss or abandonment and no doubt remained there until it was recently dislodged. There was a severe flood in the Homochitto this spring, with over twelve inches of rain falling in a matter of hours. It seems likely that the break to the prow (?) end occurred at this time as the vessel was brought to the surface.

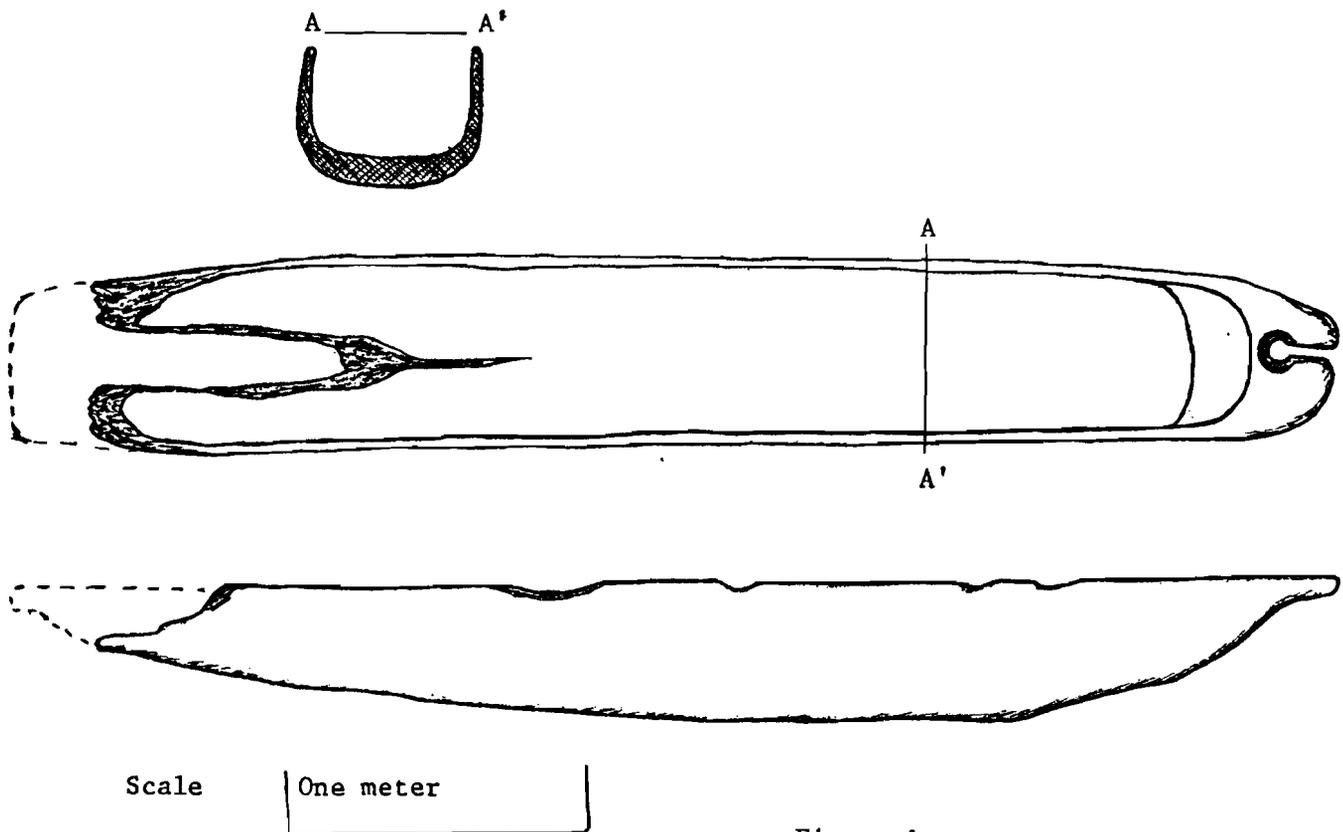


Figure 1.

Although such discoveries are rare, they occasionally occur, and several examples have come to light during the past few years in the southeast. At least two other canoes possess holes similar to the one illustrated in Figure 1. One of these was recovered from the Tombigbee River in the spring of 1973. N. R. Stowe of the University of South Alabama reports that the Tombigbee specimen yielded a date of A.D. 1345 \pm 60 (personal communication, June 10, 1974).* Joe Frank of the Louisiana Archaeological Society informed me at the recent MAA

*Mr. Stowe plans to publish an article concerning dugouts from the north central Gulf Coast in the December, 1974 issue of the Journal of Alabama Archaeology.

meeting that such another discovery was made near Lake Charles, Louisiana in recent years.

It is generally believed that water transportation was of major importance throughout much of the prehistory of the southeast. There was probably a wide variety of dugout vessels with different load capacities which were used in the transport of trade materials over the river systems of the area.

Comments concerning the canoes discussed here or similar vessels would be welcomed.

[MA 9 (1974) 8 (August), 4-5]

GREENBRIAR PROJECTILE POINTS: A DISCUSSION OF FORM AND FUNCTION

Samuel O. Brookes, Bruce J. Gray, Byron Inmon, and Angela Rodríguez

Recent excavation at the Hester Site in Monroe County, Mississippi, (22-Mo-569), has produced a wide range of early points exhibiting marked use wear. Since one of the goals of this excavation is a functional analysis of lithic industries, the following report will be a preliminary statement concerning uses of Archaic tool types as revealed by specific examples of lithic artifacts from Monroe County sites.

The Greenbriar point was named by Lewis and Kneberg (1960). Cambron and Hulse (1969) describe the point and assign it to a transitional period between Paleo-Indian and early Archaic. Few examples have been found in the Yazoo Basin, but the type is common in northern Mississippi and Alabama. Brookes (1971) has described three points of this type from Virginia. Rucker (1974:89, G) illustrates a Greenbriar point from Lowndes County, Mississippi, which was found on a site along with Big Sandy, Autauga and Dalton complex points, types also present on the Hester Site.

The Greenbriar, a side-notched point exhibiting basal grinding and wide, shallow notching, was shaped by broad random flaking. Most examples of this point in the Tombigbee drainage area also reveal evidence of heat treating during the preform stage. After heat treating, pressure flaking was used to serrate the blade. Heavy grinding on the notches as well as on the base implies that the Greenbriar was a hafted point. Grinding of the notches would have served to keep lashes from being cut during use, and basal grinding would have prevented splitting of the shaft upon sharp impact.

It is thought that these points served doubly as spears and knives. Some groups used a type of spear with a short detachable haft which held the point, enabling the user to remove the shorter shaft and use the point as a knife. The point could then be reinserted and reused as a projectile. If indeed Greenbriar points were used in this manner, several wear patterns come to mind. Serrations would become broken and edges dulled, whereupon resharpening would be necessary. Alternate flaking, a characteristic form of resharpening which produces a bevelled effect (the so-called "spinner chipped points"),

sharpens the blade while leaving a maximum amount of blade edge. Both the wear pattern and the resharpening method are found on Greenbriar points. Furthermore, grinding of the notches would have been an aid in keeping a knife blade securely hafted, since the cutting, sawing motion would cause it to work against the lashes.

Another type of wear pattern one might expect on these points would be impact flutes. These occur when the point strikes some hard object with a relatively high velocity. In such cases the natural fracture of flint would cause a broad hinge fracture to result, producing a long flake running toward the base on the surface opposite that to which the force was applied. After such a fracture the point would probably not be reused as a point or knife but could be rechipped into an end scraper or graver. Impact flutes do occur on Greenbriar points; moreover, several points have been noted which have multiple impact flutes. These points were broken so severely that they were unsuitable for further use as projectile points or knives. They were still being used, however, and so forcefully as to produce these flutes.

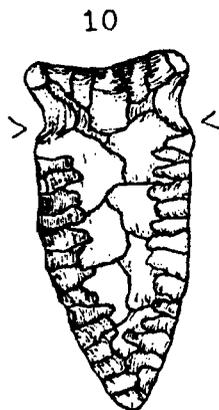
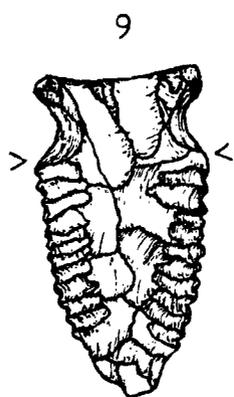
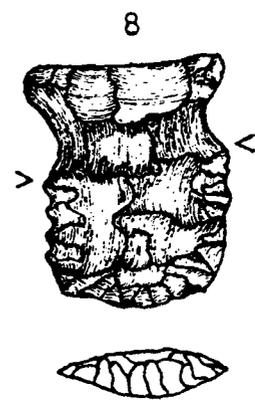
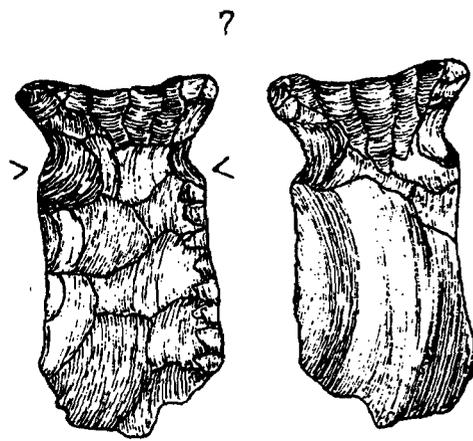
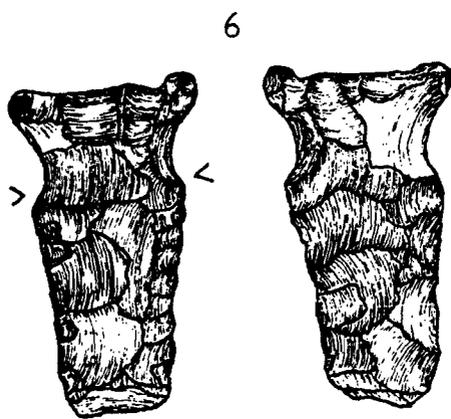
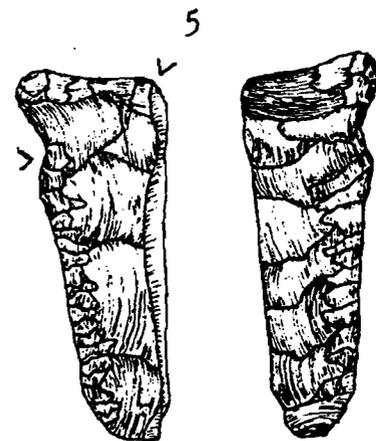
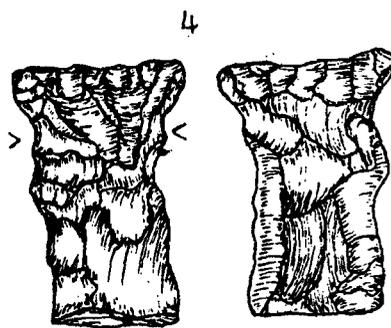
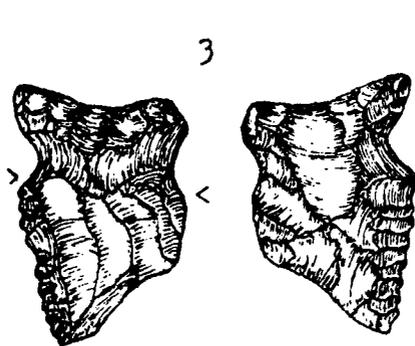
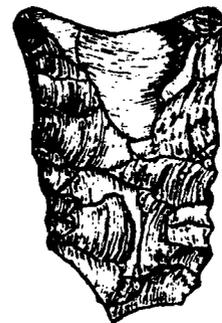
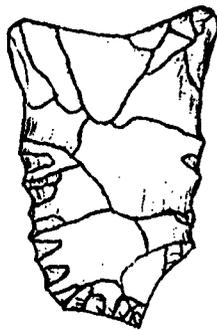
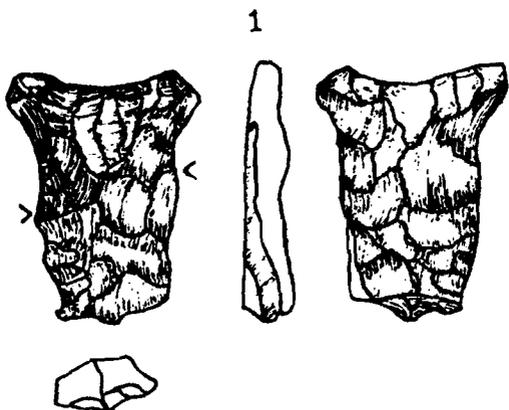
Since many Archaic peoples depended heavily upon bone implements, knives must have been of great value in manufacturing such tools. In splitting bone, however, a wedgelike tool would be needed, and it is thus proposed that some Greenbriar points were used as wedges. Such use would account for the multiple impact flutes on some points. The hafts, being ground and possibly protected by the haft itself, would be shielded from the force of hammering. The blade would receive the damage since for every action, there is an equal but opposite reaction. This reaction, on a surface such as the unground distal segment of a point, would certainly have been sufficient to produce impact flutes.

Along with wedges, graters are vital instruments in a bone working industry. These sharp pointed tools are used to groove bone so that slender splinters can be produced to serve as needles, awls, etc. Graters have been noted on Greenbriar points as illustrated by points 1 and 2. Both of these types have been reworked into graters. Point 1 has been worn smooth on all distal surfaces and the grater tip is but a small, rounded knob. This point exhibits an impact flute along one side. Point 2 is illustrated for comparison. It has been described previously, though erroneously listed as a Dalton (Brookes 1974).

Points 3 through 6 all have impact flutes. Specimen 3 has five and specimen 4 has three. Number 5 has been split up the middle by a single fracture. Number 6 shows a small impact flute.

Point 7 is a unique specimen. In the illustration on the left, five deep scars are visible. These scars were produced by forceful blows which caused smaller hinge fractures and crushes along the edge. The opposite face shows a large fracture. This point was evidently laid on edge and beaten, possibly in splitting bone. The battering produced the five scars, and the resistance to the material being hammered produced the unusual impact flute.

Point 8 is an end scraper. Use wear is present along the edge. From the relatively steep edge angle, and the small hinge fractures



and polish on the edge, it is obvious that this specimen was used to work some hard material, probably antler or bone.

Points 9 through 11 indicate stages of use as projectile point-knives. Number 9 has sharp serrated edges, 10 has dull, smooth edges with serrations worn off. Point 11 has been resharpened by beveling. Serrations are sharp on the left edge. The right edge, however, has broken serrations, dull surfaces, and small pressure crushes on the underside, once again a sure sign of use on such materials as bone or antler.

Uses and materials of points 1 through 11.

1. Projectile point-knife, graver, wedge. White gravel chert, heated.
2. Projectile point-knife, graver. Tan gravel chert.
3. Projectile point-knife, wedge. Red gravel chert, heated.
4. Projectile point-knife, wedge. Red gravel chert, heated.
5. Projectile point-knife, wedge. Yellow gravel chert.
6. Projectile point-knife. Red gravel chert, heated.
7. Projectile point-knife, wedge. Red gravel chert, heated.
8. Projectile point-knife, end scraper. Red gravel chert, heated.
9. Projectile point-knife. Red gravel chert, heated.
10. Projectile point-knife. Red gravel chert, heated.
11. Projectile point-knife. Red gravel chert, heated.

Provenience

- Point 1, 22-Mo-576, Beachum Collection.
 Point 2, 22-Mo-595, Beachum Collection.
 Point 3, 22-Mo-516, Beachum Collection.
 Point 4, 22-Mo-569, Beachum Collection, Catalogue number 122.
 Point 5, 22-Mo-569, Harrison Collection, Catalogue number 842.
 Point 6, 22-Mo-569, Beachum Collection, Catalogue Number 121.
 Point 7, 22-Mo-569, Harrison Collection, Catalogue Number 702.
 Point 8, 22-Mo-569, Beachum Collection, Catalogue Number 124.
 Point 9, 22-Mo-476, Beachum Collection, Catalogue Number 49.
 Point 10, 22-Mo-580, Beachum Collection, Catalogue Number 26.
 Point 11, 22-Mo-569, Harrison Collection, Catalogue Number 669.

REFERENCES

- Brookes, Samuel O.
 1971 Projectile Point Types from Halifax County, Virginia. Unpublished manuscript.
 1974 An Unusual Point from Monroe County. Newsletter of the Mississippi Archaeological Association 9(4).
- Cambron, James W., and David C. Hulse
 1969 Handbook of Alabama Archaeology. Part One: Point Types. David L. DeJarnette, ed. Archaeological Association of Alabama.
- Lewis, T.M.N., and Madeline Kneberg
 1960 Aaron B. Clement Collection. Tennessee Archaeologist 16(1).

Rucker, Marc D.

1974 Archaeological Survey and Test Excavations in the Upper
Central Tombigbee River Valley: Aliceville-Columbus Lock
and Dam and Impoundment Areas, Alabama and Mississippi.
Department of Anthropology, Mississippi State University.

[MA 9 (1974) 8 (August), 6-9]

A CLOSER LOOK AT POINT AUX CHENES

Carey L. Geiger

Point aux Chenes is a marshy promontory of land pushing out into the Mississippi Sound in Jackson County, Mississippi. The water around this point teems with fish, shellfish, crabs, and other aquatic life; the marsh is extensive and supports ducks, terns, gulls, cranes, opossums, rabbits, nutria, and other wildlife. Although the area appears inhospitable to man today, man did make use of it in former times. He was probably attracted by the abundant food supply.

Located approximately five miles from Pascagoula, Mississippi, on the Mississippi Sound, the main site has been largely destroyed by tidal erosion. The northern edge of it remains, and shell middens are dispersed in the area.

Artifacts have been surface-collected from this area for several years, but no excavations have been attempted. This report will describe some of the collected material and try to interpret its significance.

Many pottery sherds, most of them characteristic of the Tchefuncte period, have been gathered from Point aux Chenes. Markings include punctating, incised lines, and dentate stamping. Tempering includes sand, gravel, shell, and fired clay. Two excellent sherds, from the same pot rim, represent five inches of the rim of a pot that was eleven inches in diameter! Several rims have edges thickened and depressions across the rim. Abounding on the site are pot legs, most of which are mammiform but a few of which are wedge-shaped.

Stone tools consist of the following:

- 59 whole points
- 78 broken points
- 2 drills
- 1 graver
- 7 plummets (4 broken)
- 9 scrapers
- 1 uniface blade
- 7 hammerstones
- 1 pestle
- 1 polished white stone
- 1 gorget fragment
- 1 boatstone fragment

Dr. Clarence H. Webb assisted in point classification (personal observation November, 1974). Twenty-six were classified as

Pontchartrains, ranging in length from 70 mm to 25 mm, and in width from 31 mm to 20 mm. An unusual characteristic exists in fifteen of these points: they are convex- or median-ridged on one side and flattened on the other. Two others are Kents, six are Garys, and two are Bradley Spikes. Two resemble Wades (Cambron and Hulse 1969:106), but other cultural materials do not support this classification. Size ranges of the unidentified points are: length, 85 mm; width, 38 mm to 18 mm; thickness, 11 mm to 5 mm.

Another group of artifacts are Poverty Point cooking objects. These are fired clay objects used before pottery times for pit cooking.

Examination of these materials indicated that Point aux Chenes was a multi-component site. The Pontchartrain points and Poverty Point objects are of major interest. These indicate that the site was occupied by Poverty Point people (Webb 1968). A trend may be developing to show that these people existed all along the Mississippi coast. Questions that come to mind are: Does this indicate a simultaneous occupation with the Poverty Point culture in Louisiana? Does it indicate a migration? What influence, if any, did these people have on the later Tchefuncte culture?

The pottery indicates that another occupation of the site was during the Tchefuncte Period. Characteristic Tchefuncte is being found on other Mississippi coastal sites as well.

Some material seems to indicate occupation during the Marksville period, but more diagnostic material will have to be found to confirm this.

All of these cultural traits indicate that Point aux Chenes was occupied from 1200 B.C. to 500 A.D. or later. A closer look at Point aux Chenes and other Jackson County sites should cast a brighter light on the Poverty Point and Tchefuncte periods in Mississippi.

As a footnote, historic artifacts found on Point aux Chenes include crockery, a French trading pipe, and two muzzle-loader flints.

REFERENCES

- Cambron, James W., and David C. Hulse
 1969 Handbook of Alabama Archaeology. Part 1: Point Types.
 David L. DeJarnette, ed. Pp. 47, 110. Archaeological
 Association of Alabama.
- Webb, Clarence H.
 1968 The Extent and Content of Poverty Point Culture. American
Antiquity 33:292-321.

[MA 10 (1975) 1 (January), 9-10]

MORE KIRK-LIKE POINTS

Samuel O. Brookes

Figure 1 below shows two more of the Kirk-like projectile points described in previous issues of the Newsletter (McGahey 1974:10; Brookes 1974:8). These two are from the collection of Mark Butler of

Jackson, a geologist who collected the points in Hinds County. These two bring the total number of Kirk-like points to ten. Their distribution is plotted on the map below.

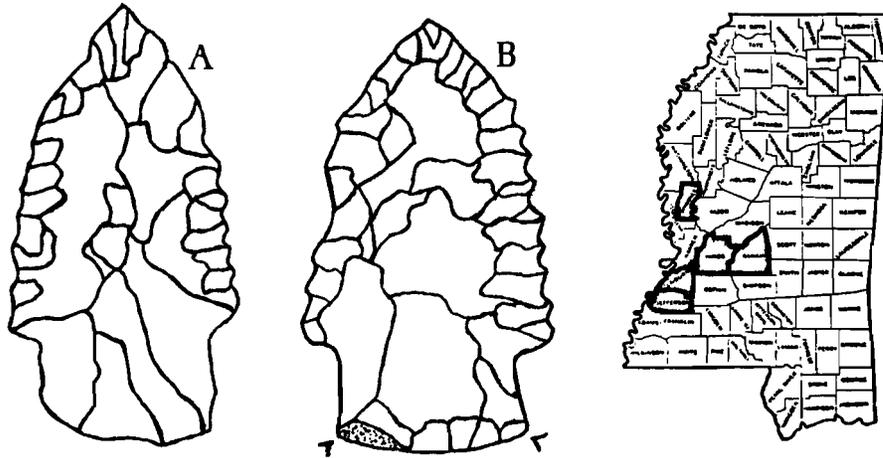


Figure 1. Kirk-like projectile points.

Both points illustrated in Figure 1 are of local gravel chert. The specimen illustrated in Figure 1A has a red distal end and a red stem, indicating light heat treating. The drawings are actual size.

People in the counties indicated above or in surrounding counties should check their collections for more examples of the type.

REFERENCES

- Brookes, Samuel O.
 1974 Kirk-Like Points. Mississippi Archaeology 9(7).
 McGahey, Samuel O.
 1974 Projectile Point Type? Mississippi Archaeology 9(3).

[MA 10 (1975) 1 (January), 11-12]

WHERE DID ODD-STYLE PROJECTILE POINTS COME FROM?

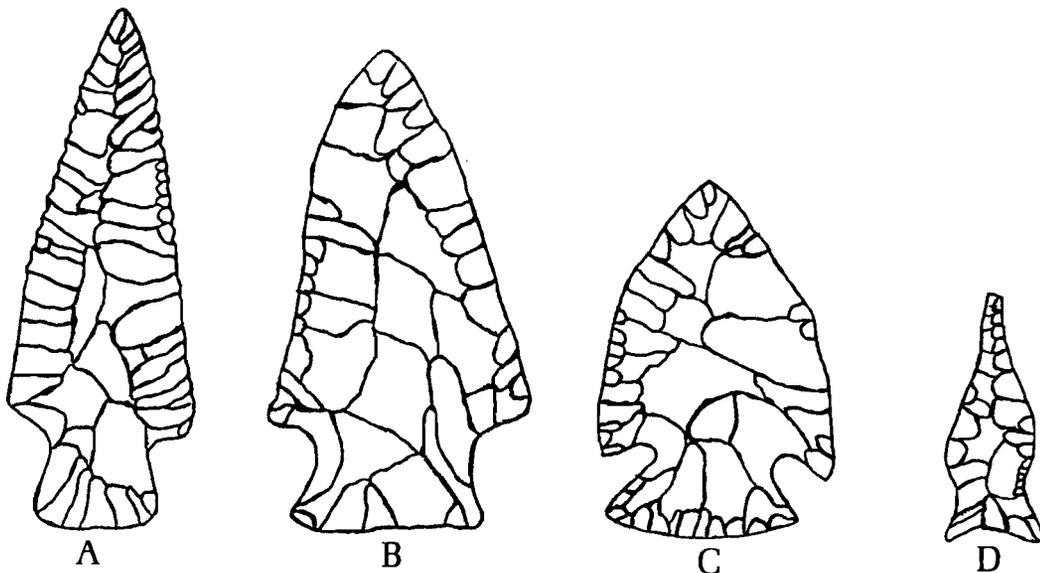
Ben Cessna

Surface collecting in Claiborne County, I have found manufacturing sites with several different styles of projectile points on them. Some have notched sides, some are made rough, or the shaft end of the point is made different from the rest, etc. I believe this is because these sites have been occupied by different tribes, at different periods of time. The periods can be several hundred to several thousand years apart.

I have found a few Paleo, Archaic and later-date projectile points all on the same site. The material seems to have been gotten out of the same stream and made at the same manufacturing site. I have found these sites to be larger than sites with just one style of projectile point. These sites were found on large streams, such as bayous and rivers, where, at the time the points were being manufactured, hunting and fishing were probably good. There was also an easy access to the material.

In my surface collecting I have found odd-style projectile points (see Figures 1A-D)), that is, odd styles for my area. These points do not appear to have been made at any of the known manufacturing sites nor were they found near a site. If they were made locally, wouldn't more than just one or two have been found? Each one I have found leaves a question mark. Where was it made? How did it get there? Was the maker hunting? If so, what was he hunting?

Two projectile points (Figures 1A and B) were found several miles apart. One is polished and the other isn't. The material they are made of is what is called Monkey Brain, a material said to be well known in the Midwest. The material is not found locally. A third point (Figure 1C) was found in an eroded cow path. I spent part of two days looking for evidence of a manufacturing site in the area.



Thickness: A - 14 mm; B - 12 mm; C - 8 mm; D - 5.6 mm

Figure 1

Two points of a fourth type (Figure 1D) were found, and there was no evidence that they were made at the site where they were discovered.

These are odd-style points for my area, but they may not be in your area. I would like to hear from other members of the MAA and collectors who have found sites where these four styles of points have been picked up.

I think the information we get from an artifact is just as important as possessing it. So few of us amateurs realize that. The information we have may be a help to other amateurs and professionals alike. We amateurs outnumber the professionals. You and I may hold the key that the professionals need to complete the life story of these people of the forest.

REFERENCES

Cotter, John L.

1952 The Gordon site in southern Mississippi. American Antiquity 18:110-126.

Perino, Gregory

1968 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society Special Bulletin 3.

1971 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society Special Bulletin 4.

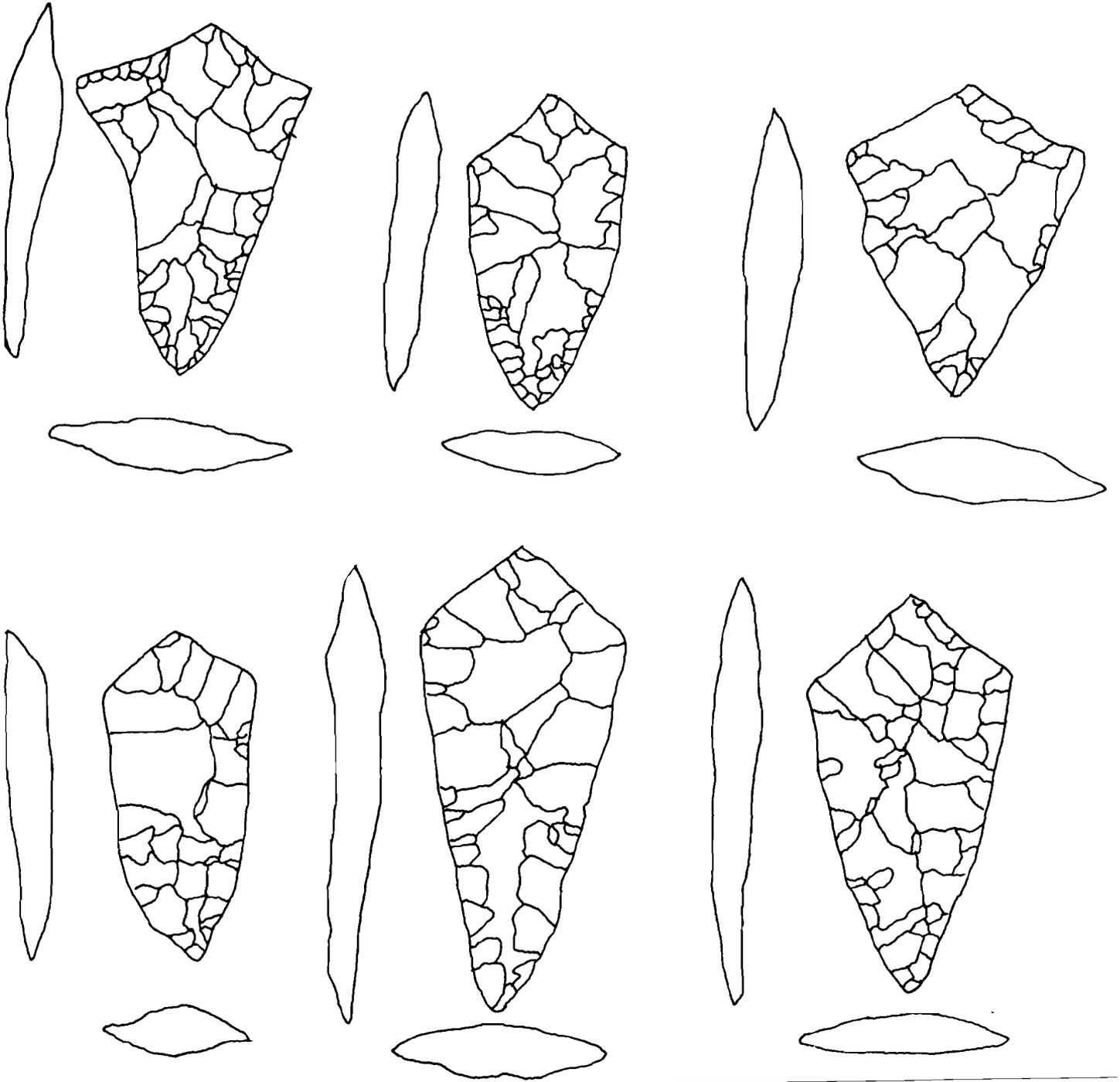
Editor's Note [Samuel O. McGahey]:

The article above asks some interesting questions. Any help from those interested in the problem would be greatly appreciated by both Mr. Cessna and the editor. Since the points were submitted along with the article, I was able to examine them. The following observation would seem to be in order. The first specimen (Figure 1A) is either a Pontchartrain (Perino 1968:70) or a Flint Creek point (Perino 1971:34). These two named types are probably part of a time and/or space continuum which geographically includes most of Mississippi, Louisiana, and also parts of Alabama and Tennessee. This specimen is of a rosy pink mottled with red and is also quite glossy. It has obviously been heat treated as are most Flint Creek points from northeast Mississippi. The various techniques of heat treating and the resulting changes in stone from various sources are poorly understood for the state of Mississippi, but the colors and luster of this specimen are definitely out of place in Claiborne County.

The specimen illustrated by Figure 1B, which appears to be of Middle Archaic age, is also reddish pink but appears to be of local chert. The luster of the first specimen is lacking, and, if it was heated, the process took place after manufacture.

Figure 1C illustrates what is probably a variation of a Lost Lake point (Perino 1968:50), an Early Archaic type. It too exhibits indications of heat treating, although possibly of a different technique. The reddish coloration is seen mostly at the edges of the point, the barbs, and distal end. It also is lustrous. This type is plentiful in north Mississippi and as far south as Madison County, but few have been reported from south Mississippi.

Figure 1. Projectile Points from Hinds County
(Drawings actual size)



The fourth specimen (Figure 1D) is a small arrow point which has been known to occur in south Mississippi, but, as far as I am aware, its distribution does not extend very far north. The type was reported from the Gordon site in Jefferson County where it was called the "fish tail" point and termed a Natchezan type. The Gordon site represents a transition from Coles Creek to Plaquemine period (Cotter 1952).

[MA 10 (1975) 2 (February), 2-4]

PROJECTILE POINTS FROM HINDS COUNTY

[Samuel O. McGahey]

HI-513, a multicomponent site in western Hinds County which contains materials from the Late Paleo-Indian through the Mississippian periods, is now being systematically collected by Paul Cox of Pearl, who sends us drawings of projectile points found by him at or near 22-HI-513 (Figure 1). Cox is keeping a record of the exact location of each artifact within the site, which covers many acres and which may actually represent several smaller sites.

Since these artifacts were not found in situ, they must be dated by their surface associations, which are Middle or Late Archaic, with a heavy predominance of Pontchartrain, Gary, and other typologically similar points of the Late Archaic period. The seven points illustrated here are therefore probably Late Archaic. The named type most similar to these specimens would appear to be Morrow Mountain, which, according to Coe (1964:37, 123), probably appeared first in North Carolina about 4500 B.C.

More information is needed to establish the chronology of these points, and your help would be appreciated. If you have in your collection any points similar to the ones shown here, please send drawings or photographs and a list of associated artifacts.

REFERENCE

- Coe, Joffre Lanning
1964 The formative cultures of the North Carolina Piedmont.
Transactions of the American Philosophical Society 54, 5.
Philadelphia.

[MA 10 (1975) 6 (June), 2-3]

A HARDIN POINT IN THE DELTA

Robert C. Morris

A surprising find near Leland, Mississippi is the spear point illustrated in Figure 1, found fully exposed along a cotton row on the east side of a small mound which slopes down five feet to a flat along the Bogue Phalia, an interior drainage stream between Deer Creek and

the Sunflower River. The Mississippi River is ten miles west, but perhaps 5000 years ago the combined Ohio and Mississippi rivers flowed past the small mound.

Made of light gray flint, an exotic stone possibly from Missouri or Illinois, the point has a lighter, yellowish band diagonally crossing its center. The basal end is ground across the edge, and the straight, parallel sides of the base are also ground. One barb and the apex have been broken off, and the apical end, where broken, is rhomboidal in cross section. One edge of each blade face is bevelled. The Hardin point type is from Illinois, a related type being the Lost Lake point (Cambron and Hulse 1964:72), from Limestone County, Alabama.

I have named the site "Percy Patterson 1" for the owner of the plantation on which it is located. Patterson permitted me to make a surface collection on his fields, which yielded Poverty Point and Deasonville worked stone and Baytown pottery sherds. These indicate a long occupational sequence.

No excavation beyond surface tillage for crops has occurred at this site, the precise location of which has been disclosed to the Mississippi Department of Archives and History for the state archaeological file.

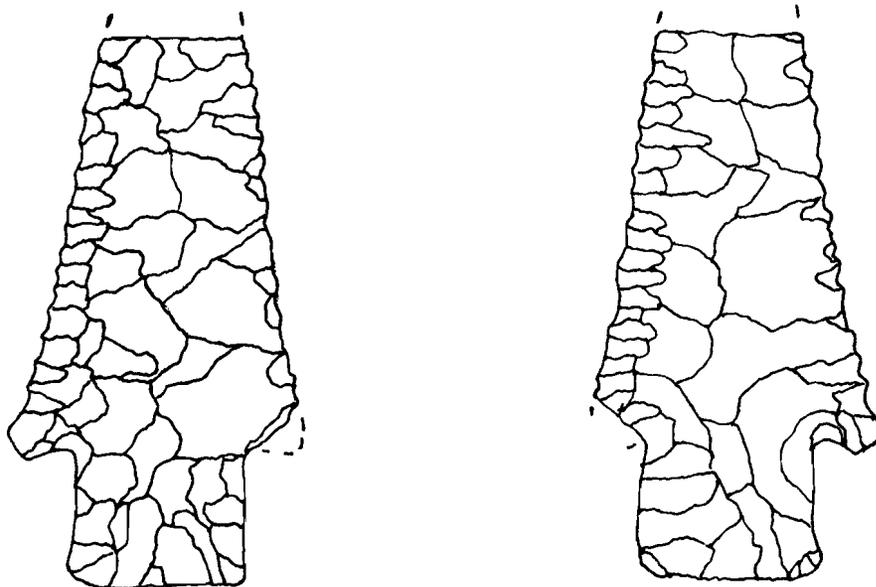


Figure 1. Hardin Point from the Percy Patterson Site.

REFERENCE

- Cambron, James W., and David C. Hulse
 1964 Handbook of Alabama Archaeology. Part 1: Point Types.
 David DeJarnette, ed. Archaeological Association of
 Alabama.

MORROW MOUNTAIN PROJECTILE POINTS

Samuel O. Brookes and John M. Connaway

In the June issue of Mississippi Archaeology (1975, Vol. 10, No. 6) six Morrow Mountain points from the Paul Cox collection from Hinds County were illustrated. A problem with the editor's logic should be brought up here. These points were said to have come from a site yielding "late Paleo-Indian through the Mississippian" materials. The editor stated that the points "...must be dated by their surface associations, which are Middle or Late Archaic." Why, if the site contains Late Paleo-Indian through Mississippian materials, must the points be Middle or Late Archaic? Even if it was meant that the bulk of the material from the site is Middle or Late Archaic, this would not necessitate the placement of these points (which we would classify as Morrow Mountain I) within this time or culture period.

Surface collections are hazardous things to utilize in building chronologies. If, as the editor seems to infer, a given type represented by the greatest number of artifacts dictates the chronological placement of other types, we're afraid we have a lot of explaining to do. Would a surface collection of 500 Pontchartrains and one Clovis indicate a single-component site, with Clovis as a minority type of Late Archaic point?

Also, where is point number 7? In the text, (page 2, line 11) the editor indicates seven points are to be seen in Figure 1, but only six are illustrated.

As for further examples, we have enclosed drawings of five Morrow Mountain points (Figure 2), probably from Mississippi, as indicated by the yellow chert from which they are made. The provenience of these is unknown, but they may serve as good examples of the type. Another example is in the Whitfield collection from Hinds County, provenience also unknown. One in the Ben Cessna collection, and recorded from 22-Cb-553, is identical to Morrow Mountain I in all respects. In the Claiborne County survey report (Brookes and Inmon 1973:36) it was called Almagre because it seemed to be identical to the point illustrated by Webb, et al. (1971: Figure 11A, Specimen D). Brain mentions the Morrow Mountain and states that it is usually distributed along the eastern margins of the Mississippi Valley (1971:36).

These points, we believe, belong at the end of the Early Archaic and continue into Middle Archaic times. Coe (1964) places them at about 4500 B.C., as do Brain (1971), Lewis and Lewis (1961), and Long and Josselyn (1965). We hope this information will be of some use to Mississippi amateurs.

REFERENCES

- Brain, Jeffrey P.
 1971 The Lower Mississippi Valley in North American prehistory. Manuscript on file, Southeast Region of the National Park Service, Tallahassee, Florida.
- Brookes, Samuel O., and Byron Inman
 1973 Archaeological survey of Claiborne County, Mississippi. Mississippi Archaeological Survey Report 1.

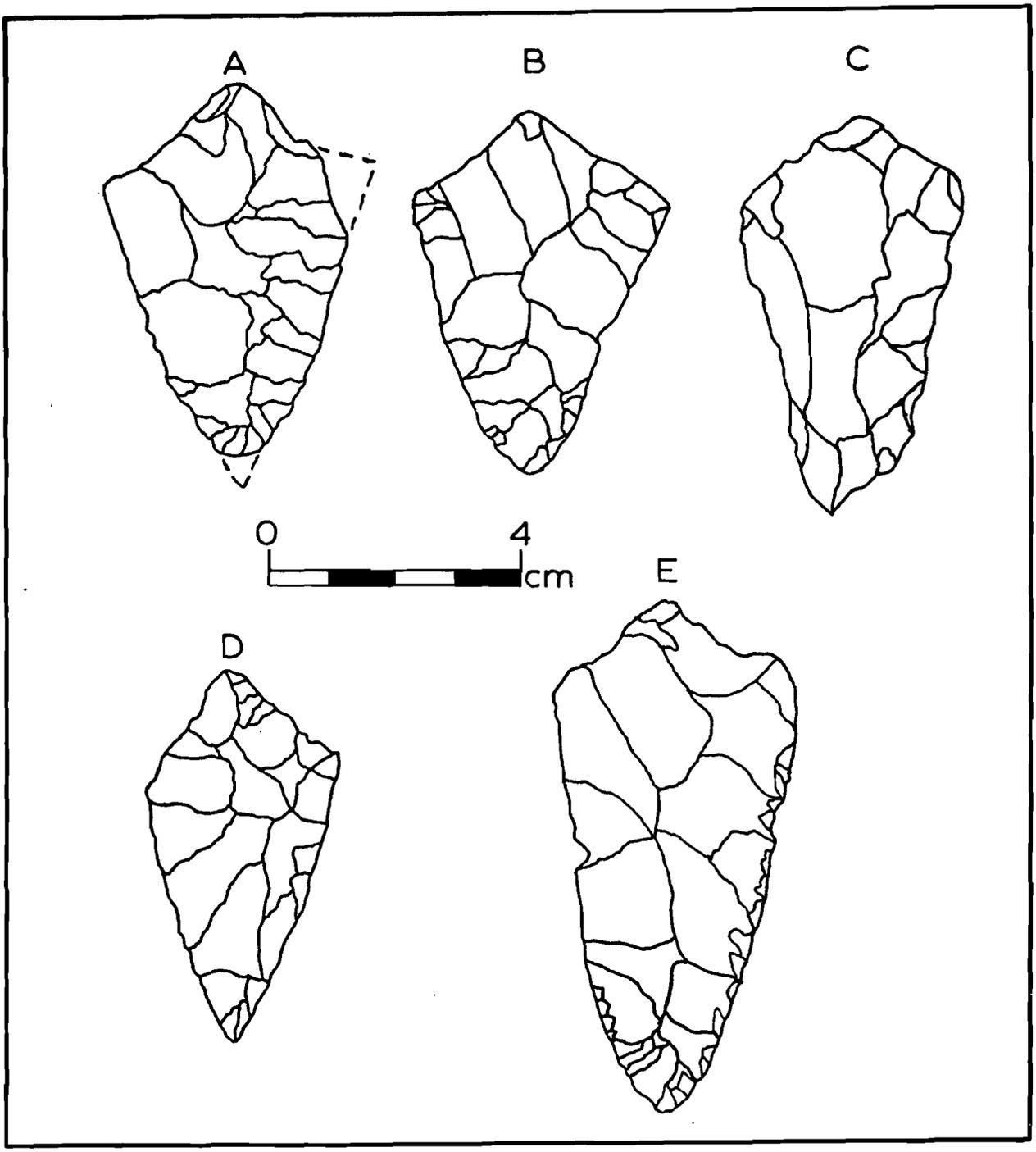


Figure 2. Morrow Mountain Points, provenience unknown (probably Mississippi)

- Coe, Joffre L.
 1964 The formative cultures of the Carolina Piedmont. Transactions of the American Philosophical Society, N.S. 54, 5.
- Lewis, Thomas M. M., and Madeline Kneberg Lewis
 1961 Eva: an Archaic site. University of Tennessee Press, Knoxville.
- Long, A. G., Jr., and Dan Josselyn
 1965 The Eva family. Journal of Alabama Archaeology 11:143-145.
- McGahey, Samuel O. (ed.)
 1975 Projectile points from Hinds County. Mississippi Archaeology 10(6):2-3.
- Webb, Clarence, James A. Ford, and Sherwood Gagliano
 1971 Poverty Point and the American formative. Unpublished manuscript.

Editor's note [Samuel O. McGahey]:

Most projectile points of the Early Archaic period in Mississippi are easily recognized. They are thin, excellently made, and have distinctive flake patterns, basal grinding and other diagnostic features. There appears to be a very definite technological break between Early and Middle Archaic, and, in my opinion, the 'Morrow Mountain points' from this area do not fit very well into the Early Archaic technology. They are much more similar to later Archaic points such as Gary.

The distribution of the Morrow Mountain type centers in the Carolina Piedmont, where the type is considered Middle Archaic (Perino 1971:64). If this is true, the type could well be later in south Mississippi, where it is not common. In the absence of excavations where points have been found in context, the only way to approach a chronological placement is through surface associations. My article was not intended to settle the question by demonstrating a Late Archaic association at this particular site, but hopefully to elicit some response from the readers of the newsletter as to the associations of Morrow Mountain points at other sites.

REFERENCE

- Perino, Gregory
 1971 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society Special Bulletin 4.

[MA 10 (1975) 10 (December), 5-8]

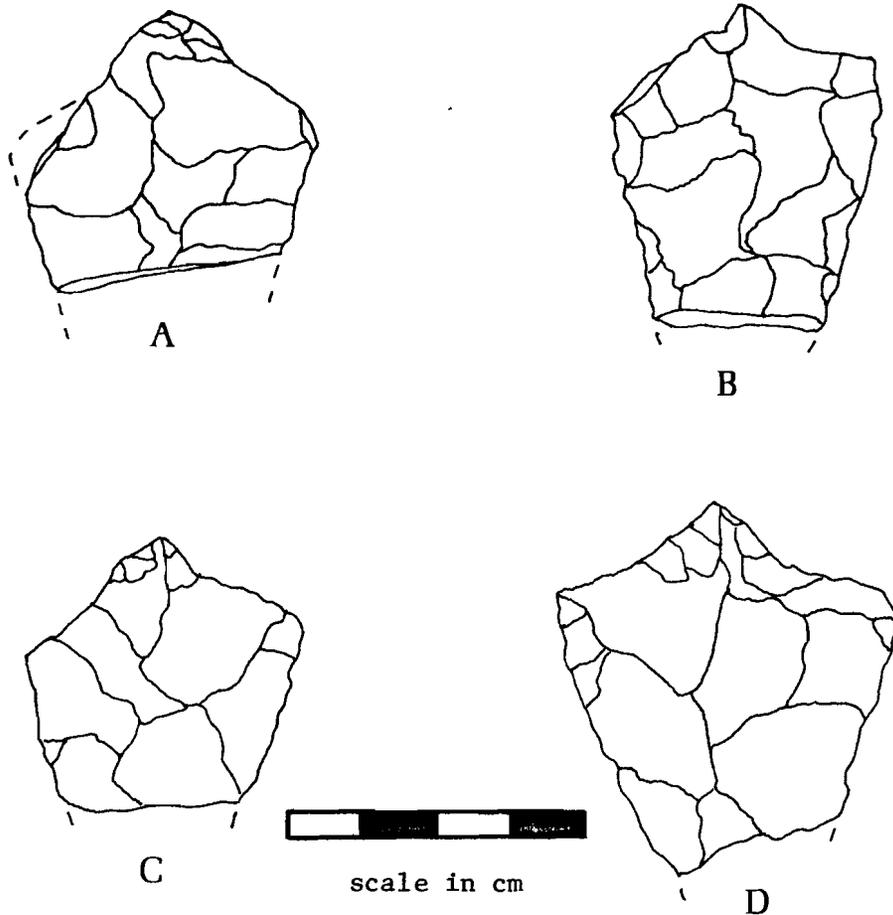
MORROW MOUNTAIN POINTS

Samuel O. Brookes

Illustrations A-D below show four Morrow Mountain type I projectile points of yellow gravel from the Steves Site One (22-Cb-550) in Claiborne County. Points of this type have also been

found at the Cessna House site, 22-Cb-553 (Brookes and Inmon 1973:36).

It is hoped that more of these points will be reported by MAA members so that some distribution can be plotted. Since there is some contention as to the chronological placement of this type in Mississippi, more points must be located and described before we can arrive at more certain conclusions.



REFERENCE

Brookes, Samuel O, and Byron Inmon
 1973 Archaeological Survey of Claiborne County, Mississippi.
Mississippi Archaeological Survey Report 1.

[MA 11 (1976) 1 (August), 12]

A GREENBRIAR POINT FROM THE MISSISSIPPI DELTA

Samuel O. Brookes

Figure 1 shows a Greenbriar point from the Beaver Dam Place (22-Pa-524) near Sledge, Mississippi. This point is similar to those

previously described by Brookes, Gray, Inmon, and Rodrigue (1974).

Made of local gravel chert, the point has a tang with the red color characteristic of heat treating. Many Early Archaic and late Paleo-Indian points with red tangs and/or distal ends have been found in Mississippi. This implies that some heat treating was done at an early time in the state. However, the points of the Early Archaic Period--after 6000 B.C.--are frequently red all over. Heat treating was of greater importance after the Paleo-Indian Period.



Fig. 1. Greenbriar point from site 22-Pa-524

> denotes termination of grinding

→ denotes angle of blows to remove basal fractures

→ denotes impact flutes

This particular point exhibits two impact flutes, one running up the face of the blade, the other running along the edge. It has been previously suggested that multiple fractures were caused by use of these points as wedges (Brookes *et al.* 1974). Experimentation with newly manufactured points should delineate this process of breakage.

One unusual feature of this point is the small concavity on the right side. This shows that after being broken the point was removed from the haft and used as a scraping tool.

Two flakes were struck from the left tang. One runs across a portion of the base; the other runs down the stem. These two fractures were then ground. This type of basal treatment is common on Early Archaic points in the southeast, and is found on most Decatur points and some Ecusta points. This is the first known occurrence of a "fracture" base Greenbriar point.

REFERENCE

- Brookes, Samuel O., Bruce J. Gray, Byron Inmon, and Angela Rodrigue
1974 Greenbriar projectile points: a discussion of form and
function. Mississippi Archaeology 9(8).

BOATS DISCOVERED BY CORPS OF ENGINEERS PROJECTS

Shelia Lewis

Since the passage of recent federal antiquities laws, the various federal agencies have been responsible for inventorying and assessing the cultural resources on federally owned property under their control and those areas which will be affected by their construction projects. These cultural resource studies include both history and prehistory. In connection with its cultural resource program, the U.S. Army Corps of Engineers, Vicksburg District, has encountered several boats in recent months.

A prehistoric dugout was the first vessel to be located. The 8-foot-7-1/2-inch-long and 13-inch-wide cypress canoe was recovered from Steele Bayou by a dragline operator working under contract with the Corps. An initial assessment of the canoe was made by the Mississippi Department of Archives and History (State Historic Preservation Office--SHPO). The canoe was then taken to the University of South Alabama, where it was soaked in a preservation fluid for 2-1/2 months. A wood sample was radiocarbon dated at A.D. 1775±55 years. The landowner has donated the vessel to the Winterville Mounds Museum north of Greenville, where it is on display. (See article by Richard S. Fuller, which follows.)

In August, 1976, another dragline operator working under contract with the Corps discovered a pre-Civil War boat under several feet of alluvium in an old meander scar near Shaw, Louisiana, across the Mississippi River from Fort Adams, south of Natchez. The dragline trench, which extended the entire length of the vessel, was about seventy feet long and eight feet wide. An initial appraisal was made by the Louisiana Art, Cultural, and Historical Preservation Agency (SHPO) and the Louisiana Archaeological and Antiquities Commission. A crew from Gulf South Research Institute was brought by the Vicksburg District to conduct test excavations to determine the type and age of the vessel. The boat is apparently a locally made ferry which operated on the Mississippi and Red rivers in the vicinity of Fort Adams during the early 1800s. The vessel has been designated a State Historical Landmark by Louisiana and National Register eligibility determination is in progress.

During the Civil War, while the Union forces were seizing control of the Mississippi River, several Confederate boats were stripped and scuttled in the Yazoo River in an attempt to slow Federal troop movement on the river. As a part of the Corps's continuing Upper Yazoo Basin project, historical research and a magnetometer survey are presently under way to determine the locations of sunken vessels in one section of the Yazoo River and how much remains of these boats. Before channel work is begun, these boats must be located, their significance established, and protection and preservation plans made. Completion of this phase of the Yazoo Basin study promises to be of great significance to the existing Yazoo River history.

The discovery of boats is proving to be a large and important segment of the Vicksburg District's cultural resource program and of the history of the region.

PRELIMINARY REPORT ON A DUGOUT CANOE FROM STEELE BAYOU

Richard S. Fuller

On April 14, 1976, a dredge operator working for the U. S. Army Corps of Engineers, Vicksburg District, uncovered a dugout canoe in Steele Bayou, approximately 150 feet north of the Highway 1 bridge north of Vicksburg, Mississippi. The canoe was recovered from the middle of the bayou, where it had been covered by about eight feet of mud. The University of South Alabama archaeology lab, under the direction of Noel R. Stowe, was contracted by the Corps of Engineers to preserve the canoe. A description and measurements are given here, as well as a report on the preservation work done to date.

Description

The canoe is very short with extremely thick gunwales. Both ends are tapered, though neither comes to a point. The end designated as the stern is blunter than the bow, though it is difficult to be certain of the canoe's orientation because of its advanced state of weathering. The interior and exterior surfaces are very bumpy and irregular, the starboard exterior being the most irregular and potmarked with numerous holes. The canoe appears to be made of cypress, though this would need to be verified by an expert.*

The canoe's condition is poor. There is much longitudinal cracking, and the starboard gunwale and exterior surface have apparently undergone much deterioration (Plate 1). The end designated as the stern is in such poor condition that it is difficult to determine its original shape.

Dimensions

Centerline length	8 ft. 7 1/2 in.
Beam (outside width)	1 ft. 5 1/2 in.
Inside width	2 ft. 2 in.
Outside width	13 in.
Inside width	9 in.
Hull thickness at gunwales	1 3/4 in.

Radiocarbon Date

A sample from the canoe was submitted to the University of Georgia Geochronology Laboratory for radiocarbon dating (sample No. UGa-1352), and the date was determined to be 1775±55 B.P. (before 1950) or 1775 A.D.

Preservation of the Canoe

To prevent further weathering of the Steele Bayou canoe while preparations were being made for its preservation, it was kept

*Editor's Note [Samuel O. McGahey]: Charles Crouther, biologist, Vicksburg Corps of Engineers, has identified the wood as cypress.

completely submerged in water in the University of South Alabama archaeology lab's steel preservation tank, which is fitted with an overhanging wooden top to keep out rain and debris. On July 22, 1976, the canoe was removed from the tank to dry for approximately ten days, since to obtain maximum absorption of the preservative the canoe had to be completely dry. During this drying period the preservation tank was drained, cleaned of algae and stains, and tested for leaks. Leaks were patched with "Liquitex" acrylic polymer putty, over which was daubed a layer of roofing tar.

On August 3, 1976, the canoe, now completely dry, was placed in the empty tank. It was separated from the tank bottom by three pieces of zinc approximately one-half inch thick and covered to within four inches of the top of the gunwales by a solution of 200 gallons of water and 55 gallons of Polyethylene Glycol (Carbowax). Because the canoe tended to float, it was weighted down with pieces of zinc. The wooden lid was then placed on top and a sheet of black polyethylene plastic was placed over the entire tank for further protection from the elements.

On August 20, 1976, the canoe was turned over so that the portion of the gunwales which had not been covered by the Polyethylene Glycol solution could be preserved. Because the bottom appeared to need further preservation, the canoe was again turned on September 13, 1976. About twenty gallons of water were added to the solution to compensate for evaporation loss.

On October 18, 1976, the canoe was removed from the tank and it was determined that preservation was complete. In all, the canoe had been in the Polyethylene Glycol solution for a total of seventy-six days. On October 19, 1976, the Steele Bayou canoe was returned to the U.S. Corps of Engineers, Vicksburg, Mississippi. It can now be studied and displayed without fear of rapid deterioration.

Editor's Note [Samuel O. McGahey]:

The editor is not an authority on canoes, but since he has seen this specimen, a few remarks are in order. The general impression is of an unfinished vessel that seems unusually rough and thick, although much of the uneven nature of the starboard side is apparently the result of waterborne sand erosion. The canoe appears to be much more abrupt at the ends and sides than the more recently manufactured dugouts. When I visited the scene of the discovery with Shelia Lewis of the U.S. Corps of Engineers, Vicksburg District, and Carolyn Caldwell of the Mississippi Department of Archives and History, we talked to the dredge operator, who had been told by an elderly resident of Vicksburg that he formerly lived near where the discovery was made and that in his early years he had made such vessels for use as hog troughs. The usual procedure is to find a hollow log, cut it the right length and split it. Boards are then nailed to each end to complete the enclosure and stabilize the trough. The longer the boards, the harder the trough is to turn over.

It seems that there are too many hollow trees available and suitable for the manufacture of hog troughs for the story of the elderly man to be credible. Considerable work is involved in hollowing a log. Unfortunately, we have not been able to contact the

informant. Such a hog trough industry, if verifiable, would be of considerable interest. Any comments would be appreciated.

[MA 11 (1976) 2 (December), 5-8]

A REPORT OF INDIAN CERAMIC VESSELS FOUND WHILE ON A JUNIOR HIGH SCHOOL
ARCHAEOLOGY CLUB TRIP

Rev. Claude H. Stone, Jr.

The scale drawings (A through E), attached to this report are of a small Indian ceramic pot and the associated ceramics found with it on May 1, 1976, by Rev. Stone. These were unearthed by Rev. Stone and Mr. Edwin H. Cockrin, Jr., science teacher of the Ocean Springs Junior High School, while on a field trip with the Junior High Archaeology Club which they and other science and history faculty sponsor.

The vessels (drawings A-C) and sherds (drawings D-E), were found in a ditch bank along the road that circles Graveline Mound (22-Ja-502). The smaller vessel was found inverted within the larger vessel and surrounded by the other sherds.

The larger vessel (drawing C), had been fragmented by the blade of a road machine but was held together by the firmly packed sandy soil. The broken rim lay exposed on the sloping ditch bank. This larger vessel has now been restored as completely as possible.

The description of the small vessel is as follows:

Paste - Method of manufacture is the coiling method as is evidenced by the bumpy interior.

The temper is clay.

The texture is coarse and granular.

The color is buff with the exterior of a mottled gray-black over buff.

Surface Finish - The exterior is smooth while the interior is bumpy, showing signs of the coiling used.

Decoration - Technique - The U-shaped heavy incised lines and curves. The decorations are of unusual design to this writer because they do not follow the repetitious pattern usually associated with Indian pottery in this area. As noted in Drawing B, the decorations are distinct characters rather than the usual repetitious pattern.

Design - The maker used the punch and drag method of design incising because the terminus of each of the lines shows evidence of the applied pressure of the tool used in the decorating. The incising was done while the paste was still in the plastic state. The excised clay was plowed and left on either side of the adjacent surface. Finger smudges and closing of the first lines made due to finger pressure in the plastic clay is evident.

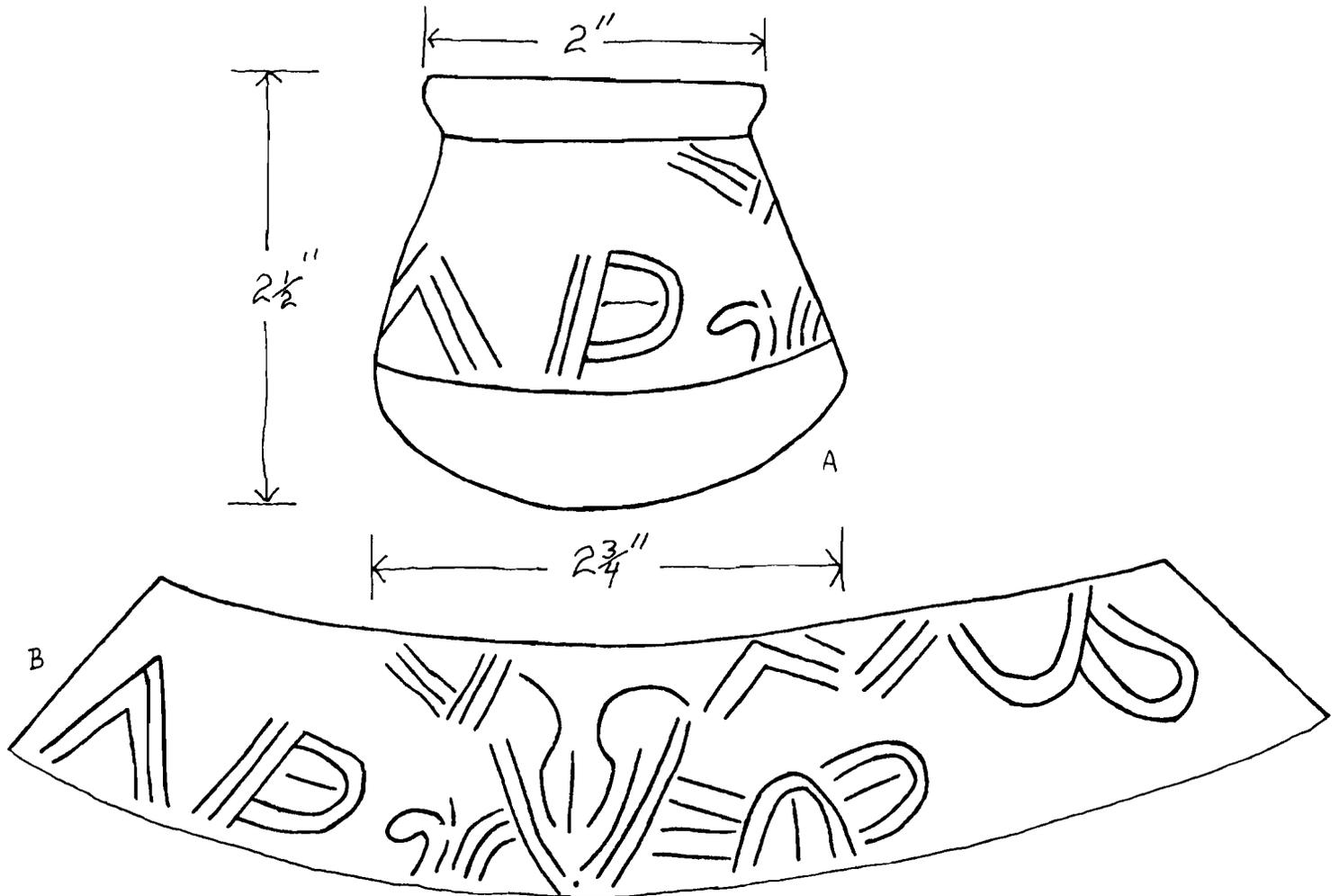
The Form - The form is apparent in Drawing A.

The Rim is outslanting and flattened in plane with the base line.

The Lip is rounded.

The Body could be considered a small bulging pot.

The Base is convex.



The description of the larger, reconstructed vessel is as follows (Drawing C):

Paste - Method of Manufacture is coiling.

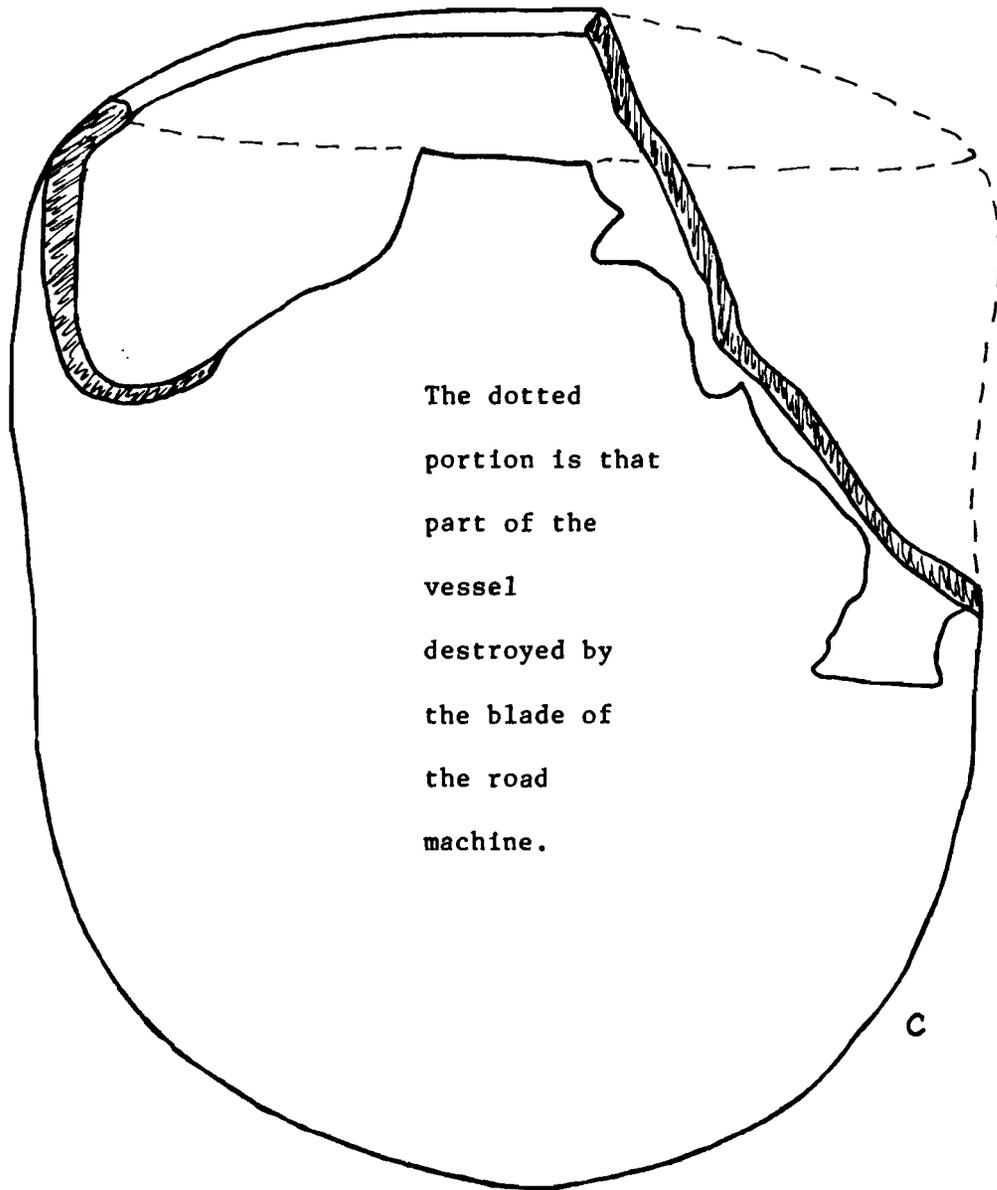
The Temper is clay.

The Texture is coarse and granular.

The Color is buff mottled with black or residue from the firing.

Surface Finish - The surface is smooth but lacks the polished look of the smaller pot.

Decoration - There is none at all on the larger vessel.



The Form is as follows:

The Rim is inslanting.

The Lip is rounded and slightly thicker than the body of the pot.

The Body is beaker-shaped with slightly outslanting sides from the midpoint of the body.

The Base is convex.

The Size - The height is 5-1/4 inches and at the widest point the vessel is 5-1/8 inches across.

Potsherds (Drawings D and E) found with the vessels are described as follows:

Potsherd D

Paste - Method of Manufacture is coiling.

The Temper is clay.

The Texture is coarse and granular.

The Color is dark black, both exterior and interior.

The Surface Finish - The interior is rather bumpy showing coarse temper

material. The exterior is smooth, showing smoothing marks running around the body of the pot.

Decoration - Technique - The U-shaped heavy incised lines and loops.

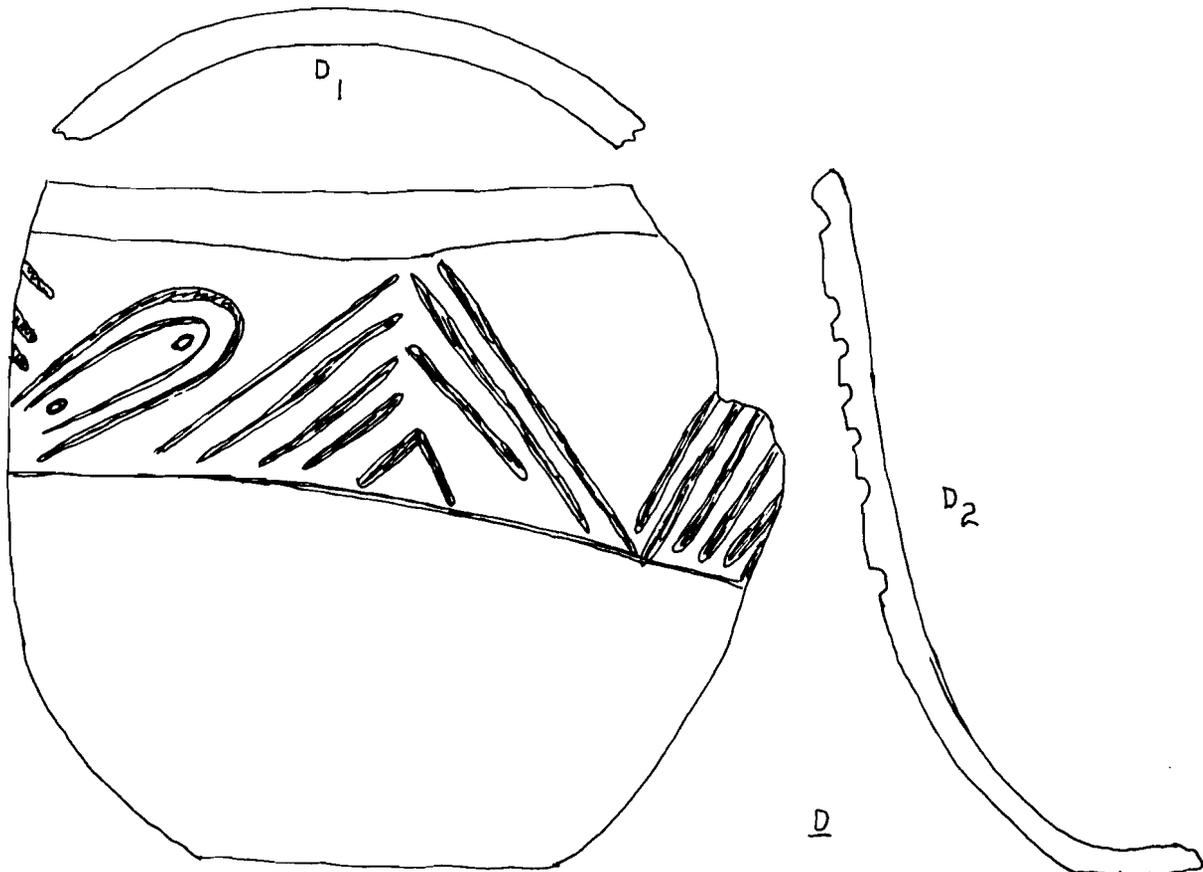
The Design - This appears similar to the design on the small pot (Drawings A and B), but the lines here are as wide as 3 cm in places. This vessel was incised while the paste was still plastic. It, too, shows evidence of finger smudges and finger pressure distortion on some of the lines.

The Form - The Rim is slightly turned inward.

The Lip is rounded and thinner than the vessel wall or body.

The Body is the outslanting beaker form.

The Base is flat and smaller than the vessel mouth.



Potsherd E

Paste - Method of Manufacture is coiling.

The Temper is clay.

The Texture is coarse and granular.

The Color is light buff mottled with light gray and spots of dark black.

The Surface Finish - The interior surface is smooth as is the exterior.

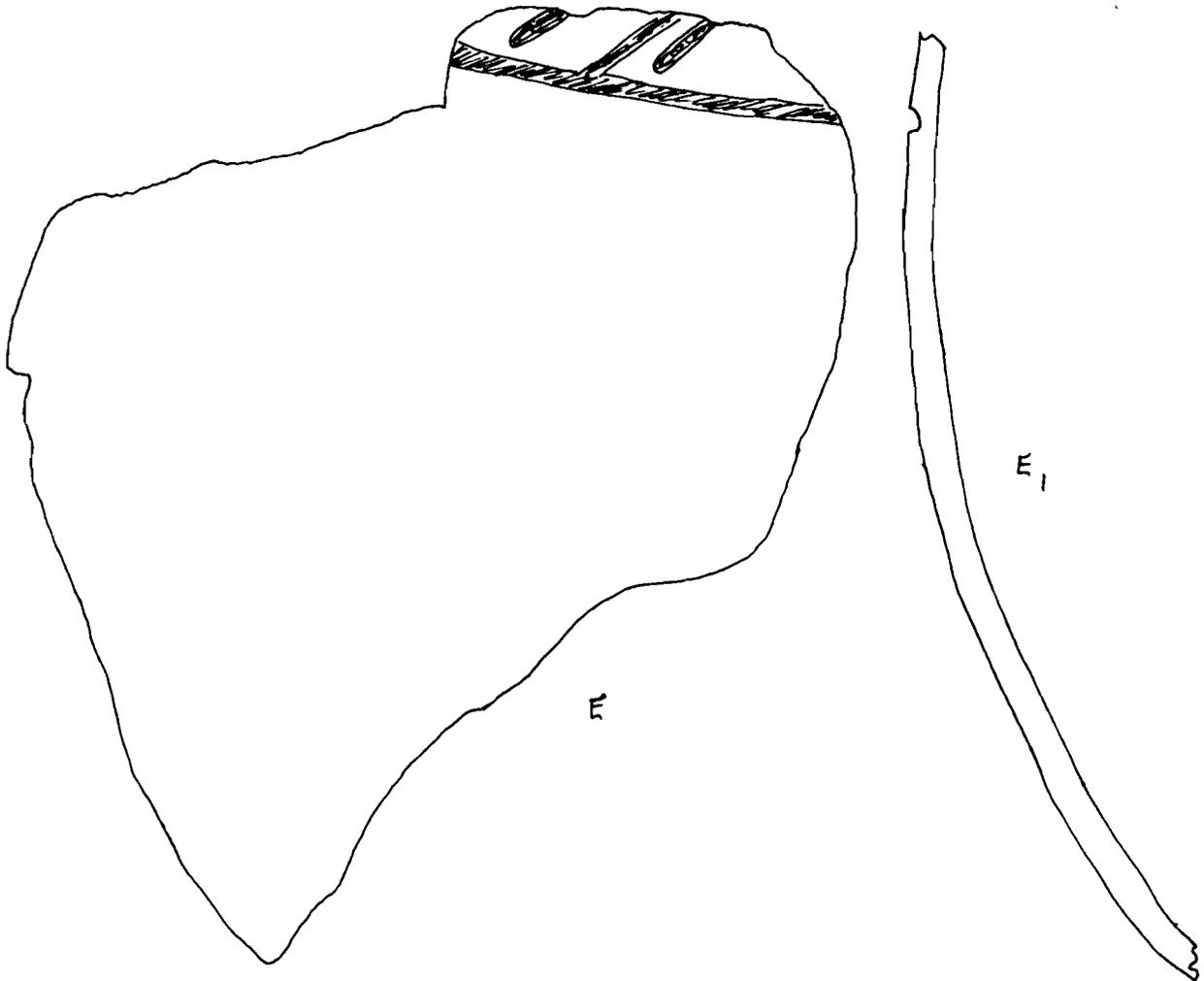
Decoration - Technique - The small amount of decoration available is of the heavy U-shaped incised method. There seems to be very little if any decoration below the midpoint of the pot.

The Form - The Rim is missing; therefore, we know nothing of its shape.

The Lip is likewise missing.

The Body could be that of a globular shaped vessel.

The Base cannot be determined because none of the base is available to make the determination.



PONTCHARTRAIN POINTS IN THE MID-DELTA

Robert C. Morris

The Pontchartrain point type is diagnostic for the Poverty Point Culture in the Mississippi Delta, along with Motley, Gary, and related point types. Surface collections in Washington County have gradually accumulated an assemblage of artifacts including several forms typical of Poverty Point sites--clay objects, greenstone celts, a red jasper "parroquet" bead, projectile points, chipped tools, boatstones, a plummet, galena, quartz, and ground celts.

The first Pontchartrain point was surface collected at the Hebe Site in June, 1969. Several Motley points and partial points were found in association. In 1973, while surface collecting about one mile from the Hebe Site, a beautiful Pontchartrain point was found on a ridge. Soon after, a rough point of the same type was found at the same location. A similar point was found at Geneille Plantation, northeast of Hebe, and another was associated with four archaic points on a small 110-foot elevation ridge southeast of Tribbett, Mississippi.

These points indicate a distribution over several square miles east of the Bogue Phalia on ridges along earlier water courses. The Pontchartrain points provide an interesting key to sites of similar age and cultural records.

[NFPD 12 (1977) NL-3 (May), 4]

AN EXAMPLE OF CHICKACHAE COMBED POTTERY

Richard A. Marshall

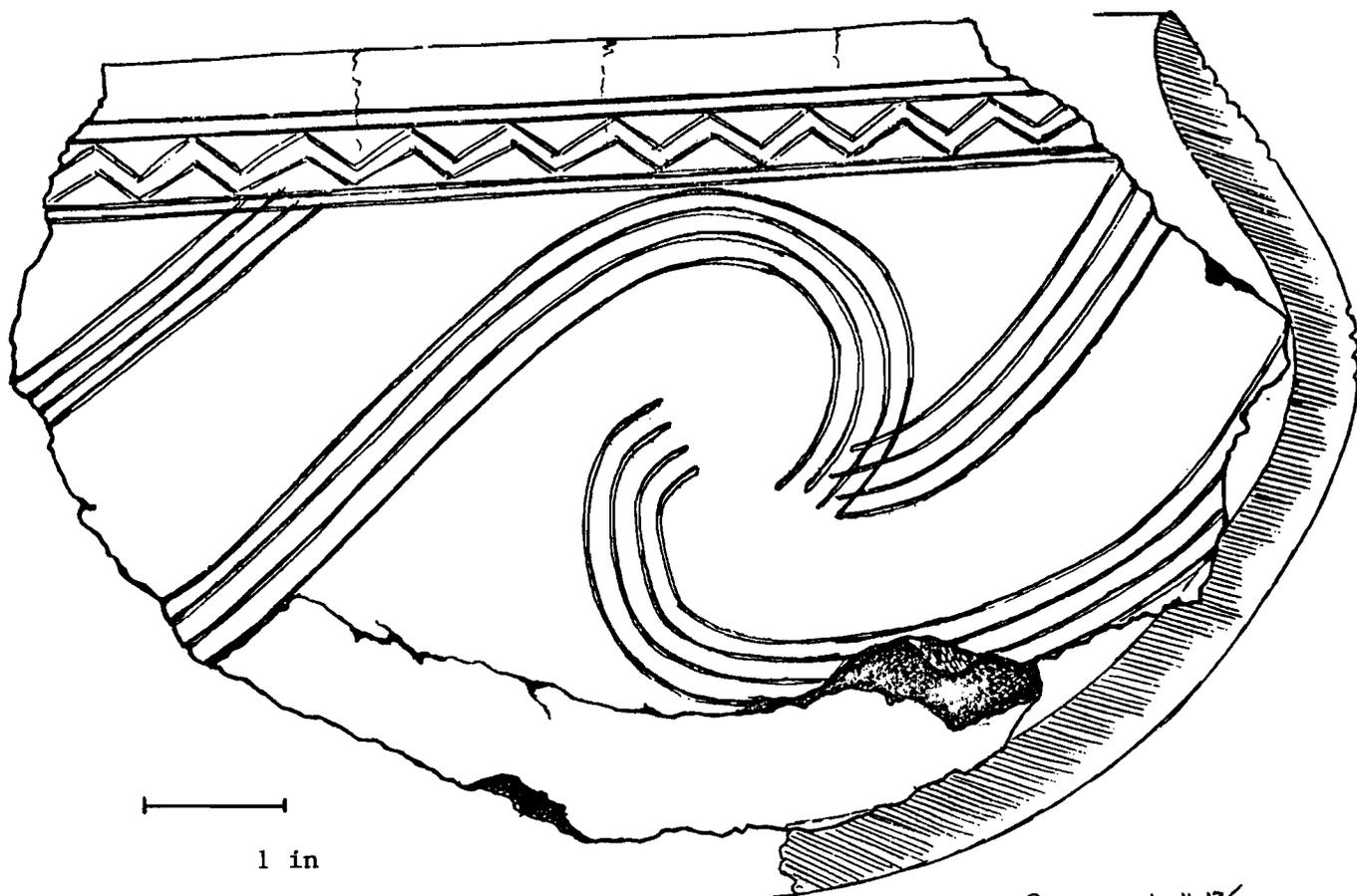
Recently a Mississippi State University student brought a large sherd of Indian pottery into the Cobb Institute of Archaeology for identification (Figure 1). The pottery was collected from the surface of a small site near the Smith-Scott County line, south of Forest, Mississippi.

The exterior and interior surfaces of the sherd were carefully smoothed. The paste, or mixture of clay and other materials, is slightly sandy and very compact. Firing was in a reducing atmosphere, giving the pottery a dark gray color throughout. The thickness of the sherd averages 12 mm but exceeds this near the base. The lip is thinned from the interior surface while the rim is insloping, giving the vessel a constricted mouth. The vessel was a deep bowl (see profile, Figure 1).

The sherd is distinctive in its decorative treatment and was readily identified as Chickachae Combed var. Chickachae (Phillips 1970:65-66). Just below the outer lip is a horizontal decorative zone of paired double-incised lines. Between these lines is a double zigzag line. This decorative band is carefully executed. Below, on the body of the sherd is a multiple incised line, actually combed (all lines applied at the same time by way of a toothed tool), forming an interlocking scroll motif. The pottery was in a nearly dry state

(leather hard) when this motif was applied and the edges of the lines are somewhat crumbled, but neat.

Chickachae Combed pottery is a historic Choctaw pottery type, apparently centered in south-central Mississippi but occasionally found in the Lower Mississippi Valley after the Choctaw began moving west--after historic contact. For more information on Choctaw pottery, see the following bibliography. The listed sources may be obtained through your local library on an interlibrary loan program. Persons finding sites with this or similar kinds of pottery should report it to the Department of Archives and History.



REFERENCES

- Collins, Henry B.
1925 Archaeological work in Louisiana and Mississippi. In Explorations and field work of the Smithsonian Institution in 1926. Smithsonian Miscellaneous Collections 78.
- Collins, Michael K.
1975 Historic Artifacts from Choctaw Sites in Clarke and Jasper Counties, Mississippi. Mississippi Department of Archives and History. Photocopy.
- Ford, James A.
1936 Analysis of Indian village site collections from Louisiana and Mississippi. Department of Conservation Anthropological Study 2, New Orleans, Louisiana Geological Survey.
- Haag, William G.
1953 Choctaw archaeology. Southeastern Archaeological Conference Newsletter 1.
- Marshall, Richard A.
1973 Report on Archaeological Survey of the De Kalb, Mississippi Substation. Tennessee Valley Authority, Knoxville, Tennessee.
1975 Archaeological survey of Archusa Creek Water Park. Mississippi Department of Archives and History.
- Neitzel, Robert S.
1965 Archaeology of the Fatherland Site: The Grand Village of the Natchez. American Museum of Natural History Anthropological Papers 51.
- Penman, John T.
1977 Archaeological Survey in Mississippi 1974-1975. Mississippi Department of Archives and History Archaeological Report 2.
1978 Historic Choctaw Towns of the Southern Division. Journal of Mississippi History 40(2):133-141.
- Phillips, Philip
1970 Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Papers of the Peabody Museum of Archaeology and Ethnology 60. Peabody Museum, Cambridge, Massachusetts.
- Quimby, George I.
1942 The Natchezan Culture Type. American Antiquity 7:255-275.
1957 The Bayou Goula Site, Iberville Parish, Louisiana. Fieldiana Anthropology 47.
- Tesar, Louis D.
1974 Archaeological Assessment Survey of the Tallahala Reservoir Area, Jasper County, Mississippi. Department of Anthropology, Mississippi State University.
- Thorne, Robert M, and Bettye J. Broyles
1968 Handbook of Mississippi Pottery Types. Southeastern Archaeological Conference Bulletin 7.

AN UNUSUAL OBJECT FROM NEAR BRUCE, MISSISSIPPI

Richard A. Marshall

Mrs. Jewel Parker of Bruce, Mississippi, recently (October, 1977) turned over an unusual stone object to Dr. E. J. Vardaman, Director, Cobb Institute of Archaeology, Mississippi State University, for identification. The object is here described and illustrated.

The Parker Object was reported to have been bulldozed from a low mound during construction of Mississippi Highway 7 and the eastern bypass at Oxford. The object is 27.3 cm wide, 19.8 cm high, and 16 cm thick, with a circumference of 54.4 cm around the height and thickness and 63.5 cm around the height and width; it weighs 8.35 kg. It appears to be made by pecking from a fine grained, tan sandstone, possibly of the Tishomingo variety. The shape appears to be a large somewhat flattened sphere. One side is more flattened than the other; somewhat irregular, possibly following the contour of the original block of stone. The other side is much more rounded, but shows evidence of some further shaping so as to remove, from the perimeter toward the center, excess material. Protruding from each side of the main shape are two ellipsoidal shaped half-spheres, their long axes in line with the height of the object. These appendages appear to have been carefully shaped and are clearly delineated from the larger mass by a carefully worked (incised) margin. There are several damaged areas on both broad surfaces; either by the bulldozer or by minor scuffing since recovery.

A letter of inquiry to Dr. Robert M. Thorne, Associate Professor of Anthropology, University of Mississippi, in regard to records of a possible mound at the reported find location indicated that no "mound" as such was located in the general area the stone artifact was reputed to be from, or at least there was no record of a mound at the University. Dr. Thorne reported that a small mound was located on the southwestern side of town and excavated by Paul Hahn in 1962 or 1963. This mound would have been in the right-of-way of the Highway 6 bypass, and has been designated as the Tidwell Mound (22-La-517). Inspection of Hahn's collection of ceramics suggests a Marksville affiliation (Thorne's letter).

Thorne continued with information that Dr. Calvin Brown apparently walked on every site in the vicinity of Oxford, and his notes do not indicate a site of any kind in the bypass intersection area. Thorne then suggested that the "mound" may well have been natural and composed of layers of banded sandstone and suggested that the object may have been found near the raw material source.

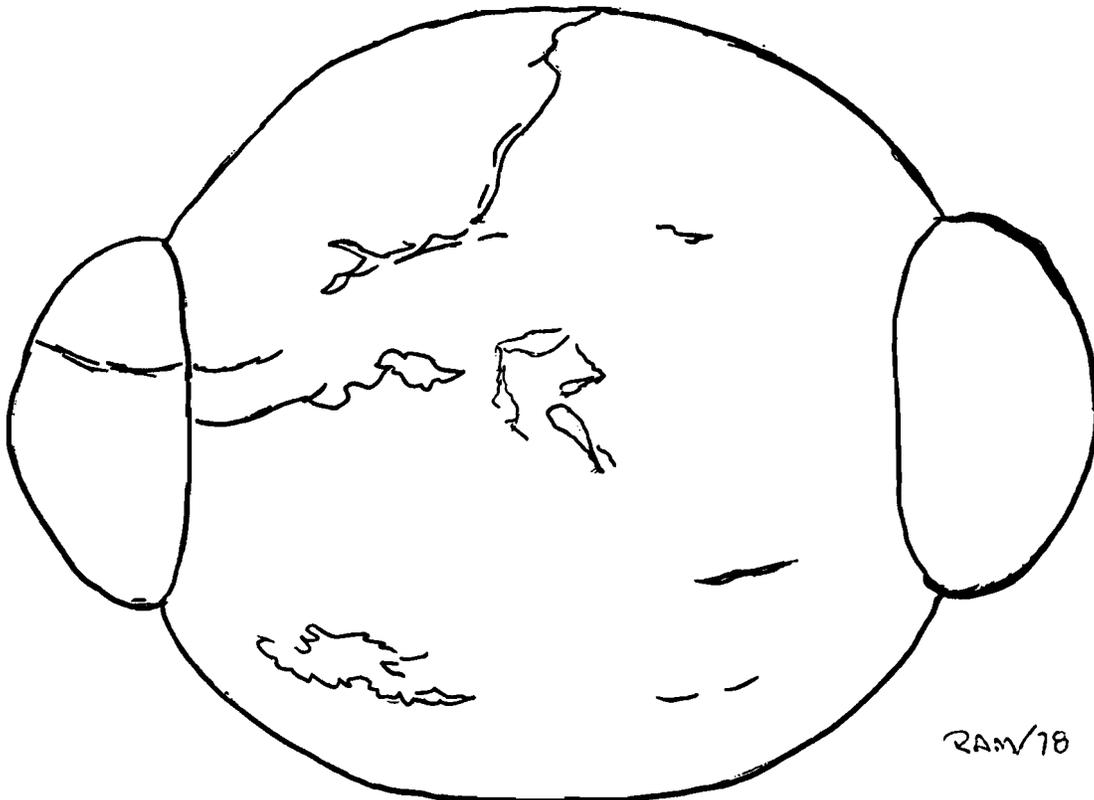
Impressions by the author as to the purpose of the object are singular but unsure. It is his feeling that the object is an unfinished carving of the head of a Mississippian Period stone image in human form. The interpretation is based upon a comparison of the Parker Object with illustrations from various publications of late prehistoric Southeastern Indian stone images (see Fundaburke 1957, Plates 97 and 98). The central larger portion is the head, the more flattened surface being the facial portion. The more rounded side is the rear of the head where an attempt has been made to shape a bun as is common in most of the stone images. The two protruding side

appendages were intended to be either ears or side hair buns as is often seen in such images and in ceramic human effigy heads from the Mississippian Culture.

Thorne, in his letter, was a bit bothered by the large size of the object, but felt that if the interpretation is correct, the size was not a serious problem. The writer agrees. The size of the Parker Object falls rather well within the size range of the heads of stone images from Etowah (Cartersville, Georgia) and from Eastern Tennessee. The object, however, is larger than the heads of approximately contemporary carved wooden images from Florida (Okeechobee; Fundaburke 1957, Plate 142) and Oklahoma (Spiro; Hamilton 1952, Plates 25 and 26).

REFERENCES

- Fundaburke, Emma Lila, and Mary P. Foreman (eds.)
 1957 Sun Circles and Human Hands: The Southeastern Indians Art and Industry. Fundaburke, Luverne, Alabama.
- Hamilton, Henry W.
 1952 The Spiro Mound. The Missouri Archaeologist 14.



THE PARKER OBJECT, FOUND NEAR OXFORD, MISSISSIPPI

Drawn from a photograph, smaller than actual size. Scuffings and flaws in the stone are shown, however, the shaping pecking marks are not shown.

BRIEF REPORTS

Full-scale excavation of any but the most important sites is seldom economically feasible, but small projects of test excavation or survey can often yield equally valuable information. Documentary research is also vital to the study of archaeological remains. Here we reprint articles which report some aspect of excavation or other research work in a brief or summary manner.

NOTES ON THE DEER ISLAND SITE, HARRISON COUNTY (22-Hr-500)

Guy C. Kraus

Deer Island is located one-half mile south of the eastern shore of Biloxi. This oak and pine-covered island is elongated, its axis running ESE, and its greatest width in the first quarter of the western end.

We visited the island late in August, 1966, along with several members of the Gulf Coast Chapter. While on this first field trip, we met Captain Baker, whose family has owned the island since the 1840s and is still in possession of the eastern end. During the conversation that followed, he told us that the 1947 hurricane destroyed the only existing mound on Deer Island (twenty feet of the island's frontage was washed away in 1947 and another thirty feet was taken by Hurricane Betsy in 1965). Today, all that remains of the mound are oyster shells, pot sherds and one huge oak that marks its location in the shallow water.

Oyster shells, varying from 7-12 inches in length, made up the refuse midden. This midden occupies an area 350 yards long and outcrops on the northern and southern shores.

Artifacts collected from the surface of the south side include (at this time) fifteen pounds of sherds--all shell-tempered, with either incising or punctations--pot handles, points, a shaft smoother. Other huge sherds appeared to have been plates because the decorations were placed on the concave surface. The ceramic's edge is bordered by an incised line enclosing ten perpendicular lines which are terminated by semi-circles. Other sherds have concentric circles paralleling the rim. One of our members found a ceramic alligator head several months earlier. While digging post-holes, Captain Baker found several burials in the refuse as well as 3 or 4 duck effigies. In addition, small pieces of European ceramics and fire pits have been found. The north shore has yielded four sherds which appear to be of possible Tchefuncte origin.

We visited the extreme western end of the island in November, 1966. The surface had been eroded about seven feet. Many sherds were found, all clay-tempered; one, a rim, has a cross-section measurement of one inch. On this west end surface, we picked up three points.

The future of this site is not a bright one, for plans have been made to purchase the island and convert it into a residential area, complete with a causeway. To make this possible, the island will be enlarged to several times its present size by dredging the Gulf waters, raising the present surface to a safe elevation and then, for additional security, by crowning it with a levee. Already the west end of the island is pierced by red-tipped stakes.

[MAAN 1 (1966) 12 (December), 2]

REPORT ON THE MSU-UM SUMMER DIG AT LYON'S BLUFF SITE NEAR STARKVILLE
Richard A. Marshall

The combined field schools of both Mississippi State University and the University of Mississippi converged on the Lyon's Bluff site near Starkville this summer. There were 12 students from MSU and 10 students from Ole Miss. The group was under the direction of Richard A. Marshall, MSU, and Robert Thorne, assisted by Sam McGahey, both of Ole Miss. It was a big crew and there was a lot of site. Four areas were tested.

This site locally is known as the site of the, or one of the, Chocchuma massacres supposedly at the hands of the combined forces of the Chickasaws and Choctaws. No one to the editor's knowledge has bothered to describe Chocchuma cultural material, therefore we do not know what it looks like and it cannot be identified on the basis of local legends. We have only the cultural materials from the site to work on. Moreau B. C. Chambers dug at the site in 1934 and 1935 and found considerable material. Notes of his dig have been preserved in the State Department of Archives and History but the material was destroyed in the late thirties and early forties in several fires. One record which Dr. Rowland, Director of the State Department of Archives and History at that time, mentioned was that the materials from several of the so-called Chocchuma massacre sites are not identical thus not helping to identify what Chocchuma cultural material is like.

Excavations on the site have revealed some interesting things. Still no Chocchuma, however! There may be some complex present that can, in the future, be associated with protohistoric Chocchuma. In the upper two levels of every test area at the site there has been a Mississippian ceramic complex that appears to be separate from that which occurs lower. This ware is basically of Neeley's Ferry paste and is often decorated with punctations and nodes. Some painted ware and jars with large strap handles as well as small jars with arched handles occur. Also, there have been several projectile points. (Nodena and Guntersville Lanceolate) in the same levels which appear to be associated with this complex. This material appears to tie in relatively well with the Chucalissa site at Memphis. As you know the date for that site is quite late (circa 1543 A.D.). This may be part of the complex of which the protohistoric Chocchuma are a part. At any rate it ties in well with the western Tennessee late Mississippian complex.

In the next two or three levels in most of the test areas there occur ceramics, also of the Mississippian tradition, which tie in rather well with Moundville, Alabama. This is most apparent through the occurrence of a ware much like or the same as Moundville Filmed Engraved. This ware ties in well with the Southeastern Ceremonial Complex, and other artifacts found in the same levels do likewise. The utility ware appears to share less similarly with Moundville, however. Moundville is believed to date between 1250-1500 A.D. In the lowest levels, of which few have been excavated, there appears

some Mississippian ware which may be the same as at Moundville but may resemble some of the early Mississippian material of the middle Tennessee River. This material will probably date between 1100-1300 A.D. There may be some evidence of an earlier, non-Mississippian complex on or near the site. This material will probably date shortly before 1100 A.D. This complex may be the one the mound is associated with but this conjecture will have to remain unanswered until the mound can be tested. It has been an interesting summer.

[MAAN 2 (1967) 7 (July), 3]

ONE WEEK DIG IN THE DELTA

Richard A. Marshall

A field crew, under the direction of Richard A. Marshall and assisted by Bill Hony, excavated for five days in the north portion of the Mississippi Alluvial Valley in west Mississippi. The dig was a test of the deposit depth near a large mound at the Buford site at Sumner, Mississippi. The Buford site is located two miles north of Sumner, Mississippi, on the property of Mr. Bo Marley. The field crew is indebted to Mr. Marley for permission to dig. Three test pits, 5' x 10', were started on the south edge of the mound. Test 1, at the southeast corner, went 3 feet before it ran into a burned house wall of charred thatch and split cane covered with daub. Test 2 went 7 feet below the surface before running into sterile soil. A Deasonville Zone (Late Baytown) was the oldest occupation. This was separated by a sterile zone 6 inches thick from an Early Mississippian [component] mixed with Deasonville material. The Mississippian material was characterized by coarsely crushed mussel shell tempered pottery, much of it red filmed and some of it cord-marked and brushed. This zone was then separated from overlying levels by a 5 inch sterile zone of sand. The upper 4 feet of the deposit was a mainly mixed soil zone containing small amounts of mature Mississippian pottery. Probably one reason for the sparse material in this zone can be related to the mound and mound associated activities.

Test 3 was some 20 feet south of the center of the south edge of the mound. It, like Test 1, went down about 3 feet and ran into a house feature. Tests 1 and 3 were not taken any deeper.

Other members of the field party were Mike Clark, Bruce Gray, David Ready and Tommy Birchett, all Ole Miss students, and Jason Fenwick, MSU.

[NMAA 3 (1968) 5-6 (May-June), 1]

NUMEROUS BURIALS FOUND AT LYON'S BLUFF THIS SUMMER

Richard A. Marshall

Most of the burials found this year at the Lyon's Bluff site were poverty cases having nothing buried with them. Several burials did have associations. A double burial had a broken Parkin Punctated pot

scattered over them. Another burial had a number of small shell spoons scattered over it. Still another had a large mussel shell placed on the pelvis which had red pigment adhering to it. Covering the hand of the same burial was a large cut shell spoon of the type common to the Moundville and Duck River Phases. Two other burials had items in association. Both were children. One had a small marine shell pendant with it of a type rather common to the Duck River Phase. The other had a four and one half inch marine shell gorget (undecorated) and a steatite effigy pipe of a type rather common in the Alabama basin in late prehistoric times. The effigy is of some small animal swallowing a large object which is the bowl of the pipe. The pipe stem had been broken out at the point of juncture with the bowl, rendering it useless for smoking but making it possible to string with the gorget. Both were found at the neck of the burial.

[NMAA 3 (1968), 7-8 (July-August), 2]

EXCAVATION OF THE MCCARTER MOUND, PANOLA COUNTY

Glenn Johnson

How far can the proficiency of the amateur group extend in undertaking an excavation project? This is the question the Panola Chapter members raised before deciding to attempt the excavation of the McCarter Mound. We realized that a reasonably good job could be done in field techniques, but here the line is drawn. For the average amateur group, the serious work of lab analysis and interpretation of data is very limited. This is the area in which the help of the professionals in our state is absolutely necessary.

The McCarter Mound is located two miles northeast of Batesville, between Highway 35 and the Tallahatchie River. The mound itself is conical in shape, 35 feet in diameter and 53 inches high. It is situated 120 yards southeast from an old river run. It is a most unimposing mound and has been overlooked by everyone through the years. Some of our own chapter members questioned whether it was ancient or historical.

The actual excavation work took 465 man hours of labor. This did not include cleaning the mound, survey work, tree cutting, or final clean up. A five foot grid system was used. Balks for profiles were left standing for all north-south lines and balks were left every 10 feet for the east-west lines. This gave us a working area of 5 feet by 10 feet all the way through the mound.

Very little in the way of stone artifacts was found. Four points were recovered. Two of these were on the eastern edge. None were in association with burials and all could be from old village midden dirt fill.

Three burials were located. All were in very poor condition and the writer attributes the largest part of this to age and the very acid condition of the soil. The soil is Grenada loam, which is classed as severely acid to very severely acid by the U.S. Soil Conservation Office.

Burial #1 was an adult, extended and oriented east to west. It was found only 12 inches below the surface and was severely damaged by

rodent burrows, tree roots, and a post hole from a hog wire fence, which had been most conveniently dug directly through the skull.

Burial #2 was another adult, extended and oriented identical to Burial #1. It was in the same square as Burial #1 and 12 inches below it. Accompanying this burial was an additional skull which had a hole $\frac{1}{2}$ -inch in diameter squarely in the center of the forehead. This skull was placed in an upright position on the right of the burial's skull. At this point it has not been determined whether the hole was man made or caused by a root.

Burial #3 consisted of three adults. This burial was located in the northwest corner of the mound and represents an earlier (or first) stage of the mound construction. These burials were in such poor condition that in two cases all that remained was the enamel caps of the teeth. An outline of the skull and jaw could be traced in the remaining one. From dark casts, or "shadows" in the soil, we could determine that the burials were oriented south to north and were extended.

Of particular interest with this burial group was the sheet copper covering of a three tube pan pipe which was found in the chest region of burial #3-C. There is no evidence at the moment to indicate the type of material the copper had originally covered; however, it is clear that the tubes were small. The copper was indented between the tubes on the top side and appears to be flat on the bottom side.

The pottery which was recovered includes a small plain cup, a medium size bowl, and fragments of several other vessels. All seem to fall in the Tunica phase and the bowl and part of another vessel have been classified as Twin Lakes Punctate and Crowder Punctate.

What about age? The writer hopes you will find the answer in the forthcoming site report. It is old, possibly 2,000 years plus.

[NMAA 4 (1969) 1 (January), 5-6]

THE MISSISSIPPI ARCHAEOLOGICAL SURVEY

Richard A. Marshall

John Connaway and Sam McGahey have been continuing the activities of the Mississippi Archaeological Survey this past month. Early in March they received a call from L.B. Jones that the big mound at Powell Bayou, south of Drew, Mississippi in Sunflower County, was being pulled down. David Smith, Drew, called Mr. Robert Stancil who called Jones. The landowner, Mr. Otha Shurden, was leveling the mound as it was thought there was no need for it. When he got down to a certain level it just happened that David Smith showed up and recognized the remains of a house or some kind of structure. This set off the chain reaction which has resulted in some very interesting information. Daub and charcoal showed up at the time David was there. John Connaway and Sam McGahey arrived and began to clear the area off. There was a lot of overburden but enough was cleared to show that there were at least three superimposed houses. L.B. Jones talked with Mr. Tom Cook at Parchman and he brought over a number of prisoners who very expertly and quickly removed the overburden. John and Sam have

been working there now for about five weeks. They have recovered several good samples of charcoal, one or more of which have been sent to Dr. J.B. Griffin, Museum of Anthropology, University of Michigan, for radiocarbon dating. A large sample of corn cobs has been sent to Hugh Cutler, Missouri Botanical Gardens, St. Louis, for identification.

The houses are rather large, trash pits have been found along with hearths. I have been told, but it remains to be verified, that the particular surface of the mound on which the houses were found had a light palisaded fence around the summit of the mound. Someone special must have lived there or the buildings were used for purposes necessarily screened off or protected from the rest of the area.

One might say there goes the Powell Bayou Mound. Not so! Mr. Shurden became so interested in what the boys were doing and finding, and, after the importance of saving our archaeological features was explained to him, decided to set the area of the mound and some more aside as a park. We are grateful to Mr. Shurden for his cooperation and interest in our work.

This is a beautiful example of the cooperation of the members of the Mississippi Archaeological Association, the Mississippi Archaeological Survey of the Department of Archives and History, and land owners. We have done it! We can do it again! And save more of the sites in the future than we have in the past. This is what the Archaeological Association was organized for. Your cooperation is essential.

Special thanks go to Mr. Shurden, Mr. Smith, Mr. Stancil, Mr. Cook and his men, and to everyone else who cooperated.

Starting later this month and through May, John and Sam are to conduct an archaeological survey in Hinds County.

[NMAA 4 (1969) 4 (April), 4-5]

UNIVERSITY OF MISSISSIPPI 1969 SUMMER DIGS: EXCAVATIONS AT 22-Co-516
Bunker Hill

This past summer [1969] the University of Mississippi's Anthropology Department held its field session in Coahoma County. The students who attended the summer dig were divided into three groups, each with a site to excavate. The site which my crew excavated was located in a cultivated area on the land of C. M. Allen [this is the site now known as Wilsford: report by John Connaway, MDAH Archaeological Report 14--Ed.].

As a result of the last several years of cultivation, large concentrations of daub were exposed. These provided a clue as to what lay beneath the cultivated zone.

The site proper consists of a temple mound and the two house areas which were excavated. No attempt was made to dig the mound. The first floor plan excavated revealed a pattern of 144 postmolds situated in twelve rows of twelve posts each. In addition to this pattern, there were larger postmolds outside the wall trench. These

were found to be in line with every other row of posts inside the wall trench. There was much speculation as to the exact function of such a structure with this post pattern. It is believed now that the large number of posts inside the wall trench were used to support a raised floor.

The second house area excavated revealed a similar post pattern. This structure had been rebuilt two times as could be determined from the presence of three wall trenches which intersected at several points.

The site was identified as a Mississippian site. This was determined by the pottery types found. Neeley's Ferry Plain was the most abundant. There were no burials and very little animal bone. The most outstanding find was a pot with a long thin neck. This pot was of the Avenue Polychrome type. It is on display in the University Anthropology Museum.

The excavation of this site revealed a house type new to this area and also a perfect example of Avenue Polychrome pottery.

[NMAA 4 (1969) 9 (November), 1]

DISCOVERY OF AN EARLY SITE IN NORTHEAST MISSISSIPPI

Samuel O. Brookes and Samuel O. McGahey

One of the most significant prehistoric sites to be found in the state of Mississippi was discovered last summer in Monroe County. This site, which must for now remain unnamed [this is, of course, the Hester site--Ed.] and not precisely located, seems to hold the greatest archaeological potential for the late Paleo Indian-Early Archaic Period of any site yet recorded in Mississippi.

Several months of digging were done by two men who, like the site, must not be named for the present. The volume of early lithic material unearthed by them is astounding, considering the relatively small area worked--approximately 120 feet x 45 feet.

In December 1973 the Department of Archives and History was contacted and archaeologists visited the site to evaluate the discovery. The initial reaction was one of dismay, since much of the site had obviously been destroyed. A few days of testing, however, revealed that several acres remained, with depths of midden ranging up to four feet.

Although no topographic map has been made and the exact limits of the site are yet to be determined, it appears to occupy a natural levee apparently of the Tombigbee River which is currently several hundred feet away. The site was possibly U or crescent shaped.

Five 5 feet by 5 feet test pits were excavated in order to reveal the depth and extent of the site and hopefully to determine the cultures present and their sequence. Artifactual material was sacked in arbitrary 0.2 foot levels with exact locations recorded for recognizable tools. Pottery and projectile point type counts are presented below by pit and level.

DISTRIBUTION OF PROJECTILE POINTS (CONTINUED)

		Pit #3																
LEVEL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Collins																		
Madison																		
Stemmed																		
Big Sandy																	1	
Decatur									1									
Pine Tree											1							
Greenbrier																		
Lost Lake										1	1							

		Pit #4																
LEVEL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Collins																		
Madison																		
Stemmed										1								
Big Sandy																		
Decatur									1									
Pine Tree												1						
Greenbrier																		
Lost Lake																		

		Pit #5																
LEVEL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Collins																		
Madison																		
Stemmed														1				
Big Sandy												1		1				
Decatur															1	2		
Pine Tree																		
Greenbrier																		
Lost Lake																		

As can be seen from the tables dealing with ceramic types, all of the pottery was confined to the upper foot except for the one sherd found between 1.0 foot and 1.2 feet. There is an interesting array of types but no really useful information. The site has apparently been cultivated in the past, with the result that the first few inches are disturbed. Apparently the late Archaic and early Tchula Period are represented in these pits by Wheeler Plain, a fiber tempered type. One Alexander Incised sherd represents a Tchula Period occupation. Baldwyn Plain, Furrs Cordmarked, and Marksville Stamped represent the Marksville Period, and Tishomingo Plain and Mulberry Creek Cordmarked the Baytown Period.

Lithic material from the test pits suggests later occupation than is apparent from the pottery. The Collins point found in Square 1 is probably of the late Baytown or Coles Creek Period, and the Madison

points are generally accepted as markers of the Mississippian Period in this area. These points, like the pottery, are confined to the upper levels.

Most of the remaining projectile points are from much deeper in the midden and can be assigned to the Early Archaic Period. The only definite exception appears to be the stemmed point from Level 9 of Pit 4. This specimen, heavy and crudely made, is very similar to points from the Denton site in the Yazoo Basin which dates from around 3000 B.C. or the latter part of the Middle Archaic. Another stemmed point was found in Level 13 of Pit 5. It is broad stemmed and basally thinned and gives the appearance of being an unfinished Early Archaic specimen. The other points are unquestionably Early Archaic.

Although the depth at which most of these specimens were found would seem to preclude modern disturbance, the picture is slightly confusing. If there was more or less continuous occupation during the Early Archaic Period, as seems indicated by the various types present, it would be expected that considerable mixing of earlier and later specimens would have occurred through the constant activity on the site. The projectile point sequence should become clear when there are a greater number of specimens with recorded provenience.

The distribution of other lithic material from these test units has not been tabulated but includes a wide variety of material which was mostly confined to the levels of the Early Archaic points. The most obvious material is lithic waste from chipping activity. Apparently flaked tools were completely finished at the site. The material ranges from large unused cobbles through cores, large flakes, occasional prismatic blades, crude and refined bifaces, and projectile points in all stages of manufacture. The nearby streams contain an abundant supply of gravel, including cobbles of sufficient size for the manufacture of tools. Much of the flaked material and practically all of the finished tools show evidence of heat treating, a process which turns the predominantly tan or cream raw material shades of red, pink, and orange. The heated material if flaked after firing then takes on a glossy appearance.

Several thick unifacial end scrapers with use wear, utilized flakes, and prismatic blades, as well as the breakage on many of the finished projectile points, indicate various other types of activity in addition to the manufacture of tools.

The lower levels of pit five yielded nutting stones in association with Decatur points. Assuming that nutting stones are appropriately named, the processing of wild plant foods is implied to be contemporary with the use of Decatur points.

Although the sandy midden was darkly stained from the assimilation of organic material, no faunal remains were encountered. Some charcoal appeared in the form of very small particles. One charred seed was recovered. It awaits identification.

The collections made by the discoverers were analyzed and added greatly to information concerning the site. Unfortunately, the only provenience designation is that of the approximate 125 feet x 40 feet area excavated by them. No records were kept on levels and horizontal distribution. The results of the analysis of the projectile points from this excavation is listed below, divided chronologically.

PALEO INDIAN

Clovis Point	1
Other fluted point	1
Dalton Point	6

MIDDLE ARCHAIC

Unclassified	12
Upper Valley side notched	1
Eva II	9

EARLY ARCHAIC

Big Sandy	151
Decatur	118
Pine Tree	29
Greenbrier	15
Lost Lake	10
Jude	7
Hardaway-like	3
Unidentified corner notched	6

WOODLAND

Bradley Spike	1
---------------	---

MISSISSIPPIAN

Nodena	1
--------	---

Various other tools were collected, including several unidentified projectile point fragments and unfinished tools, and thick unifacial side and end scrapers. In an interesting variation on the end scraper theme, many bifacial end scrapers were found made from projectile points. Usually the proximal or hafting area end was used for this (Figure 1A), but occasionally the distal end was used too (Figure 1B). Two side scrapers may belong to the fluted point complex.

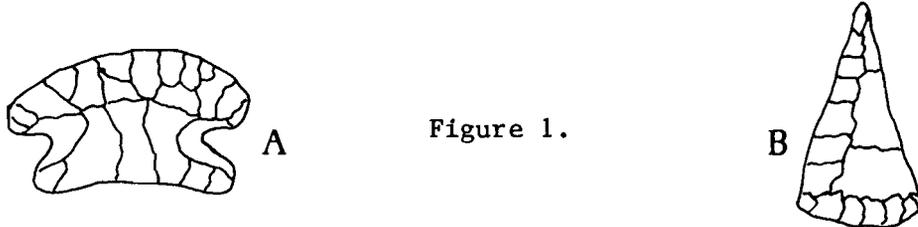


Figure 1.

Both are of Fort Payne Chert and made from prismatic blades (see Figures 2A and B). Specimen 2B has been reworked around the edges at a much later date than its original manufacture. The blackened scars are much darker than the original worked surface, which is very heavily patinated. Since this type of tool was also widely used during the Early Archaic Period, it was probably reworked by people of that period on the site.

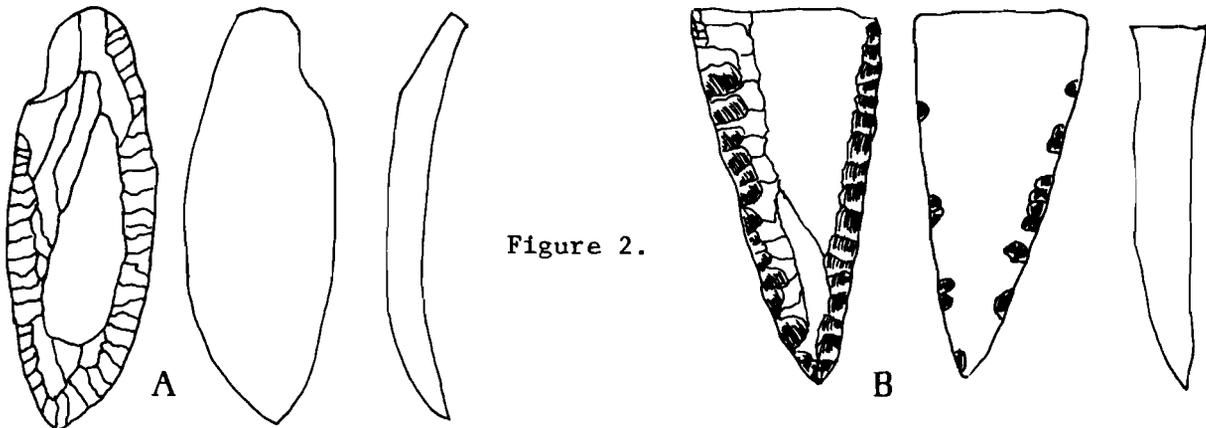


Figure 2.

Among the unclassified points from the site are two which seem worth illustration. Any comments on these or drawings of similar points would be appreciated (see Figures 3A and B).

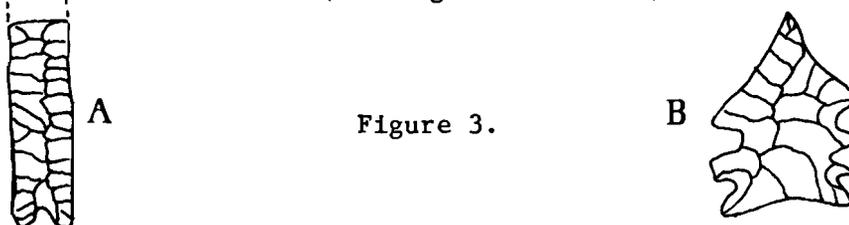


Figure 3.

Hopefully, much work can be done at this site to shed light on the early cultures of Mississippi. Barring unforeseen circumstances, more will be done this summer.

[MAAN 9 (1974) 1 (January), 2-7]

MISSISSIPPIAN PHASES AT LYON'S BLUFF SITE (22-Ok-520), EAST CENTRAL MISSISSIPPI

Richard A. Marshall

Tibbee Creek Phase - An early, mature Mississippian culture.

Characteristic ceramics are finely crushed shell-tempered (Mississippi Paste) pottery, largely plain, with some incising, in simple, globular, flaring-rimmed jars with two or four loop handles; moderately long necked, flaring or straight mouthed globular water bottles (in a paste more like Bell Paste), O'Byam Incised (or Stewart Engraved) dishes, and assorted other shallow to moderate-sized bowls. Houses are 10 to 14 feet square, of narrow, but deep wall trench placed, small diameter poles, and with at least some wattle and daub cover. The comparison is good for central Tennessee and Kentucky.

Lyon's Bluff Phase - A mature Mississippian culture. Characteristic ceramics are of Mississippi Paste and Bell Paste. Incised decorations are common, including swastika sworles, Mound Place-like Incised, with effigy appendages, and black filmed engraved ware. Red filmed with some white present and negative painted ware occurs. Notched sandstone palettes, shell ear plugs, conch shell pendants or gorgets, some engraved, and copper ear or hair ornaments are also present. Houses are larger, up to approximately 20 feet square, but are made by four to five inch diameter poles placed in an eight to ten inch wide trench not as deeply dug as in the Tibbee Creek Phase. There was a deliberate attempt at shaping the physical setting of the site. Its compact nature would suggest some fortification during this or earlier times. The complex is closely related to the Moundville Phase (100 miles east).

Sorrells Phase - A phase showing the decline of Mississippian culture. Much of that which is Moundville disappears and is replaced by materials which (1) appear to tie in together contemporaneously or, (2) represent two phase complexes as yet unseparated. One of these appears related to the Alabama Burial Urn culture in vessel shape, decoration, and appendages. In addition to multiple curvilinear incised lines often forming bands of arch or

interlocking scrolls there are multiple loop or modified strap handles on some vessels. The other complex appears very strongly related to the West Tennessee area and possibly to Chucalissa. Included here are a lot of pinched punctation shading into deliberately made nodes often with triangular, arcaded strap handles with the same treatment on vessels. An increase in painted ware with red on buff, red and white (Nodena), and red filming, including some of the late Quapaw-like shallow bowls and perhaps some Wallace Incised. Houses remained about the same size as Lyon's Bluff Phase but were no longer built with trenches. Larger poles, up to seven inches in diameter, were individually placed as much as three feet apart.

Mhoon Phase - This is the most tentative phase as it is the least studied, an even further breakdown of the traditional Mississippian culture, and possibly representing a new group. Not only did the occupation remove itself from the area of the major earlier concentration of the site, it largely changed its pottery paste recipe. Though the ceramics contain crushed shell temper, the shell is often fossil shell and may include sand and clay pellets. Bell Paste is gone. The decorations are pinched or punctated, and there is little polished or carefully smoothed ware. When smoothed ware appears it is usually clay-tempered (Natchezan-like) and often decorated with multiple curvilinear incised lines. Individual house mounds occur along the ridge top and northeast facing part of the hill overlooking the Line Creek bottom. Here is a complex that resembles in large part the historic Chickasaw complex at Tupelo, but there are no trade goods.

[MAAN 9 (1974) 2 (February), 7-8]

NATCHEZ POTTERY IN SOUTHWEST LOUISIANA

[Joseph Frank III]

Joe Frank,* of Lake Charles, Louisiana, sends a report on excavations at the Little Pecan site in Cameron Parish, which is in the southwestern corner of Louisiana. The excavation, prompted by the unearthing of some burials by a pipeline crew, revealed a multicomponent site, with occupations of Marksville, Troyville, Coles Creek, and Plaquemine cultures being represented. Surface collections also revealed the presence of Tchefoncte ceramics.

In the upper levels of one area tested, bundle burials were revealed as well as blue and white glass beads, mocha ware, a brass coil, and Indian ceramics of the types Fatherland Incised, Maddox Engraved, and a new type related to Avery Island Engraved. The artifact analysis has not yet been completed, but the Fatherland Incised type common at the Grand Village of the Natchez must be properly identified since it was identified by no less an authority than Stu Neitzel.

*Joe has made considerable contributions to Mississippi archaeology over the past several years through the location of many sites in the Natchez area. He also participated in excavations at the Fatherland site in Natchez and the Lyon's Bluff site in Oktibbeha County.

Those who are familiar with the early history of the southeast will remember that in 1730 the Natchez tribe, as such, was destroyed by the French. Remnants of the tribe took refuge among various other tribes such as the Chickasaw and the Cherokee. The type Fatherland Incised has been found in Lee County, Mississippi, which in 1730 was the heart of Chickasaw territory. The possibility of part of the tribe having taken refuge in southwestern Louisiana seems indicated by the discovery at Little Pecan.

[MAAN 9 (1974) 4 (April), 3]

THE BILOXI: AN INTRODUCTION
Kenneth L. Shellberg*

Abstract

The Biloxi called themselves "Ta neks a ya di," or "First People." However, the present form of the name is probably a result of its incorporation into the Mobilian trade language. This theory is supported by the fact that Iberville refers to the "Annocchy, whom the Bayougoula called 'Bilocchy'" (Swanton 1912:5). The Mobilian trade language was based on Chickasaw, with the addition of some Algonkian and other languages. According to Mooney (see note 14, Haas 1969:81), this trade language was spoken and understood by all the Indians of the Gulf states, probably as far west as Matagorda Bay on the Texas Gulf coast and northward up the Mississippi River to about the mouth of the Ohio River.

The first historical encounter with the Biloxi Indians took place in 1699, when Iberville landed at what is now known as Biloxi Bay, on the Gulf Coast of the present state of Mississippi. Nothing is known of the Biloxi before that time; to date, the prehistoric record is mute. This is stated by Marshall:

...Historically there should be phases which would describe the Pascagoula, Acolapissa, and the Biloxi on the Gulf Coast both with pre-French-Spanish contacts and French colonial contacts....

There has been little attempt to relate specific or certain phases to the historic tribes present in Mississippi at the time of the French colonization. The entire history of European contact with the Indians of the southeast is quite hazy and at

*This paper was recently submitted by the author for an anthropology course at Ohio State University. However, as an "at large" member, he felt that perhaps you, the other readers of this newsletter, might be interested in what he could find out about the Biloxi Indians, and that some of you might know something he does not, and be willing to share it with the rest of us.

best greatly confused due to the lack of detailed ethnohistorical data. This lack of specific information makes it difficult to bring prehistoric and proto-contact groups into the recognized historic tribes....The Natchez, an important tribe, and one of the few that can be brought out of the prehistoric past archaeologically in their area, disappeared early, a victim of French policy. There were others such as the Chakchiuma, Ibitoupa, Tiou, Yazoo, Koroa, Grigra, Houma, Acolapissa, Pascagoula, and Biloxi, and perhaps other groups that vanished without a trace or left little to identify them. Their villages remain to be identified both historically and archaeologically. Many of their materials when found may be mistakenly identified with that of the better-known archaeological complexes. There will always be questions regarding identification because of the lack of historic documentation. There are sites on record with historic materials that may or may not be the villages of some of these unknown 'tribes.' Further documentation could assist in their identification (Marshall 1973:67-68).

Thus, our understanding of the Biloxi is confined to what is known of them in the historical record since 1699; the late contacts and study of them by Gatschet (1886), Dorsey (1892), and Swanton (1908); and what is generally known of the Indians in the southeastern United States.

WHERE DID THEY LIVE?

With the landing of Iberville, and the resultant French colonization, the Biloxi Indians entered the western historic era. Although the Biloxi were first encountered at what is now Biloxi Bay, they were actually living a few miles east on the Pascagoula River, some sixteen leagues inland, with two other tribes, the Pascagoula and the Mochtobi. Swanton (1911:45) estimates their population at the time of contact to have been about 420 persons. Sauvolle, who commanded the fort at Biloxi during Iberville's return to France in the summer of 1699, made several visits to these people. In the spring of 1700, Iberville, recently returned from France, made an expedition up the Pascagoula River. Six and one-half leagues up the river, he found the remains of what he called the "former Biloxi village." He says of it:

This village is abandoned, the nation having been destroyed two years ago by sickness. Two leagues below this village one begins to find many deserted spots quite near each other on both banks of the river. The savages report that this nation was formerly quite numerous. It did not appear to me that there had been in this village more than thirty to forty cabins.... (Swanton 1912:6).

Continuing further inland, Iberville came to the same village site that Sauvolle had visited the year before. However, Iberville calls this the Pascagoula village. If the Biloxi were there, Iberville does not mention them. Swanton (1912:6) conjectures that the Biloxi may very well not have been living there at the time of Iberville's visit, not only because Iberville failed to mention them, but also because the Biloxi and the Pascagoula maintained their autonomy under adverse circumstances for one hundred years after this time.

From this time until after the English took over this area in 1763, nothing definite is known of the whereabouts of the Biloxi. One source (Anonymous 1905:147) has them on the western shore of Mobile Bay in 1702. Another (Swanton 1912:6-7) has them just south of Lake Pontchartrain, near the present-day city of New Orleans, but back on the Pascagoula River by 1730. Jeffreys (Anonymous 1905:147), in 1761, speaks of them as being on the coast northeast of Cat Island and then later to the northwest of the Pearl River.

Since most of the Indians in the Gulf area were unhappy with the English, many crossed the Mississippi into Spanish territory after 1763. It seems that the Biloxi were among them. Those who did not migrate west of the Mississippi River were generally debauched by European brandy, and decimated by smallpox, measles, and other diseases. After 1763, the only substantially represented tribes in what is now the state of Mississippi were the Choctaw and the Chickasaw (Gibson 1973:75, 79).

The next we hear of the Biloxi is in 1784. Hutchins states that they were just west of the Mississippi River near the mouth of the Red River (Swanton 1912:7). They numbered about thirty warriors and were living just south of some Pascagoula (Anonymous 1905:147). According to Sibley (Anonymous 1905:147), some Biloxi came across the Mississippi River in 1763 and settled first in what is now Avoyelles Parish, Louisiana, on the Red River and then moved north along the Red River to Rapide Bayou, and then further north to the mouth of the Rigolet de Bon Dieu, a tributary of the Red River, some forty miles south of Natchitoches, Louisiana. In the early 1790s, we hear of some Biloxi who had moved to Bayou Boeuf and settled just south of some Choctaw who had preceded them by a few years. Two years later, a band of Pascagoula followed them and settled between the Choctaw and the Biloxi. Around 1805, the Biloxi, the Pascagoula, and the Choctaw of Bayou Boeuf sold their land to Messrs. Miller and Fulton, two early settlers of Rapides Parish. At this time, these combined bands numbered approximately five hundred people (Swanton 1911:305). After this, the bulk of the Biloxi, according to Morse (Swanton 1912:8), migrated to Texas and by 1817 were living at what is now called Biloxi Bayou in Angelina County. From this point on we have scattered reports of the Biloxi on the Neches River in Texas, the Red River near the Texas-Louisiana border, the Little River which is a tributary of the Brazos River in Texas (Anonymous 1905:147), and the Kiamishi River in Oklahoma (Swanton 1912:8).

Finally, in 1886 Gatschet found some Biloxi living with some Choctaw and Caddo in Avoyelles Parish in Louisiana. Up to this time, the Biloxi were thought to have been of the Muskogean language stock.

In 1892, Dorsey encountered about a dozen Biloxi near Lecompte in Rapides Parish, Louisiana, but none at Avoyelles. At this time, Dorsey concluded that the Biloxi belonged to the Siouan language stock, and began to compile a dictionary of their language (Anonymous 1905:147). And in 1908, Swanton (1912:9) concluded that there were eight recognized Biloxi Indians left living in Texas, Oklahoma, and Louisiana. In 1934, Haas (1968:77) along with Swadesh found one eighty-seven-year-old woman who had not spoken the Biloxi language in twenty-one years. At this time, probably not any persons are alive who call themselves Biloxi Indians and who speak the Biloxi language. The people seem to have gradually disappeared as they moved westward to the Mississippi River and then northward up the Red River.

WHO WERE THE BILOXI?

In 1836, "Gallatin employed the term 'Sioux' to designate collectively 'the nations which speak the Sioux language'" (McGee 1897:158). That this statement is considered important by those studying the Sioux at the turn of the century should indicate just how much confusion the "Sioux" have caused American ethnologists. There were "Eastern Sioux" along the Atlantic seaboard and there were "Western Sioux" or Dakota in the central and northern plains. For a long time, it was supposed that the eastern tribes were offshoots of the Dakota. However, in 1883, Hale in his studies of the now extinct Tutelo of Virginia observed that the language of the eastern tribes was older in form than that of the Dakota (McGee 1897:159). Then, in 1886, Gatchet discovered that the Biloxi were Sioux. Linguistically, the Biloxi were most closely related to the extinct Ofo of the lower Yazoo in Mississippi and the extinct Tutelo of Virginia. These three languages comprise what Haas (1969:286) calls the southeastern division of the Siouan family.

Swanton (1928:681) states that the Biloxi were a relatively late Siouan intrusion, probably from the northeast. However, they seem to have adopted much of the culture of the groups around them. According to Dorsey (1897:243), they had three exogamous matrilineal clans: the Deer People, the Bear People, and the Alligator People. They also had a more elaborate kinship system than any other known tribe in the Siouan family. These traits associate them with the Creeks and the Chickasaw. Their method of disposing of dead chiefs was the same as the Pascagoula and was similar to that of the eastern Sioux and the Algonkians of the Carolinas and Virginia (Swanton 1928:681). This is the extent of our knowledge as to who the Biloxi were.

CULTURAL PATTERNS

The following remarks on cultural patterns come from three general sources. These are the early French-contact accounts, the information gleaned from the informants of Dorsey and Swanton, and a general knowledge of the Indians of the southeastern United States.

Subsistence

According to Penicaut, who accompanied Sauvolle on visits to the Biloxi, Pascagoula, and the Mochtobi on the Pascagoula River, their food consisted of bison, bear, deer, and fruits including peaches, plums, watermelons, and pumpkins (Swanton 1911:303). They had corn

from which they made cornbread and "hominy which is a kind of porridge made with corn and beans." Meat was usually smoke-cured. This account of Penicaut indicates that the Biloxi were hoe agriculturists as well as hunters, as were most of the Indians of the southeast. Generalizing from the southeastern culture area as a whole, we can infer that their diet also included fish, shellfish, and a variety of nuts including walnuts, chestnuts, hickorynuts, acorns, and pecans which as a rule were dried. They also probably grew tobacco (Swanton 1938:691-696).

Tools and Utensils

Again, starting with Penicaut (Swanton 1911:303), we find that the Biloxi had plates of wood and spoons of buffalo horn. They also had well-made ceramics, including pots of a capacity of about forty pints, round and shaped like a windmill. Dorsey (Anonymous 1905:147-148) ascertained from his informants that the Biloxi had ceramics, wooden bowls, horn and bone implements, and baskets. In the southeastern region as a whole, we find hoes made of wood and bone or flint, war clubs, axes, stone pipes, bows and arrows, fishing hooks of wood and bone, spears, and cane blowguns (Swanton 1928:689-696). It seems safe to assume that the Biloxi were familiar with most of these items.

Clothing and Body Ornamentation

Penicaut noted in August of 1699 that the men wore nothing and the women wore "only a little moss, which was passed between their legs and covered their nakedness" (Swanton 1911:303). Dorsey in 1892 concluded from his informants that the men wore breechcloths, belts, leggings, moccasins, and skin robes wrapped about the body. Ornamentation consisted of feather headdresses, noserings, earrings, and necklaces of bone and bills of long-legged redbird, possibly a flamingo (Anonymous 1905:147). It seems evident here that the amount of clothing worn was dependent upon the season. Generally, throughout the southeast, we find that the women often wore short skirts of animal skin, or in the Florida region, of Spanish moss. The women also wore cloaks woven from the inner bark of the mulberry tree or of certain grasses, and in Florida, of Spanish moss. Leading men wore headbands of feathers, skins, or metal. Hair was totally removed from the body with the exception of their heads. Feather ornaments with beads, copper, colored stones, and bones, were worn in the hair, on clothing, and on the neck, ears, arms, wrists, waist, and ankles. Tattoos were very common (Swanton 1838:681-686).

Dwellings and Furnishings

Iberville, on his trip up the Pascagoula River in 1700, noted that their cabins were

...built long, and the roofs, as we make ours, covered with the bark of trees. They were all of one story of about eight feet in height, made in mud...The village was surrounded by palings eight feet in height, of about eighteen inches in diameter. There still remain three

square watch-towers measuring ten feet on each face; they are raised to a height of eight feet on posts; the sides made of mud mixed with grass, of a thickness of eight inches, well covered. There were many loopholes through which to shoot their arrows. It appeared to me that there had been a watch-tower at each angle, and one midway of the curtains; it was sufficiently strong to defend them against enemies that have only arrows (Swanton 1912:7).

Penicaut states that they slept on "beds of canes which are plaited and tied" and then "interlaced with each other and covered with buffalo skins" (Swanton 1911:304). Dorsey in 1892 concluded from his informants that their dwellings were similar to those of the northern Sioux, a low tent like that of the Osage and Winnebago, and a high tent like that of the Dakota and Omaha (Anonymous 1905:147). It seems that the Biloxi adapted to whatever materials were at hand, and to the conditions of the prevailing climate. I would imagine that as the Biloxi left the coastal area and migrated west, their material culture took on many of the facets of the other tribes around them.

In the southeastern cultural area, houses were both round and square. Indians of this area also had religious buildings or temples, corncribs, and granaries; these buildings were usually similar to their houses. They were usually constructed out of the material at hand--wood, bark, cane, reeds, palmetto, and mud. Beds were usually a framework of wood covered with reed mats and skins, elevated on short posts, and placed around the inside periphery of the dwelling (Swanton 1938:687-689).

The Intangible Culture

Little information is available in this area. We do have an account of the disposition of a dead chief's body by Dumont, a French missionary contemporary with Iberville. Our only other real source is a Biloxi-English dictionary and a collection of Biloxi stories, gathered by Dorsey in 1892 and 1893 and edited by Swanton in 1912 (Swanton 1912).

From Dorsey, we know that the Biloxi were an exogamous matrilineal group of the Siouan family. We also know that their kinship system was very elaborate, but not enough is known to ascertain into which category they fall.

Swanton (1911:163) informs us that the Biloxi had religious temples much as the Natchez, but there is no data on these temples. And from Dumont, we have the following account:

The Paskagoulas and Billoxis never inter their chief when he is dead, but they have his body dried in the fire and smoke so that they make of it a veritable skeleton. After having reduced it to this condition they carry it to the temple (for they have one as well as the Natchez) and put it on the place occupied by its predecessor, which they take from the place which it occupied to place it with the bodies of their other chiefs in the interior of the temple, where they are all ranged in succession on

their feet like statues. With regard to the one last dead, it is exposed at the entrance of the temple on a kind of altar or table made of canes and covered with a very fine mat worked very neatly in red and yellow squares with the skin of these same canes. The body of the chief is exposed in the middle of this table upright on its feet, supported behind by a long pole painted red, the end of which passes above his head and to which he is fastened at the middle of the body by a creeper. In one hand he holds a war club or a little ax, in the other a pipe, and above his head is fastened, at the end of the pole which supports him, the most famous [sic] of all the calumets which have been presented to him during his life. It may be added that this table is scarcely elevated from the earth half a foot, but it is at least six feet wide and ten long.

It is to this table that they come every day to serve food to the dead chief, placing before him dishes of hominy, parched or smoke-dried grain, etc. It is there also that at the beginning of all harvests his subjects offer him the first of all the fruits which they can gather. All of this kind that is presented to him remains on this table, and as the door of the temple is always open, as there is not one appointed to watch it, as consequently whoever wants to enter, and as besides it is a full quarter of a league distant from the village, it happens that there are commonly strangers--hunters or savages--who profit by these dishes and these fruits, or they are consumed by animals. But that is all the same to these savages, and the less remains of it when they return next day the more they rejoice, saying that their chief has eaten well, and that in consequence he is satisfied with them, although he has abandoned them. In order to open their eyes to the extravagance of this practice it is useless to show them what they can not fail to see themselves, that it is not the dead man who eats it. They reply that if it is not he it is at least he who offers to whomsoever he pleases what has been placed on the table, that after all that was the practice of their father, of their mother, of their relations, that they do not have more wisdom than they had, and that they do not know any better way than to follow their example.

It is also before this table that during some months the widow of the chief, his children, his nearest relations, come from time to time to pay him a visit and to make him a speech as if he were in a condition to hear. Some ask him why he has allowed himself to die before them. Others tell him that if he is dead it is not their fault, that he has killed himself by such a debauchery or by such a strain. Finally if there had been some fault in his government they take that time to reproach him with it. However,

they always end their speech by telling him not to be angry with them, to eat well, and that they will always take good care of him (Swanton 1912:7).

Again, some of the eastern Sioux and Algonkians had similar practices.

In the southeastern cultural area, we often see sororal polygyny; menstrual and childbirth houses for women; a daily morning bath in the nearest running water throughout the year; a complex ceremonial life involving the sun worship and a priesthood, and revolving around a complex corn harvest ceremony; the use of black drink; and a strong warlike tradition. Generally speaking, the women made clothing, pottery, baskets, and mats, and collected firewood, cooked, and dressed skins. The men made bows, arrows, quivers, warclubs, axes and stone-pipes, built houses, hollowed out canoes and mortars, hunted, attended to the ceremonials, and went to war and on trading expeditions (Swanton 1928:700).

CONCLUDING REMARKS

Although Dorsey concludes that the Biloxi are a rather late Siouan intrusion, it seems to this author that they were in the southeast long enough to have become assimilated into the southeastern traditions. The facts that they were matrilineal, had a priesthood, and, judging by Iberville's description of the fortification found on the Pascagoula River, were skilled in the art of war, seem to support this view. It can only be hoped, with Marshall, that we may be able someday to correlate the prehistoric phases with the historic tribes.

REFERENCES

- Anonymous
 1905 Handbook of the Indians. Bureau of American Ethnology Bulletin 30, Vol. 1.
- Dorsey, James Owen
 1897 Siouan Sociology: A Posthumous Paper. In Fifteenth Annual Report of the Bureau of American Ethnology. U.S. Government Printing Office, Washington.
- Gibson, Arrell M.
 1973 The Indians of Mississippi. In Richard A. McLemore (ed.), A History of Mississippi 1:69-89. University and College Press of Mississippi, Hattiesburg.
- Haas, Mary R.
 1968 The Last Words of Biloxi. International Journal of American Linguistics 34:77-84.
 1969 Swanton and the Biloxi and Ofo Dictionaries. International Journal of American Linguistics 35:286-290.
- Marshall, Richard A.
 1973 The Prehistory of Mississippi. In A History of Mississippi, edited by Richard Aubrey McLemore, 1:24-68. University and College Press of Mississippi, Hattiesburg.
- McGee, W. J.
 1897 The Siouan Indians: A Preliminary Sketch. In Fifteenth Annual Report of the Bureau of American Ethnology. U. S. Government Printing Office, Washington.

Swanton, John R.

- 1911 Indian Tribes of the Lower Mississippi Valley and Adjacent Coast of the Gulf of Mexico. Bureau of American Ethnology Bulletin 43.
- 1912 A Dictionary of the Biloci and Ofo Languages. Bureau of American Ethnology Bulletin 47.
- 1928 Aboriginal Culture of the Southeast. In Forty-second Annual Report of the Bureau of American Ethnology. U.S. Government Printing Office, Washington.

[MA 10 (1975) 3 (March), 2-9]

TEST EXCAVATION AT THE LAWSON SITE 22-Mo-572

Samuel O. Brookes

Because of its proximity to the Early Archaic-late Paleo-Indian Hester site (22-Mo-509), it was felt that the Lawson site in Monroe County might be related to the Hester site. To test this possibility, on Monday, September 30, 1974, a 5-foot square was taken down to sterile soil at the Lawson site.

Excavation proved the site to consist of a midden deposit 2.6 feet in thickness. The upper 0.5 foot had been disturbed by plowing some twenty years ago. This upper zone is black and below it is a zone of reddish brown sandy clay approximately 2 feet in thickness. A sterile zone of yellow sandy clay underlies this deposit. The test square showed that this site had at least two major occupations. Two small potsherds on the surface possibly indicate a third occupation, but no material attributable to ceramic periods showed up in the excavation (see Table 1 for a list of excavated material).

Table 1

MATERIAL FROM PIT 1 (ALL LEVELS)

Unutilized gravel chert flakes:	
Red - heated	158
White - heated	1
Yellow	10
Grey	1
Unutilized conglomerate flakes	1
Fire cracked gravel	1
Sandstone fragments	49
Hematite fragments	2
Sandstone hammerstone fragment	1
Worked gravel chert:	
Red - heated	6
Yellow	2
Gravel chert cores:	
Red - heated	1
Yellow	2

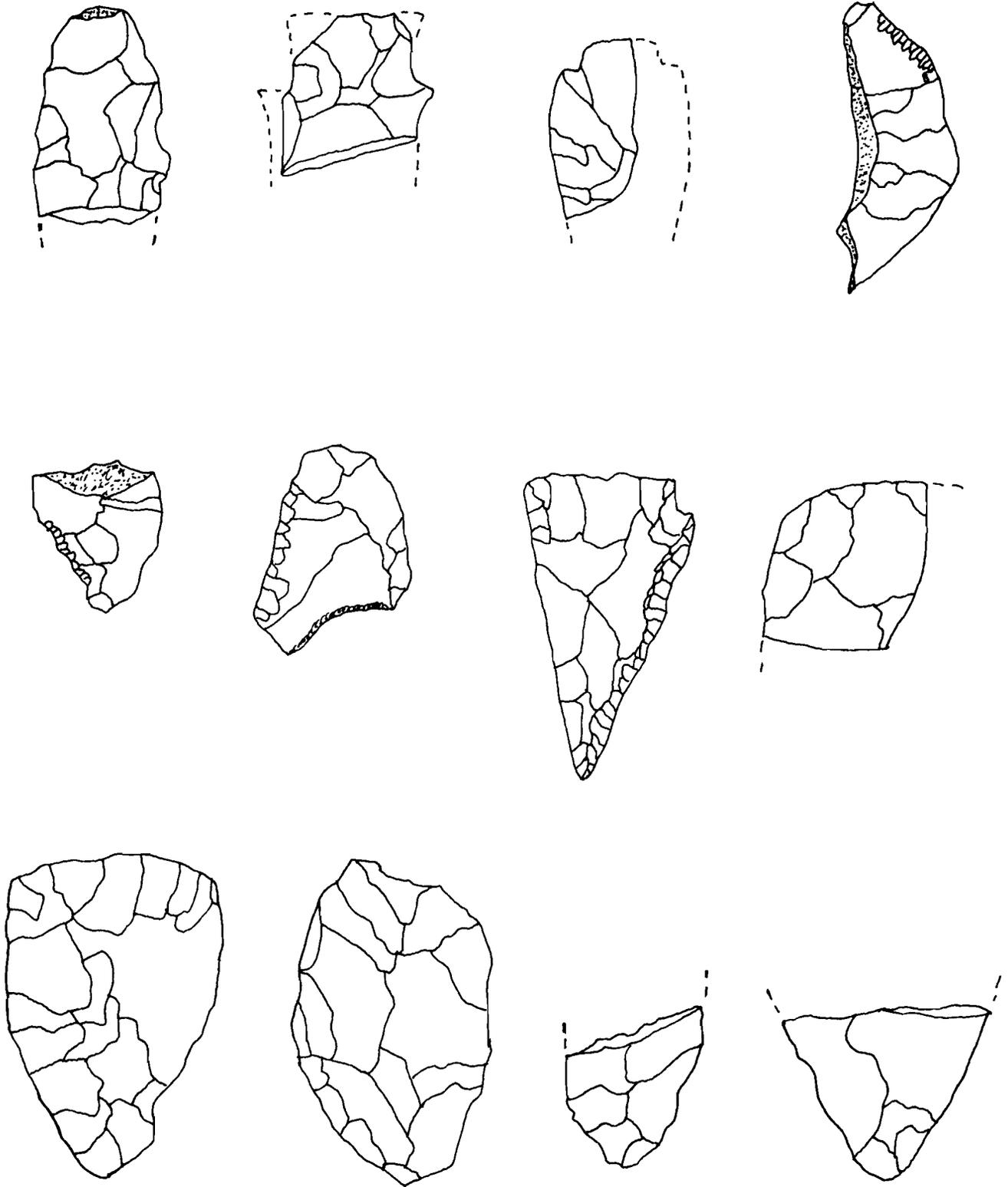


Figure 1.
Artifacts from the Lawson site.

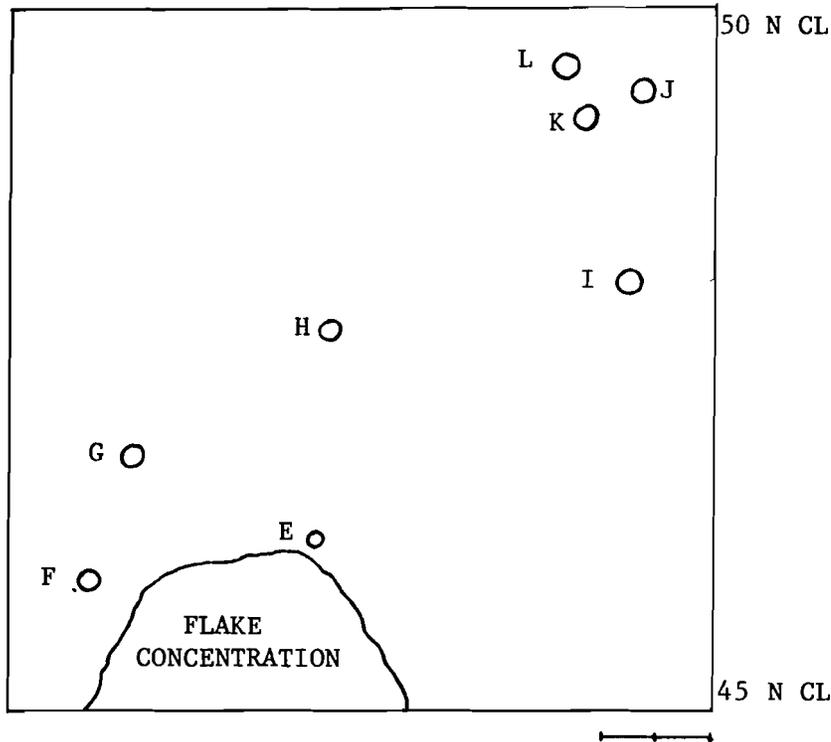


Figure 2. Lawson site 22-Mo-572. Pit 1, Level 2.1-2.2'.

Scale: .75"=1'

The first occupation encountered in the test square was a late Middle Archaic component (artifacts from this occupation are shown in Figure 1a-d). While the points resemble those found on some Woodland sites, the absence of pottery implies that this level is indeed Archaic. One of the points (Figure 1b) is orthoquartzite. All other artifacts are of heat treated local gravel chert. Figure 1c shows another stemmed point found.

The second major occupation is indicated just above the sterile zone by a concentration of eight artifacts and a deposit of flint chips (Figure 2). All artifacts in this deposit were found at a depth of from 2.1 to 2.2 feet below the surface (Figures 1e-1).

One artifact is extremely important (Figure 1g). This biface is a bevelled knife, which shows some wear on the blade edges and remnants of serrations. The piece evidently was started with the intention of producing a corner notched bevelled point, but notching was not completed and the artifact was used as a knife. Flakes were removed from both faces at one corner, however, before the original purpose was abandoned. The knife, with its characteristics, would have been made into one of the following types: Decatur, Plevna, or Lost Lake. All three are Early Archaic types and all probably date before 5000 B.C.

At present, plans are being developed to include the Lawson site in the National Register of Historic Places, which would prevent its destruction by any federally funded project. This protection is important because the Lawson site is one of only two known stratified Early Archaic sites in Mississippi.

IN DEFENSE OF HUTCHINS'S NATCHEZ INDIAN

Joseph Frank III

ABSTRACT

The purpose of this report is to establish the fact that in 1733 Natchez Indians were living in the Homochitto River drainage in the southern part of Adams County, Mississippi. For too long the general public has assumed that in 1732 all of the Natchez were killed or sold into slavery in Santo Domingo. Ethnohistorical reports are available to indicate that some Natchez were indeed in Adams County, Mississippi, through 1741 and quite possibly until the 1780s, contrary to previously accepted beliefs.

In 1729, the Natchez Indians sealed their fate with an effort to eliminate the French from their country. Their destruction of the male population of Fort Rosalie caused French officials to demand the annihilation of the entire Natchez tribe. In the ensuing years, various tribes recruited by the French searched out the Natchez. Finally in 1732, M. Perier, Commandant General, with the aid of the French marines and Choctaw allies, moved against the Natchez who were situated at their fortification (Natchez Fort site) near Sicily Island, Catahoula Parish, Louisiana (Ford 1936). As a result of this confrontation the remnants of the Natchez tribe were splintered (Neitzel 1965).

In 1772, Colonel Anthony Hutchins, who had come to Natchez with other migrants from New Jersey and Virginia, settled on St. Catherine Creek (Claiborne 1880). He was a well-educated gentleman and eventually acquired several plantations in the Natchez District. His loyalist views caused him considerable inconvenience, and he was forced to desert the district for a time (Betterworth 1959), but he finally returned and is now buried atop the large mound on Mazique plantation, near Natchez.

During Hutchins's first year in Natchez he formed a friendship with an Indian who claimed to be a descendant of the Natchez Indians.

He [the Indian] advised the Colonel to give up his settlement [on St. Catherine Creek], and offered him a sacred place, guarded by good spirits, where the water was always sweet. He conducted him...to the White Apple Village, the hereditary residence of a chief of that name. It stood twelve miles south of Fort Rosalie, three miles east of the river, on a beautiful stream known as Second Creek, on what is now called the Homochitto or Woodville road. (Albrecht 1944:68).

This report will utilize ethnohistorical documentation to show that the Indian in the employ of Colonel Hutchins in 1772 could have been correct in his assertion. The statement made by the Indian is significant because it indicates historic Indian settlements in an

area where none have been verified, and also correlates with the literature that states that historic Natchez villages did exist in the area.

Recent archaeology has confirmed the location of the historic Grand Village of the Natchez (Neitzel 1965), approximately nine miles north of Hutchins's White Apple. Two Tunica sites have been located south of the White Apple in Louisiana near the Mississippi River (Ford 1936; Brain 1973).

One year after Perier's expedition against the Natchez in 1732, three Natchez groups were documented by Bienville:

I have had the honor to inform your Lordship that I had learned that the Natchez were separated into three bands, the least numerous of which was in the interior of the country between the Tunicas and our fort at the Natchez; another in the land of the Ouachitas; and the last had established itself near the Chickasaw. In the instructions that I gave Sieur de Coustilhas when I sent him to command at the Natchez to obtain positive news of this first party, and as I suspected the little Ofogoula village that was brought to a position near the fort of the Natchez where it hunts for the garrison, of having some correspondence with our enemies I enjoined him to tell the chiefs of this little nation that I was greatly displeased with their conduct, that I was not ignorant of the fact that they were in intimate relations with the Natchez and that if they did not give me some proofs of the contrary by making known the place of their retreat, I should treat them as enemies. These reproaches and these threats had the effect I was expecting from them. Stung by emulation or by fear these Indians set out with two Choctaws whom I had given to Sieur de Coustilhas to throw light on the movements of the Ofogoulas and after a day and a half of marching they came upon several rather large fields planted with all kinds of Indian provisions, in one of which they perceived a Natchez working. They wished to take him alive in order to bring him to me but he discovered them at a distance and was fleeing with such rapidity that they were obliged to shoot him....This band consisted of possibly fifty warriors...(Rowland and Sanders 1932:622-623).

Loubouey wrote Maurepas the following year in 1733: "There is still a party of about a dozen of these wretches who prowl about between their former forts and the Pointe Coupee" (Rowland and Sanders 1927:215).

Bienville and Loubouey furnish the following facts: (1) three separate groups after 1732; (2) location of the smallest band between the fort and the Tunica; (3) a number of between twelve and one hundred fifty individuals.

Claiborne elaborates on the conversation between Hutchins and the Indian:

He conducted him through the cane, over hills and slopes timbered with magnolia, walnut, sassafras and mulberry, trellised with grape vines, to the White Apple village, the hereditary residence of a chief of that name. It stood twelve miles south of Fort Rosalie, three miles east of the river on a beautiful stream now known as Second Creek, on what is now known as the Homochitto or Woodville road. A large field had been cultivated by the Indians, and on a spacious and commanding mound had stood the wigwam of the chief. The Indian then conducted him to the White Cliffs, (since known as Ellis' Cliffs) on whose lofty brow, frowning over the whirling waters beneath, had been the village of the noted chief, Terre Blanche, or White Earth (Claiborne 1880:48).

Claiborne's statements furnish interesting facts: (1) the location of a village twelve miles below Fort Rosalie, three miles east of the river, on Second Creek, on the Homochitto or Woodville road (U.S. 61) and the presence of a large earthen mound; (2) the location of a village on Ellis' Cliffs; (3) the name of two villages and their chiefs.

The actual White Earth has since been located on St. Catherine Creek, Adams County (Brain, personal communication, 1972). The White Apple has been located near Foster's Mound, Adams County (Neitzel, personal communication, 1972).

Although archaeological evidence indicates that the villages below Natchez are incorrectly named, it does not prove that they did not exist. The names White Apple and White Earth are of significance since both existed in the early 1700s, White Apple as a Natchez village and White Earth as a French land grant (Giraud 1966).

This band of Natchez probably escaped from Sicily Island with little or nothing except the names of their former chiefs and villages. They settled in a familiar, fertile area so that they could replenish their strength. There is no mention that this particular group caused difficulties with the French as did the other bands. Possibly they were too small and weak to engage in such warfare. Their main concern was to survive. Their probable small number adds strength to the lack of archaeological evidence available to document their existence at the Mazique mounds. For example, Ford (1936:172) examined random collections from the Mazique plantation, which according to him was alleged by historians to be the White Apple village site, but found no evidence of Natchez pottery or European trade goods. In 1940, the Natchez Historical Association partially surveyed and excavated the Mazique mounds (Albrecht 1944). No reports were made available for analysis to document definitively the authenticity of the Indian's claim.

The Ofo and Tunica harassed the group of Natchez, and in 1737 Bienville made the following statement:

There came to our fort a Natchez, fugitive and dissatisfied with his people, who offered to lead the French to them. An officer with a detachment from the garrison and the Ofogoulas went there in fact but the Natchez man escaped and apparently went to warn his people who decamped, and we burned only a few cabins. I afterward sent a second detachment where there still were however many vegetables growing. The place was ravaged, and I intend to send out similar parties often in order to dislodge these Natchez from the banks of the river where they might disturb navigation (Rowland and Sanders 1932:708).

Bienville put the Natchez near the Mississippi River in 1737; this correlates with the Indian's statement about the White Cliffs (Claiborne 1880).

Little mention is made of the Natchez in the area until 1741, when several families settled on the Tiou River (Big Black River) twenty leagues above Natchez (Rowland and Sanders 1932). From this point they harassed the settlers down at Pointe Coupee:

On the first of last June...seven men passed in a pirogue in open day before this settlement of Pointe Coupee, letting themselves drift with the current of the river, even saluting with their heads several inhabitants who were at the water's edge, in short having in every respect the attitude of men who were acquainted [with the country]...they carried off a young negress and two children...and with this capture they crossed the river to throw themselves into a small river that is opposite. Chevalier de La Houssaye who is in command in this quarter when he was informed of this abduction hastily manned two pirogues and set out after them. He found their pirogue which they had abandoned.... After having followed them for several days they returned without having been able to overtake them and reported that they were taking the road to the hills that are behind the Natchez (Rowland and Sanders 1932:756).

These Natchez were apparently familiar with the country and, after kidnapping the settlers, were able to escape inside Tunica territory. It is also a fact that they followed a small river, presumably the Homochitto River, to escape. This river follows a northeasterly course and eventually turns due north. Second Creek is a tributary of the Homochitto River.

After this incident the Natchez are no longer of concern in the Natchez District. Not until 1772 does any Indian claim to be of Natchez descent in this area (Albrecht 1944). Prior to this time it would have been hazardous for any Indian to make such a statement. Not until after the French and Indian War in 1763 (Betterworth 1959)

were the Natchez free to claim their heritage without fear of French reprisal. As late as 1780 unknown Indians were roaming and harassing white settlers between the Homochitto River and Second Creek (Claiborne 1880).

Today one unusual name can be found on a railroad stop in Franklin County, Mississippi, in the area east of Natchez and in the Homochitto drainage. This station is known as the White Apple Station.

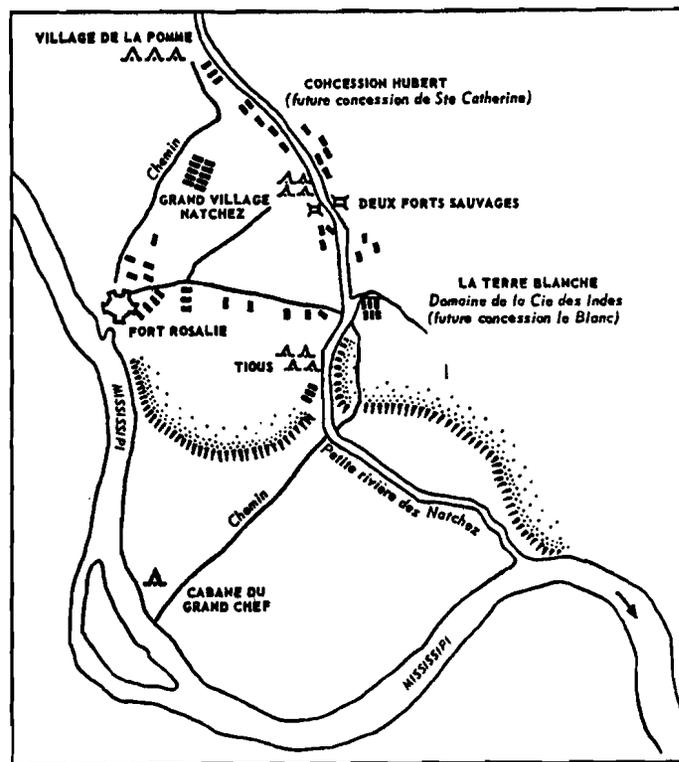
In summary, ethnohistorical and archaeological evidence have only one conflict, the names of the two sites mentioned by Hutchins's Indian. Early maps indicate that the White Apple (Village de la Pomme) is north of the Grand Village on St. Catherine Creek and the White Earth (Terre Blanche) is south of the Grand Village on St. Catherine Creek (Giraud 1966). These two sites have been located and documented by their locations on early maps and artifacts excavated from them (Brain and Neitzel, personal communication, 1972). All other archaeological evidence cannot be regarded as conclusive concerning the post-1732 Natchez sites in southern Adams County, Mississippi. Ethnohistorical information indicates at least one and possibly two Natchez villages south of the present city of Natchez. Both French officials and Hutchins's Indian claim the Natchez to be in the same general area. The area of probable occupation according to ethnohistorical sources is south of the present city of Natchez, between the Mississippi and Homochitto rivers.

From the information gathered it is important to locate the villages in order to reevaluate the Natchez nation after their alleged destruction in 1732.

REFERENCES

- Albrecht, Andrew C.
1944 The location of the historic Natchez villages. Journal of Mississippi History 6:67-88.
- Bettsworth, John K.
1959 Mississippi: a history. Steck Company, Austin, Texas.
- Brain, Jeffrey P.
1973 Trudeau an 18th century Tunica village. Peabody Museum Harvard University Lower Mississippi Survey 3.
- Claiborne, J.F.H.
1880 Mississippi, as a province, territory, and state, with biographical notices of eminent citizens. Power & Barksdale, Publishers and Printers, Jackson, Miss.
- Ford, James A.
1936 Analysis of Indian village site collections from Louisiana and Mississippi. Department of Conservation Anthropological Study 2 Louisiana Geological Survey .
- Giraud, Marcel
1966 Histoire de la Louisiane Francaise. Tome 3: L'Epoque de John Law 1717-1720. Presses Universitaires de France, Paris.
- Neitzel, Robert S.
1965 Archaeology of the Fatherland site: The Grand Village of the Natchez. American Museum of Natural History Anthropological Papers 51, 1.

- Rowland, Dunbar, and Albert Godfrey Sanders (Editors and Translators)
 1927 Mississippi Provincial Archives: French Dominion, 1729-1740
 1. Mississippi Department of Archives and History, Jackson.
 1932 Mississippi Provincial Archives: French Dominion, 1704-1743
 3. Mississippi Department of Archives and History, Jackson.



French settlement among the Natchez, ca. late 1720s.
 From a map drawn by Broutin (Giraud 1966:369).

SURFACE SURVEY FROM 22-Ad-522

Joseph Frank III

In the summer of 1974 at the Sun Oil site (22-Ad-522) seven miles southeast of Natchez, Mississippi, oilfield contractor Joe Ditzler observed some bones beneath a mass of heavy oilfield equipment and, upon investigating, found them to be human bones. Scattered among the skeletal remains were numerous sherds and lithic material. Ditzler immediately called long distance to notify me of his find, and I found the site to be as productive as it had been described.

The ecological aspect of the site is not uncommon for the area. Vegetation is classified as Upland Hardwood Forest, and the soils are Memphis, Loring, and Grenada-Calloway association (Lytle 1968). A small outcrop of sedimentary gravel has been exposed. After heavy rains, numerous animal tracks can be identified in the soil. Deer, turkey, raccoon, and box turtle have been documented, and squirrel, dove, quail, and woodcock have been seen in the woods surrounding the site.

The site is located atop a ridge that has been partially leveled for a pipe yard. Approximately one-half acre has been cleared of all vegetation, and oil and other chemicals have saturated the soil to prevent further growth. At the present time, erosion of the higher areas is exposing artifacts to view.

Information indicates that only a few people have any knowledge of the site, and no one has attempted to excavate the partially exposed burials. Because only limited time was available and because heavy machinery protects the burials from being destroyed completely, it was decided to leave the burials in situ.

The artifact assemblage indicates an occupation during the Poverty Point period, an absence of Tchefuncte activity, and a renewal of occupation during the Marksville and Troyville periods. The site appears to climax during the Coles Creek period and to phase out during the Plaquemine period. Only two sherds have been classified as Plaquemine pottery, L'eau Noire Incised, var. Anna, and Maddox Engraved, var. Emerald (Phillips 1970). The nearest mound group is the Mazique mounds four miles southwest of the site.

The presence of such an abundance of material in a concentrated area indicates that this site was more than a seasonal camp during later occupations. Rich soil, hardwood forest, and abundant game made the location attractive for permanent occupation.

SUN OIL SITE ARTIFACT ASSEMBLAGE

Lithic:

Abrading stones	2
Bifaces	
brown chert	26
red chert	7
white chert	14
yellow chert	38
Total	85

Boatstones	1
Celts (broken)	1
Chisels	
yellow chert	2
Choppers	
brown chert	1
yellow chert	3
	<u>4</u>
	Total
Discoidals (broken)	1
Drills	
yellow chert	2
End scrapers	
red chert	1
brown chert	2
white chert	1
yellow chert	2
	<u>6</u>
	Total
Fire cracked rocks	56
Flakes (unworked)	
brown chert	40
gray chert	4
petrified wood	2
quartzite	2
red chert	6
white chert	33
yellow chert	63
	<u>150</u>
	Total
Flakes (worked)	
yellow chert	16
white chert	9
brown chert	7
red chert	5
	<u>37</u>
	Total
Galena lumps	33
Gravers	
red chert	1
Microblades	
yellow chert	11
Oval knives	
yellow chert	1
Projectile points (broken)	
yellow chert	14
brown chert	7
	<u>21</u>
	Total
Projectile points	
Madison - chalcedony	1
Fishtails - yellow chert (Fig. 1A-C)	7
Gary - brown chert	3
Catahoula - red chert	2
	<u>13</u>
	Total

Plummets		
quartzite		1
hematite		1
	Total	<u>2</u>
Quartz fragments		7
Scrapers		
brown chert		3
yellow chert		6
red chert		2
white chert		1
	Total	<u>12</u>
Unifacial blades		
brown chert		2
yellow chert		6
red chert		1
white chert		1
	Total	<u>10</u>
	<u>LITHIC TOTAL</u>	<u>458</u>

Ceramics:

Avoyelles Punctated (2.9%)		
<u>var. Dupree</u> (Fig. 1D)	rims	7
	body	15
	Total	<u>22</u>
Baytown Plain (22.6%)		
<u>var. Baytown</u>	rims	73
	body	27
<u>var. Vicksburg</u>	rims	10
	body	20
<u>var. Little River</u>	rims	23
	body	17
	Total	<u>170</u>
Beldeau Incised (0.2%)	rims	2
Clay balls (0.1%)		
biconical, plain		1
Chevalier Stamped (5.7%)	rims	33
	body	10
	Total	<u>43</u>
Churupa Punctated (0.9%)		
<u>var. Thornton</u>	body	7
Coles Creek Incised (29%)		
<u>var. Coles Creek</u>	rims	36
	body	19
<u>var. Blakely</u>	rims	20
<u>var. Campbellsville</u>	rims	28
	body	2
<u>var. Chase</u>	rims	20
	body	5
<u>var. Greenhouse</u>	rims	7
	body	8

<u>var. Hardy</u>	rim	32
	body	8
<u>var. Mott</u>	rim	16
	body	4
<u>var. Wade</u>	rim	7
	body	6
	Total	218
French Fork Incised (10%)		
<u>var. French Fork</u>	rim	50
	body	25
	Total	75
Harrison Bayou Incised (0.6%)		
	rim	2
	body	3
	Total	5
L'Eau Noire (0.1%)		
<u>var. Anna</u>	body	1
Maddox Engraved (0.1%)		
<u>var. Emerald</u>	body	1
Marksville Incised (4.5%)		
<u>var. Marksville</u>	rim	7
	body	12
<u>var. Yokena</u>	body	15
	Total	34
Marksville Stamped (4.1%)		
<u>var. Manny</u>	rim	9
	body	22
	Total	31
Mazique Incised (2.5%)		
<u>var. Mazique</u>	rim	10
	body	2
<u>var. Manchac</u>	rim	6
	body	1
	Total	19
Mulberry Creek cordmarked (14.8%)		
<u>var. Edwards</u>	rim	21
	body	89
<u>var. Smith Creek</u>	rim	1
	Total	111
	<u>CERAMICS TOTAL</u>	<u>740</u>
	<u>SITE TOTAL</u>	<u>1198</u>

REFERENCES

- Brennan, Louis A.
1973 Beginner's guide to archaeology. Stackpole Company,
Harrisburg, Pa.
- Cambron, James W. and David C. Hulse
1969 Handbook of Alabama archaeology. Part 1: Point Types.
Archaeological Research Association of Alabama.
- Jennings, Jesse D.
1968 Prehistory of North America. McGraw-Hill, New York.

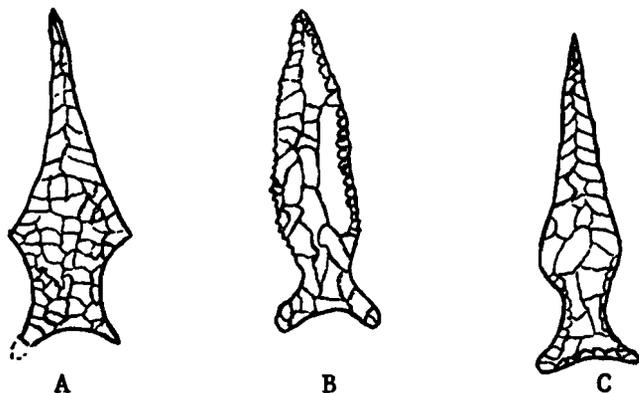
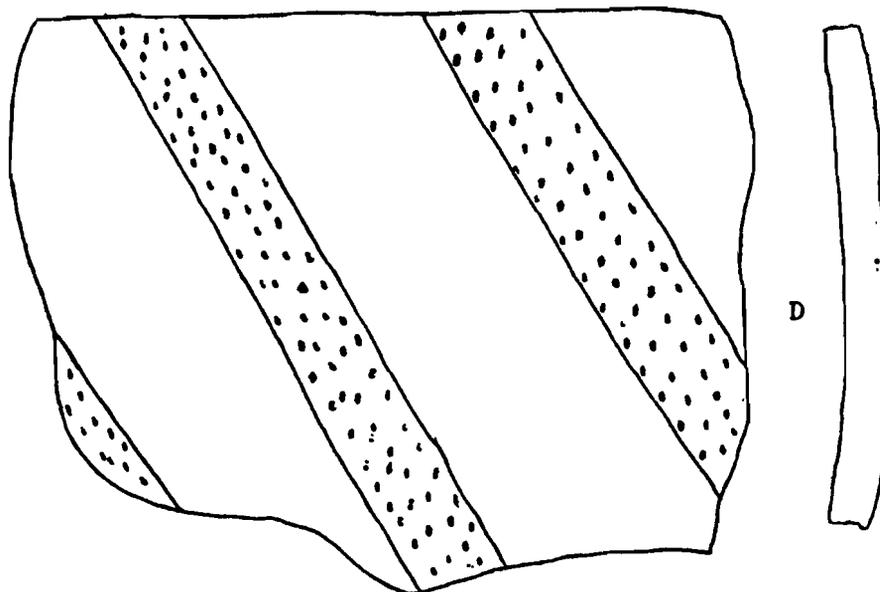


Figure 1. Artifacts from Sun Oil site (22-Ad-522), actual sizes.

A-C Fish tail projectile points

D Avoyelles Punctated



Lytle, S. A.

1968 The morphological characteristics and relief relationships of representative soils in Louisiana. Louisiana State University, Agricultural Experiment Station Bulletin 631.

Phillips, Philip

1970 Archaeological survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Peabody Museum of Archaeology and Ethnology Papers 60, 1 and 2.

[MA 10 (1975) 8 (September-October), 7-13]

TWO RADIOCARBON DATES FOR THE LYON'S BLUFF SITE (22-Ok-520)

Richard A. Marshall

Two radiocarbon samples from the Lyon's Bluff site were submitted by the Department of Anthropology, Mississippi State University, to the University of Georgia Geochronology Laboratory this summer for dating. The samples were selected on the basis of location, depth, and potential for dating either some of the earliest or some of the latest of the occupations. Excavations have been carried out intermittently for the past nine years at this site, which is located in the northeast corner of Oktibbeha County,

Mississippi, approximately 12 miles from Starkville. More than two dozen radiocarbon samples have been collected, but none have been submitted for dating until this summer.

Sample One: RC 67-3A (UGa-1361). This wood charcoal from the MAA area, Level 7 (36"-42" depth), was taken from a concentration of charcoal debris, possibly a smudge pit but more probably a post mold. Because the sample was removed near the base of the occupation, it was thought to offer some indication of the time of establishment of full occupation at the site. The uncorrected date was 740±65 or 1210 A.D.

Sample Two: RC 67-NW-B (UGa-1362). This wood charcoal and charred corn cob from the NW-B area, Level 2 (6"-12" depth), obtained near the surface in a post mold or smudge pit, were thought to offer some indication of the time of the abandonment of the site. The sample appeared to be in association with a portion of a circular post mold pattern believed to be a structure not unlike the historic Chickasaw houses described by Adair. The uncorrected date was 320±65 or 1630 A.D.

Both dates are acceptable for the purposes for which they were selected. Sample One, the earlier of the two, probably dates either the terminal part of the Tibbee Creek Phase or an early part of the Lyon's Bluff Phase, the latter being contemporary with the suggested opening dates of the Moundville Phase of Alabama. Sample Two probably dates the middle or latter part of the Sorrels Phase.

We can now suggest that the initial date of occupation at the Lyon's Bluff Site was earlier than 1210 A.D., and that the site was probably abandoned sometime later than 1630 A.D. These dates support the tentative, hypothetical dates for the occupation of the Lyon's Bluff site from ca. A.D. 1100 to ca. A.D. 1650 or later.

REFERENCE

Marshall, Richard A.

1973 Comment on the Mississippian occupation of east-central Mississippi. Paper presented at the 30th Southeastern Archaeological Conference, Memphis.

[MA 11 (1976) 1 (August), 13]

REPORT ON ARCHAEOLOGICAL TRIP TO DOAK'S IMPROVEMENT AND DOAK'S STAND Bob Heath

This is a report on the recent archaeological trip to (1) Doak's Improvement, and (2) Doak's Stand--the assumed treaty site where Andrew Jackson signed the Treaty of Dancing Rabbit Creek with the Choctaw chiefs Puckshenubbie, Red Shoe, and Pushmataha.

In the early 1960s, Mrs. E. C. Bower, Jr. of Canton became acquainted with a Mr. Hayes who owned a site where it was thought that the treaty had been signed. Mr. Hayes had been told this was the location by his uncle, some years before.

Beginning in the early 1960s, Mrs. Bower and Bob Heath of Canton traveled to the Hayes farm and surface hunted. Three gun flints, musket balls, pipe stems, and old bricks were the artifacts recovered, along with a shoe box full of broken pre-1820 English chinaware. Over

the years, it was assumed that this site was the treaty location, especially since a few sherds of late "three-banded" Choctaw pottery were found.

To try to learn more about the site, a search of the 1820 surveyor's map of Madison County was made at the county seat at Canton. The Hayes site was shown on the old map and was marked "Doak's Improvement." About six miles south on the old 1820 map, there was another home site labeled "Doak's Stand." No attempt was made to discover the exact location of the "Doak's Stand" location mainly because everyone seemed to agree that the "Doak's Improvement" location was really the treaty location.

A xerox was made of the 1820 Madison County map at the county seat, and it was stored away in the closet until just a few weeks ago.

Sam McGahey, archaeologist with the Department of Archives and History, called me and asked if I knew where Doak's Stand was. I told him I did and would be glad to take him to the site. At this time, I took the xerox of the 1820 map to show him the location of the site on Mr. Hayes' property (marked Doak's Improvement). His eye immediately caught the Doak's Stand location which none of us had ever seen or located. The Department of Archives and History is trying to definitely locate the Treaty Site so that it may be put on the National Register for preserving the site.

Last Thursday, Sam McGahey, Bill Wright (an historical archaeologist), and I went to the Hayes site and surface hunted. We found only a handful of early European pottery which Bill Wright identified as belonging to the early 1800s.

We left and drove to the community of Farmhaven where the Doak's Stand site was shown on the old map. After a few minutes of looking, we found a hill and a deep, very old road cut that was the Old Natchez Trace. We began to pick up the old early 1800s pottery of European origin. One piece of pewter was found, and one gun flint that Bill Wright identified as an English flint from its style of chipping and color. Probably this Doak's Stand site was the treaty site and the Doak's Improvement, to the north and located on the Hayes farm, is a later homestead that Doak moved to some time later. Bill Wright must now try to locate old letters or diaries to prove one way or another which site is the treaty site. More positive identification is needed before it can be said one way or another.

One thing that strikes me, though, is that not one piece of Choctaw or any other Indian pottery was found at the Doak's Stand location. We found several pieces at the Doak's Improvement location.

[NFPD 12 (1977) NL-3 (May), 3-4]

ARCHAEOLOGICAL SURVEY OF A BAYOU DRAINAGE IN JACKSON COUNTY

Carey L. Geiger

Fifteen-year-old Cecil Geiger recently collected a projectile point and some pottery sherds from the surface of an area near his home--a find that is becoming increasingly interesting as survey work of the area continues. For security reasons, Cecil's discovery will not be specifically located here, but the exact location has been

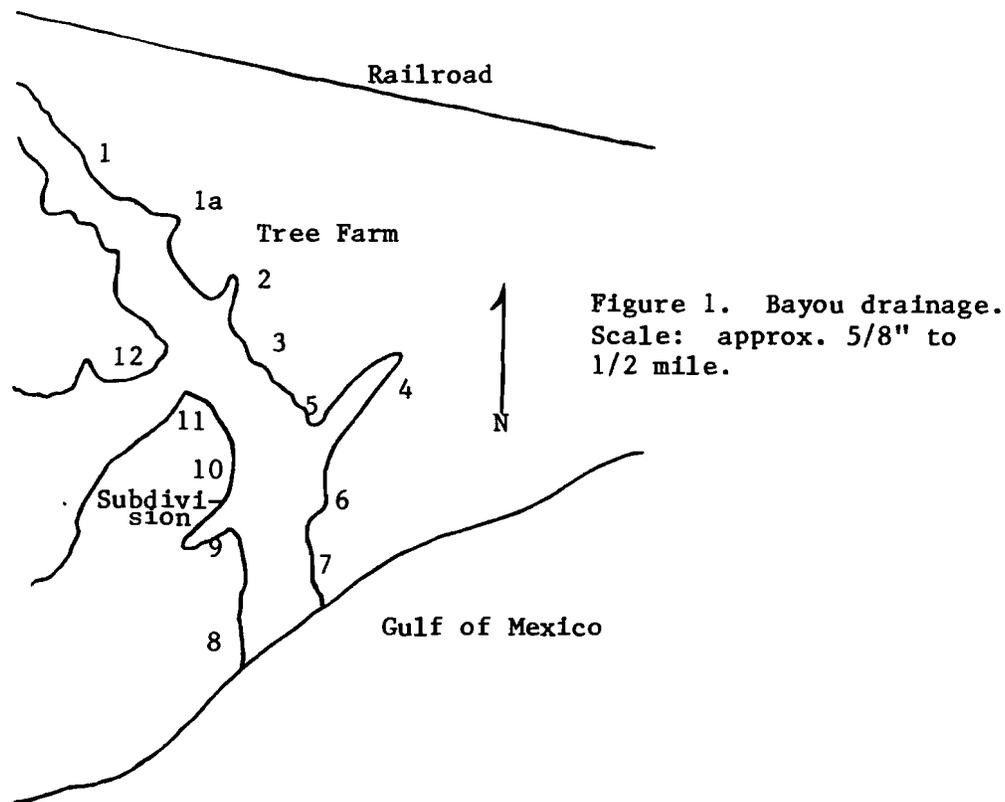
reported to the Mississippi Department of Archives and History. Figure 1 gives some idea of the spatial relationships involved. A fire break roadway used for horseback riding snakes along the hollow, making some surface collecting possible, but survey conditions are difficult because the area is wooded. A description of the material found is given below. Corresponding area numbers may be seen on the map in Figure 1.

<u>AREA</u>	<u>MATERIAL COLLECTED/AREA DESCRIPTION</u>
1	Crude scraper, small clay-tempered sherds, flint chips.
1a	Small clay-tempered sherds, flint chips.
2	Projectile point #1 (Figure 2), of gray, red, and brown banded chert, has finely serrated blade edges. The stem section of another projectile point, a center section, flint chips, and clay-tempered sherds were also found in this area of rises with a large oak grove.
3	Projectile point #2 (Figure 2), made from orthoquartzite, projectile point #3 (Figure 2), a brown chert point with distal end missing, and point #4 (Figure 2), of orthoquartzite, were found here. Other material included clay- and shell-tempered sherds and flint chips. A symmetrically chipped biface center section 6 mm thick made from a light purple stone was found by the writer's eight-year-old daughter, Regina. Sandy soil was hauled out of this area at one time, and some erosion has occurred.
4	A horseback riding trail yielded projectile point #5 (Figure 2), 5 mm thick, made from a flat brown chert stone. The stem is missing. Its reddened tip indicates that it was heat treated.
5	Point #6 (Figure 2), an orthoquartzite point 12 mm thick, and clay-tempered sherds were found in this densely wooded area, which is believed to contain a large amount of material. Several sherds were from the same vessel.

The pottery was unmarked except for one sherd that had a diagonally incised line and one that had a double row of pinched markings.

Close attention needs to be paid to the archaeology of areas 1-5, which have recently been deeded to the state and may be developed into a state park. It is hoped that a state archaeologist from the Department of Archives and History will make an archaeological evaluation of the proposed park. So far, there is no indication of a major site within the boundaries of the deeded land, but significant sites are nearby.

In the spring of 1976, when development was begun on a subdivision in the bayou vicinity, Cecil Geiger began to visit this area and to find artifacts. Recently, a shell midden was exposed in area 10 by landscaping operations. The builder was contacted, and with his permission the writer collected from the surface and dug



salvage pits before the landscaping was completed. Several pits 3' x 3' and one pit 5' x 5' were excavated in 3-inch increments. These yielded a few small, unmarked clay-tempered sherds and revealed that clams and oysters were the staple food of prehistoric occupants. A few broken bones of undetermined types were found throughout, so the diet was apparently supplemented by land animals. The shell midden was scattered over a large area, possibly two acres, but was found to be only 6-8 inches deep. Sterile soil was encountered at this depth. Although a couple of pits were probed down to 18 inches, no further occupational evidence was found.

More artifacts were found on the surface. The finds included: a Wade projectile point with random, shallow flaking (Figure 2-7); a point 7 mm thick made from a flat stone (Figure 2-8); a 10-mm-thick median-ridged point (Figure 2-9); and a point 4 mm thick made from a flat stone (Figure 2-10). Other material, not illustrated, included clay-tempered sherds, some of which are unmarked rim sections; three marked sherds with incised lines and small punctate markings; flint chips; two projectile stems, one of red chert and the other of orthoquartzite; an orthoquartzite biface center section; a ground and polished ironstone bar weight; and ironstone used for grinding.

Area 11 on the map is heavily wooded and covered with a shrub of the palm family known locally as "bear grass." High ground extends to the water's edge. The bayou is shallow and narrow but would have been navigable by dugout. This area will be investigated further.

Areas 6, 9, and 12 are all wooded and have not been investigated at this time. Artifacts may be present; a pottery sherd was found on area 9. These areas are not yet scheduled for development.

Areas 7 and 8, both privately owned and posted, contain large shell middens, and a considerable amount of pottery has been recovered from both sites by the owners. One of these meandering midden ridges, viewed by the writer with the owners' permission, extends from its course along the beach front into the adjoining marshland and rises to a height of about six feet. At places it is 30 feet wide. High bluffs which existed on the western side of the bayou have been destroyed by hurricanes, and with them a veritable archaeological storage chest. The midden still exists, however, and could yield much archaeological information.

It appears that areas 7 and 8 are the major sites and that the subdivision and Tree Farm are satellite sites. At this time, artifactual evidence does not indicate the occupational periods of the bayou drainage, but areas 7 and 8 may contain this record. Professional archaeological study of these sites before they are destroyed by natural forces would be beneficial to an understanding of the prehistory of coastal Mississippi. It is hoped that the owners would consent to such professional work.

Many other sites exist along the Jackson County coast. A thorough study to see how these sites interrelate could also add to our knowledge of the prehistory of this area. These sites will now be briefly reviewed, beginning with those near the Alabama line.

Sites supposedly exist along Bayou Heron, but the writer does not know their locations. Point aux Chenes (22-Ja-550; see Mississippi Archaeology, Vol. 10, January, 1975, p. 9), which was occupied by people of the Poverty Point and Tchefuncte cultures, has now been destroyed by tidal erosion. Bayou Rosa (22-Ja-592) was a large shell midden near Point aux Chenes that has also been destroyed by tidal erosion. An article on the surface finds from this site will be submitted at a later time. Greenwood Island (22-Ja-516) has a rich heritage that extends from historic times back through the Poverty Point Period, 1200 B.C. or earlier. This site has suffered from coverage by dredge spoils, tidal erosion, and vandalism, and it is scheduled by the Jackson County Planning Commission to become a turning basin for tugs and ships. A site has been destroyed by dredging and tidal erosion near Ingalls East Bank Shipyard in Pascagoula.

Sites exist along the entire beach front of Gautier. Some of the known larger ones are Bayou LaMotte, Cedar Point, Seacliffe, and Graveline Bayou. All of these have suffered tidal erosion and commercial development. West of Graveline Bayou are many others, including Southern Homes (22-Ja-531); Apple Street (22-Ja-530), which is known to have both Poverty Point and Tchefuncte occupations; Lovell (22-Ja-500); and Magnolia State Park (22-Ja-504).

The reason for listing these sites is to emphasize the importance of understanding how they interrelate. Time is running out: all have either been destroyed or are suffering damage now. The archaeological record must be preserved before it is too late.

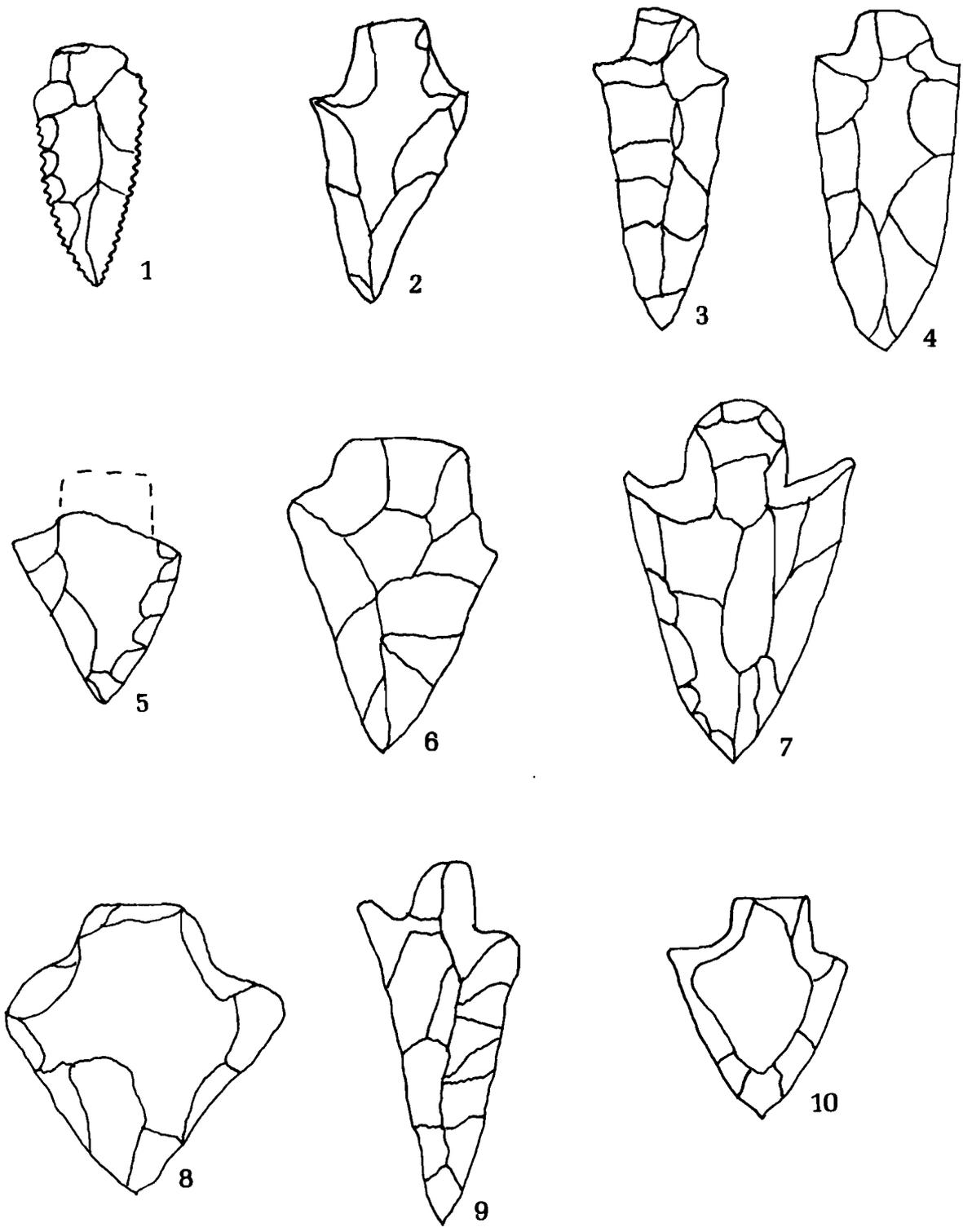


Figure 2. Projectile points.

[MA 12 (1977) 1 (June), 3-8]

THE MARTIN #1 SITE (22-TU-533) TUNICA COUNTY, 1976

Alan Toth and Samuel O. Brookes

The Martin #1 site (22-Tu-533) was recorded by John Connaway of the Mississippi Department of Archives and History in 1969, and since that time surface collections have been made periodically by archaeologists from the Department. Owned by B. M. Martin of Dundee, the site consists of a large village area covering several acres. The sandy soil indicates that it is on a natural levee on the outside edge of an old channel now occupied by Cypress Lake. It is presently under cultivation.

A collection of sherds was sent to Alan Toth for analysis and inclusion in his dissertation. The following report is based mainly on Toth's analysis.

CERAMIC NOTES

The ceramic collection (Table 1) suggests a strong early Marksville component and some continued use of the site through Phillips's (1970) Issaquena I subphase. The bulk of the material has the paste characteristics of the soft, chalky ware defined as Baytown Plain, var. Marksville (Toth 1974), and is typical of early Marksville. The collection is obviously very closely related to the material described for Helena Crossing (14-N-6) by Ford (1963). Indian Bay, Withers, and a coarse cord-marked ware are strongly represented. Some good cross-hatched rims confirm the early Marksville identification. The collection also contains a smaller portion of harder, thinner ware equivalent to the Satartia variety of Baytown Plain, which suggests a component related to the Issaquena phase. Notably, none of the Martin #1 pottery is at all sandy--hence there is no Baytown Plain, var. Bowie, which Phillips (1970) stresses for the Helena phase.

Table 1. Surface Ceramic Collection

<u>Type</u>	<u>Rim</u>	<u>Body</u>	<u>Total</u>
Indian Bay Stamped			
<u>var. Indian Bay</u>	8	54	62
<u>var. Cypress Bayou</u>	7	10	17
Mulberry Creek Cordmarked			
<u>var. Porter Bayou</u>	2	18	19
<u>var. Sevier</u>	5	15	20
<u>var. Edwards</u>	1	2	3
<u>var. unspecified</u>		13	13
Withers Fabric Marked			
<u>var. Withers</u>	11	30	41
Marksville Stamped			
<u>var. Marksville</u>		9	9
<u>var. Troyville</u>	2	3	5
<u>var. unspecified</u>		4	4
<u>var. Manny</u>		1	1
Marksville Incised			
<u>var. Marksville</u>	1	13	14
<u>var. Yokena</u>	6	4	10
<u>var. unspecified</u>	2	3	5

<u>Type</u>	<u>Rim</u>	<u>Body</u>	<u>Total</u>
Mabin Stamped			
<u>var. Mabin</u>	1	3	4
Evansville Punctated			
<u>var. Evansville</u>	2	24	26
<u>var. unspecified</u>	3		3
Churupa Punctated			
<u>var. unspecified</u>		2	2
Baytown Plain			
<u>var. Marksville</u>	23	82	105
<u>var. Satartia</u>	18	25	43
<u>var. Reed</u>		3	3
<u>var. unspecified</u>		36	36
Unclassified	1	20	21
		Total	466
<u>Diagnostic Modes</u>			
Marksville Rims			11
Cross-hatched treatment (8)			
Vertically incised treatment (2)			
Slanted incised treatment (1)			
Notched Rims			22
Lines Across Lip			1
		Total	34

The continuity with Tchefuncte is apparent in the soft, poorly fired ware to which Marksville decorations have been applied. In paste, some of these sherds indicate a transition between Tchefuncte and Marksville. The point is that the ceramics fit perfectly a situation in which a resident population (one making soft, badly tempered--or unconsciously tempered--pottery) adopts new decorative treatments to which it has been exposed.

With respect to the early Marksville component, Martin #1 collections are generally compatible with samples from the Roachdale Site (16-M-8) near Sunflower Bend, Dickerson (15-N-10), and Norman (16-O-8).

Indian Bay Stamped, var. Indian Bay, is made of both soft, chalky ware and of a somewhat better pottery that is a little harder and a little thinner. Specifically, three rims and forty bodies (total forty-three) are soft/thick as in Baytown Plain, var. Marksville. The other five rims and fourteen bodies (total nineteen) are made of slightly better pottery which we will call "improved paste Marksville." The improved paste grades between the Marksville and Satartia varieties of Baytown Plain, or between early Marksville and Issaquena. The sorting between these two wares is so subjective that any effort to define a third variety would be out of the question--at least until we have better stratigraphic data and a few shape or rim mode associations with which to bolster the definition.

The soft Indian Bay actually grades toward Tchefuncte Stamped, var. Shell Brake. Ends of the rockers are not emphasized. The ware is more appropriate for early Marksville, however, as is the thickness, which averages 7 mm. Ford (1963:33) clearly recognized the intermediate character of pottery at Helena Crossing which was probably identical. He often classified it Tchefuncte Stamped.

Indian Bay rocker stamping is applied in fairly wide zig-zags (1.5 cm to 2.5 cm) in most cases. Most of the rocker stamping appears to have been applied in horizontal bands that are parallel to the lip. One soft paste and four improved paste rims are notched. The soft paste subsample is tempered with various sized particles of clay, but some breaks show almost no tempering and others are worn smooth, as is the surface on many sherds. Much of the soft paste subsample shows signs of a wash that is chipping off; it tends to be darker and gray rather than orange, and most is in the 5-6 mm thickness range. The high percentage of Indian Bay accords well with the samples from Helena and Roachdale.

The Indian Bay Stamped, var. Cypress Bayou, is mainly soft and chalky, like the Marksville variety of Baytown Plain. Four rims are notched along the front edge of the lip. There is some medium dentate stamping, but the impressions are very shallow, giving rise to the danger of missing them and classifying the pottery as var. Indian Bay. Without excellent side lighting, a few such mistakes will always occur.

Being soft and chalky, the Withers Fabric Marked, var. Withers, is extremely dirty pottery to handle. Much of the surface decoration has eroded off in many cases. Very little of the Withers is of the "improved paste," and even when it is, it is still thick. Most sherds are 8-10 mm thick--quite heavy even for early Marksville. Two rims are notched. The rims tend to be undifferentiated and tapered, with rounded lips. A few rims are slanted out. Tempering consists mainly of large particles of unmixed clay. Edges are often very worn.

The Marksville Stamped, var. Marksville, is poorly executed and is not representative of the variety. Only two or three sherds can be identified with certainty. The others are too soft and crumbly to be anything but early Marksville. The very low frequency of Marksville Stamped, var. Marksville (or any other zoned rocker stamped decoration), is atypical for early Marksville, but was apparently a trend in the northern Lower Valley. One sherd is classed as Manny on the basis of its harder, thinner ware, but this characteristic is far from conclusive. The rest of the zoned dentate stamped is unspecified simply because the surfaces are too eroded for positive identification.

There are more Marksville Incised, var. Marksville sherds, and a few are fairly good examples. One specimen has close-spaced treatment (very thin and soft like some at the Crooks site); the remainder are wide-spaced. The Yokena variety is greatly superior in paste and thickness; its classification is fairly certain. The other late varieties of Marksville Incised are not represented.

Only fifteen Troyville sherds are in the collection. The soft paste and general appearance of all but one indicate that they are probably early.

The Porter Bayou variety of Mulberry Creek Cordmarked is very poorly made and of uncertain classification. The coarsest cordmarking in the collection was simply sorted out and called Porter Bayou. The paste is very soft and chalky with little organized tempering. Thickness ranges from 8 mm to 10 mm. The cordmarking is smoothed over in some cases, and the thick cord impressions are sometimes fairly wide-spaced, with large patches of plain surfaces between. Neither of the rims is notched.

The Mabin Stamped, var. Mabin, was formerly called Marksville Stamped, var. Mabin, cord-wrapped stick treatment. The four sherds with cord-wrapped stick impressions are very poor examples of this decoration. One may not even have been zoned. Although there should be more Mabin as well as other varieties of Mabin Stamped to go with the cross-hatched rims, its very presence is important and a reinforcement to the early Marksville identification.

Mulberry Creek Cordmarked, var. Sevier, is another uncertain classification (as is the case with all cord-marking!), but it does match fairly well the early cord-marking in the Tensas Basin of Louisiana--especially that at the Point Lake site. It also resembles some of the cordmarking at Roachdale. The variety has a soft, chalky paste. The cord impressions are somewhat finer than in the case of Porter Bayou, and they are closer together. Thickness averages about 8 mm (range 5-10 mm).

The classification of three sherds as Mulberry Creek Cordmarked, var. Edwards, is a guess based upon somewhat better paste, finer cord-marking, and the folded rim. The pottery looks more like Deasonville than early Marksville.

The Evansville Punctate, var. Evansville, is something of a surprise in such an early context. The sample does, however, fit the established variety definition fairly well. Although some (about ten sherds) of the Evansville is fairly soft and chalky, much of it is "improved paste" or better. A few sherds are quite compact, hard and thin (as low as 5 mm). In general, the Evansville is some of the best pottery in the entire collection.

Three rims were classified as Evansville Punctate, var. unspecified, because they seemed to have vertical columns of fingernail punctations along the rim band. If so, this is a very distinctive Evansville treatment which could justify a new variety if it were to be found in large numbers. The sherds in question, however, were so soft and eroded that nothing can be said with certainty. The punctations may actually have been straight dentate impressions (vertical rows of straight dentate impressions along the rim occur on several sherds from Dickerson). If so, the treatment would relate best to Havana Hopewell and fall within the type Mabin Stamped rather than the type Evansville Punctate. The very soft paste would seem to call for an early Marksville date for these sherds, whatever they are.

A surface examination of the site revealed two pits. The first was excavated in 1973 by John Connaway and Sam Brookes. A list of material from this pit is shown in Table 2.

Table 2. Ceramics from Pit No. 1

	Pit No.1		
	<u>Rim</u>	<u>Body</u>	<u>Total</u>
Withers Fabric Impressed <u>var. Withers</u>	28	400	428
Baytown Plain <u>var. Marksville</u>	3	217	220
Mulberry Creek Cordmarked <u>var. Sevier</u>	4	20	24
Indian Bay Stamped <u>var. Indian Bay</u>		1	1
		Total	673

Pit No. 2 was found by Sam Brookes and Carolyn Caldwell and excavated on April 14, 1974. Materials from this pit are listed in Table 3. A small amount of charcoal (burned wood) was secured and sent to the University of Georgia for radiocarbon assay. The date of 2030 ± 185 B.P. or 80 B.C. (UGa-804) appears to be a little early. It is thought that early Marksville in this area dates from A.D. 50-200. The early date from Martin #1 does go well with the early paste of the ceramics from the pit. It would be possible to classify some of the Indian Bay as Tchefuncte Stamped. If this were the case, the date of 80 B.C. would be perfect.

Table 3. Ceramics from Pit No. 2

Pit No. 2			
	<u>Rim</u>	<u>Body</u>	<u>Total</u>
Withers Fabric Impressed var. <u>Withers</u>	37	150	187
Baytown Plain var. <u>Marksville</u>	44	361	405
Mulberry Creek Cordmarked var. <u>Sevier</u>		3	3
Indian Bay Stamped var. <u>Indian Bay</u>		4	4
		Total	599

Samuel O. Brookes is an archaeologist with the Mississippi Department of Archives and History, and Alan Toth is State Archaeologist for Louisiana.

REFERENCES

- Ford, James A.
 1963 Hopewell Culture burial mounds near Helena, Arkansas. American Museum of Natural History Anthropological Papers 48, pt. 2.
- Phillips, Philip
 1970 Archaeological survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Peabody Museum of Archaeology and Ethnology Papers 60.
- Toth, Alan
 1974 Archaeology and ceramics at the Marksville site. University of Michigan Museum of Anthropology, Anthropological Papers 56.

[MA 12 (1977) 1 (June), 8-13]

THE QUESTION BOX

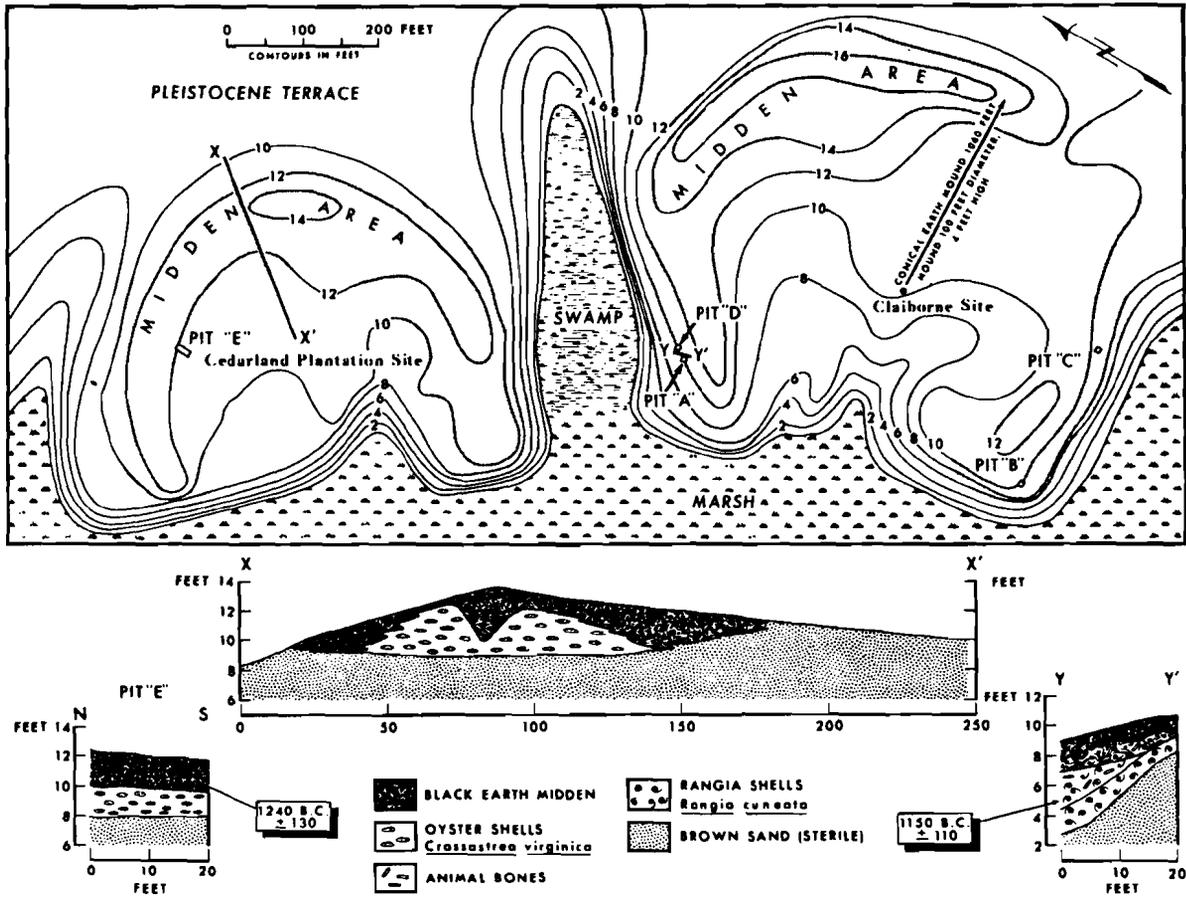
"Although the Cedarland and Claiborne sites (Mulatto Bayou area) have been so thoroughly devastated and dug for years, we still feel that there are some few areas where it would be possible to get an undisturbed sampling. What would be the feasibility of a slice about 6-8" wide, 3-4' deep, enclose it in glass on both sides, and use it as

a display (from the bone pile area, if possible)? Any suggestions about how to go about this project?"

Answer (Richard A. Marshall):

Reference is made to the Gagliano map of the sites, made in the early 1960s (see Figure 1). It is my opinion, based on what I have seen of the site and knowing its history of destruction, that it would be nearly impossible to find any part of it that has not been badly disturbed. I did not see the site until it had been bulldozed at least once. It was my understanding that the northwest end of the Claiborne site was rather extensively bulldozed and that the soil there (its highest part) was pushed off into the gully separating that site and Cedarland. If that is true, then any undisturbed portion should be largely behind or slightly south of the northwest edge of the site. My understanding was that that area with all of the bone was pushed off the highest part into the gully. Any slice through that area would probably be through disturbed soils. A careful search along that bank might reveal some undisturbed deposit. In that case, an emphatic yes to your question and to the idea.

Much of the soil there is largely sand and it will have little capability of standing alone for any length of time. When it dries out, it will have little strength to support itself, and one will have to work fast to preserve it. My suggestion would be to cut away the soil on either side of the "slice" for a distance of about two feet. The "slice" would then have to be carefully troweled to nearly exact dimensions. Your glass sheets would then have to be fitted on both surfaces. None of this would be too difficult, however, what follows is not at all easy. A box would then have to be built around the "slice" and its glass windows. This will have to be firm enough that any vibrations or jarrings would not cause the sandy soil to crumble. Cutting it loose from its base would be done rather easily by using a sheet of tin carefully slid in after a crosscut saw. I have seen this done in Missouri in the removal of burials for display. Such are very heavy and difficult to remove. After you have gotten your "slice" into display position, a slow drying out would help and then saturating the dry soil with some kind of preservative (fiberglass resin, Elmer's glue in water, or something else). I think a similar display was made for Russel Cave (Alabama) National Monument, wherein a large profile of the cave deposit was preserved through the use of fiberglass resin. The profile was carefully troweled smooth leaving any and all projections (clay balls, projectile points, etc.) in place. The fiberglass resin was then sprayed onto the wall (cut with some kind of a vehicle to make it more mobile) and allowed to dry. Several more sprayings were made to slowly build up the resin and to allow it to soak into the profile. This was then reinforced with fiber and rods. After this was well set, the profile was literally lifted off the wall. A little dressing was then conducted, and later this surface was carefully sprayed to set the soil and artifacts. A letter of inquiry to Russel Cave might get a detailed explanation of how the profile was made. It needed no glass front for protection. There are other benefits also - it is light, it is portable, it is nearly indestructable, and it can be made any size.



Map of Cedarland and Claiborne sites. From Sherwood M. Gagliano and Clarence H. Webb, Archaic-Poverty Point transition at the Pearl River mouth. Southeastern Archaeological Conference Bulletin 12:47.

EXCAVATION REPORTS

Most of the reports included in this section do report excavations, but some concentrate on only one aspect; they are placed here because they are in general more in-depth studies than those found in Brief Reports. The preponderance of these reports dates toward the end of the period covered by this anthology, as the format of the MAA publications expanded to permit the inclusion of such reports.

ARCHAEOLOGICAL INVESTIGATION AT THE LEFLORE SITE

On March 14, 15, and 16 several members of the Mississippi Archaeological Association conducted a preliminary archaeological investigation of the LeFlore site (22-Gr-36) which was in danger (and still is) of being destroyed in the course of cultivation and some indiscriminate digging.

Excavation was graciously permitted by Mr. Robert C. Glazier, Greenwood, owner, who cooperated fully by allowing the tests to be made. The test was limited to one weekend as Mr. Glazier had the site scheduled for spring plowing the following week. Special thanks also go to Mr. Glenn N. Taylor, Greenwood, for backfilling the holes with a tractor. Members of the association who conducted the test were L. B. Jones, Minter City; Glenn Johnson and Jimmy Roberson, Batesville; George Williams, R. D. Martin, Bruce Martin, David Brown, W. R. Sykes and son, and Mr. and Mrs. Willis, Grenada; and Sue Mobley of Bentonia. Gentry Yeatman, Jackson, supervised the dig.

The LeFlore site is situated on the bluff overlooking the Yazoo Basin at a point where Potacocawa Creek comes out of the hills. It appears to be situated at a point approximately where the Ibitoupa or Chakchiuma villages of circa 1700 were located. Since there is some early historic trade material and a relatively unaltered Indian culture of Mississippian tradition present, it is reasonable to assume that the LeFlore village is one of these villages or a closely related one. Further excavation and some careful search of early documents may tie this village down to a specific tribal group. The material present in the way of pottery appears to be rather unique and different to other materials so far associated with other historic tribal groups in the Yazoo-Lower Arkansas basins and more southern portions of the Mississippi Valley.

An earlier component which appears to be at the site can be associated with a Late Baytown Period culture, but there needs to be more understanding of Late Baytown before we can say much about this occupation at LeFlore. It too, like the Mississippian occupation, has some rather unusual ceramics.

One house pattern was excavated and recorded (Figure 1). Excavation was conducted through the removal of a series of six inch levels, all of which contained a preponderance of daub. Pieces of flint, limonite, hematite, and petrified wood were also noted. Pottery was predominantly Neeley's Ferry Plain. This was accompanied by Bell Plain, Parkin Punctated and lesser amounts of other types (Baytown Plain, Mulberry Creek Cordmarked, and one sherd each of Tchefuncte and Alexander types).

The postmold pattern, a hearth area, several refuse pits, the floor, and an infant burial were recorded along with several artifacts. The post mold pattern was more or less square with the corners oriented with the four prime directions. The walls were more or less straight rows of closely spaced post molds. These were quite large, being about six to ten inches in diameter. The entire structure measured approximately 15 feet by 15 feet. The northwest wall was greatly confused, with a number of smaller irregularly placed

post molds. In the north corner of the house a large area of burned flooring was found undisturbed. This was composed of hard packed clay, either original earth or clay that had been brought in and compacted. A number of smaller post molds, about one to two inches in diameter, or depressions in the floor, were noted. These may represent more recent disturbance due to the growth of vegetative cover and burrowing animal activity. The walls had been plastered with mud over a wattle base of split cane. Such a house of this size was probably roofed with thatch and would not, but could, have interior supports. Figure 1 certainly would suggest that there were interior supports or at least interior furniture of some kind. Since we do not know much about the day to day living patterns of these people, it is difficult at this time to make interpretations regarding interior furnishings.

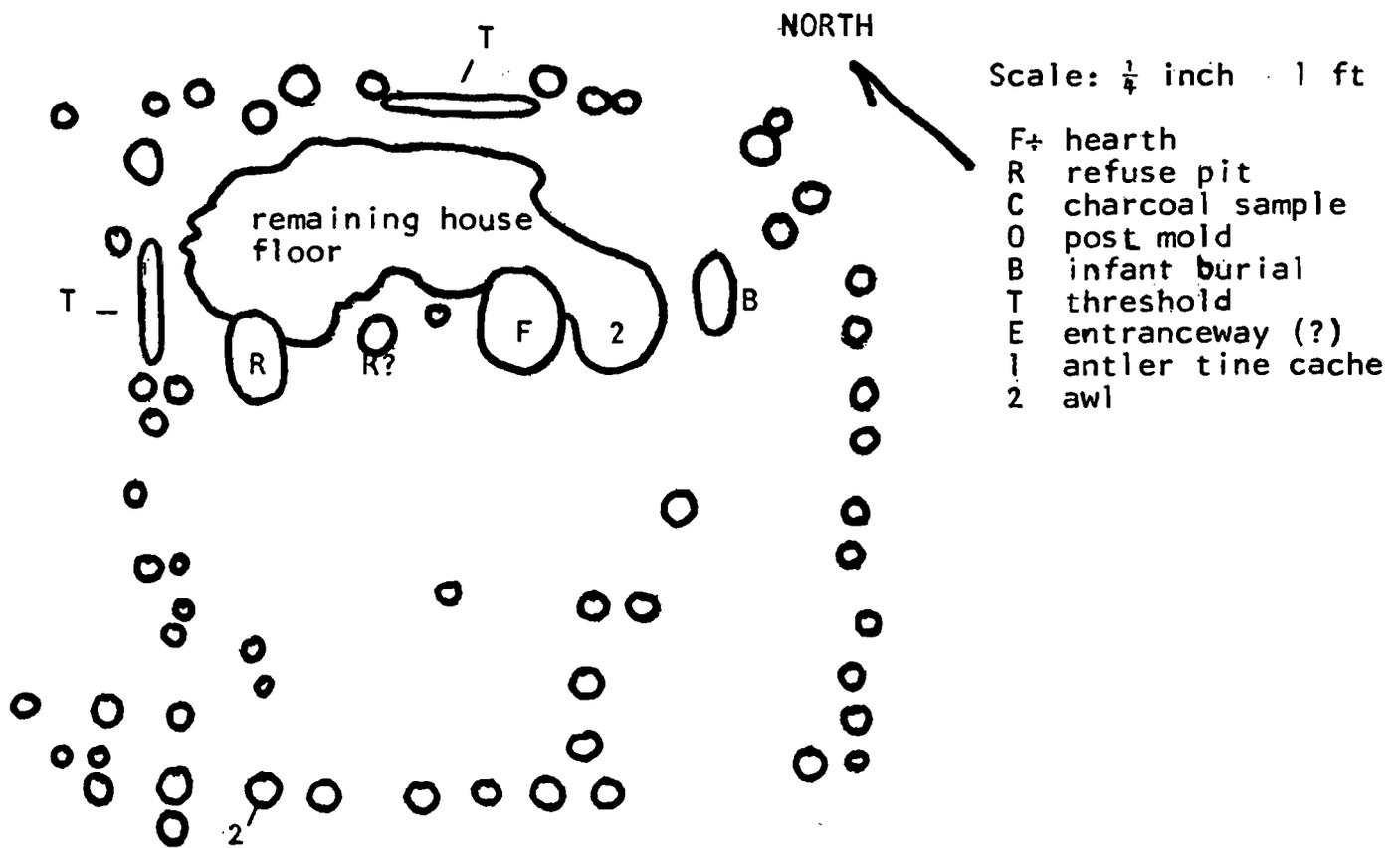


Figure 1. Floor and post mold plan of house at the LeFlore site.

There were several interesting things about the structure atypical of the usual Mississippian house. In the northeast and northwest facing walls there were breaks in the post mold pattern with

the molds of horizontal logs of about three feet in length and three inches in diameter. These were considered to be thresholds. In the southwest corner there was another opening which may have been a door but it did not have the "threshold" mold. The opening here might have been some kind of an entrance way, but it is possible that the molds were removed in the initial uncovering of the house. It was here that the house was first discovered. More houses from the site should be investigated to see if the house excavated is typical or not of the site.

A relatively large hearth area was found near the center of the house. This was more toward the east corner, however. It consisted of a slightly depressed area of several inches which contained charcoal, ashes, and showed evidence of having been either under intense heat or held a fire for a considerable time. The earth below it was discolored for several inches. The refuse pits were rather small and not symmetrical. The larger one was more rectangular and only several inches deep, filled with ash and dark earth with some bone and pottery. The second one, much smaller, could have been a post mold. In it was found pottery, bone, and dark earth. The trash pits, the hearth, and a large post mold formed a line across the house rather close and parallel to the northeast wall.

The infant burial was found on the floor near the east corner covered by apparently undisturbed wall daub. The daub appeared to have fallen on top of it. The burial showed evidence of charred cane or woven textile on the underside. The wall daub covering the burial showed very good cane impressions and some charred cane even occurred. Do we have evidence for a prehistoric tragedy? Could be! One could easily explain the burial on the house floor if the overlying daub showed evidence of disturbance. It did not, however, and it can perhaps be assumed that the infant was a victim of a house burning, a shamefully too common occurrence in Mississippi today.

Artifacts found in the house were sparsely scattered. The paucity of debris on the floor would suggest that there was some effort at housekeeping. Four antler tine tips were found next to a post mold located third from the west on the southwest line of molds. All had the larger ends where they attached to the greater portion of the antler severely burned and then broken off. It is not a particularly common manner of removing tines from the antler. This writer has seen them more commonly broken off or, as is much more common, deeply incised around the circumference and then broken off. Perhaps through burning the green antler was made brittle and the tines broken off more easily. A deer ulna awl came from the floor about six inches east of the hearth rim.

This site has been sub-soiled, and chisel plow tip scars were noted running through the house floor and the infant burial at a depth of about 14 inches. Herein lies the demise of most of the archaeological sites in the Delta. Unless we can save a few from the chisel plow or excavate them prior to their being grievously lost to this agricultural practice all will be gone.

Two burials in another area of the site were excavated and recorded (Figure 2). Both appear to be adult males. Burial 1 was in

a semiflexed, supine position with its head oriented to the west. Burial 2 was in a semiflexed, prone position, with its head oriented to the east. Both burials seem to belong to the Mississippian component of the site.

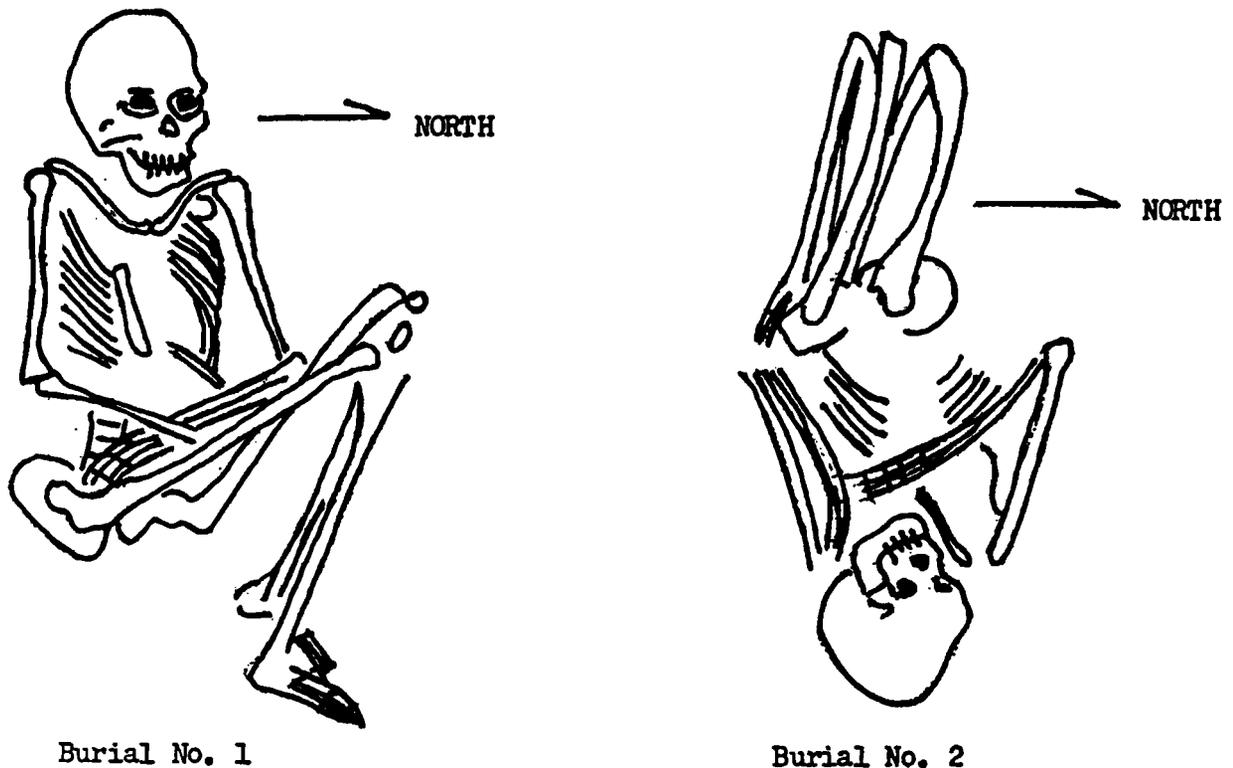


Figure 2: Burials from the LeFlore site. Burial No. 1 is in a semi-flexed position while Burial No. 2 is in a flexed position with the legs folded back so that the feet are under the pelvis.

The recovered materials are currently being subjected to further study at the Laboratory of Anthropology, Mississippi State University.

[NMAA 4 (1969) 6 (June), 1-4]

TEXT EXCAVATIONS CONDUCTED AT THE MURPHEY SITE, 19-0-21
 William Honoy

Note

Test excavations were carried out at the Murphey site during the period July 16-20, 1969, by the author. This work was supported by Mississippi State University in conjunction with two other archaeological projects which were underway in the Yazoo Basin at the

time. Labor was provided by the LeFlore County Neighborhood Youth Corps, and by the volunteer efforts of members of the Greenwood Leflore Chapter of the Mississippi Archaeological Association. Special thanks should be extended to Mr. C. H. Murphey, Jr., who allowed these excavations to be conducted in fields which were under cultivation.

The Site

The Murphey site is located in Leflore County in the SE1/4, NE1/4, of Section 36, Township 19N, Range 2W, of Mossy Lake, Mississippi Quadrangle. It is situated on the east bank of the northern end of Blue Lake, and on the west bank of Gayden Brake. The site consists of a large midden deposit encompassing several acres, and is roughly triangular in shape when viewed from the air.

A benchmark was established on the bank of Blue Lake and a north-south line of stakes was run from this point to serve as a frame of reference. Two five-foot squares were dug, one on either side of the reference line. Test 1, on the eastern side of the reference line, was set out near the lake bank near the edge of the deposit. Test 2, on the western side of the reference line, was placed so that it would intersect a slight diagonal east-southwest ridge which had been noted on a previous trip to the site when the land had not been under cultivation.

In addition to these tests, an auxiliary 3/5 trench was laid out east of Test 2 to facilitate the recovery of Burials 1 and 2. A soil auger was also used on several areas of the site, in order to determine the average depth of the deposit. Since it was known from previous surface collections that the site had been occupied from Poverty Point to Mississippian times, the deposit proved to be disappointingly shallow, ranging from 18 to 22 inches in all areas investigated in this manner.

All pits were dug by arbitrary six-inch levels. The specific depth of Test 1 from surface to sterile was 18" and for Test 2 it was 21.5". All levels recorded in both pits consisted of a sticky, black midden deposit with few discernible soil changes. Both tests exhibited plow disturbances as far down as the third level (18"). In spite of this extreme disturbance, stratigraphic analyses were conducted, but the results were viewed with these factors in mind, and are not included here. Cultural materials will be reported on later, after further testing of the site.

Human Remains

Twelve bone fragments identifiable as human were found in Level 3 of Test 1. As has been previously stated, one must note that disturbance was evident throughout this level, and this much human skeletal material could probably be recorded [what follows seems to have been corrupted in the original by the typist's skipping some text-ed.] on an idea lay by surfacing was twenty-five square feet.

In Level 3 of Test 2, after three days of labor, our labors were rewarded. An adult burial, badly disturbed, became evident at 13". The upper half had been twined and fragmented by the plow, but the lower half was fairly intact. The burial had apparently been in an

extended, supine position with the head directed toward the southeast. It was tentatively (and still is) considered to be female, although more skeletal material would be necessary to make a determination that could be categorized as more than "a good guess." At any rate, the presence of Burial 2 beside Burial 1 would seem to substantiate the feminine opinion. This burial was that of a newborn infant. It was semiflexed, with its head directed to the east, and it lay just north of Burial 1. Somehow it had been spared from the plow.

Conclusions

The work at this site dramatically pointed out how much of the important archaeological data of the Yazoo Basin is being rapidly dissipated by the everyday agricultural practices that are the lifeblood of its people of today, not to mention other extraneous factors like land-leveling, road construction, etc. However, because some data were recovered (and more from this site will be in the future, hopefully) it was demonstrated that the plantation owner and the archaeologist can cooperate to preserve the prehistory of our state that still remains.

[NMAA 4 (1969) 9 (November), 9-10]

FOOD PLANT REMAINS FROM EIGHT PREHISTORIC INDIAN SITES IN THE YAZOO DELTA AREA OF MISSISSIPPI

Hugh C. Cutler and Leonard W. Blake

Carbonized plant remains were recovered from eight sites excavated in the Yazoo Delta by John M. Connaway of the Mississippi Department of Archives and History. The sites date from before 1000 B.C. to 1400 A.D., and the plant remains record the use of plant foods by the people who lived in this delta region. Corn was found in five of the eight sites which dated after 800 A.D. The latest site, dated 1200-1400 A.D., yielded corn and two specimens of the cultivated common bean. All eight sites contained wild plant foods and indicate a continued use of some of these over a period of more than 2400 years (Table 1). Corn, which is often a cause and an indicator of change to a settled way of life, will be discussed first.

The earliest corn that we have seen from the Mississippi Valley drainage is a single carbonized ear from an Adena burial mound in Athens, Ohio, dated by C14 at 280 B.C. \pm 140 (University of Michigan) (Cutler and Blake MS, 1967). It is a Tropical Flint corn, a race of corn described by Anderson and Cutler (1942) and similar to the ancient Chapalote race of Mexico, described by Wellhausen *et al.* (1952) and more recently by Mangelsdorf (1967) from excavations by MacNeish in the Tehuacan Valley in Mexico. It is characterized by a small tapered cob; deep, open cupules, and, usually, 12 to 14 rows of flint or pop grains, which are longer than wide.

Most of the collections that we have seen from the Mississippi Valley also contain variations of corn of another race, which has been called Northern or Eastern Flint (Brown and Anderson 1947; Anderson and Cutler 1942). In fully developed form, it is characterized by a

Table 1.
Carbonized Plant Remains from Eight Sites in Mississippi

Site No.	Site Name	Est. Date Culture	Corn	Beans	Persimmon nut	Butter nut	Black Walnut	Hickory nut	Pecan	Acorn	Other
22-Co-516	Wilsford	1200-1500 A.D. Mississippian	X	0	X						Sunflower? Honey Locust
22-Su-516	Powell Bayou	Middle to Late Mississippian	X		X		X	X	X	X	Peppervine
22-Co-566	Craig	Early to Middle Mississippian	X					0			
22-Co-612	Hays	1000-1200 A.D. Mississippian	X		X			0			
22-Tu-530	Bonds	1100-1300 A.D. Middle Baytown and early Mississippian	X		X	0	X		X	X	Grass seed
22-Co-587	Noe	500-700 A.D. Early to Middle Baytown			X		X		X	X	Wild bean Peppervine Wild crab
22-Qu-522	Denton	Middle Archaic			X	X	X	X		X	
22-Cr-504	Teoc Creek	1000-800 B.C. Poverty Point				?	?				

0 = Present

X = Present in more than one excavation unit

large cob with an enlarged butt; shallow, closed cupules, and, 8 to 10 rows of crescent-shaped grains, wider than long. The grains are usually flint but sometimes are flour or sweet. It is more cold resistant than the Tropical Flint race and has been adapted to a shorter growing season. Northern Flint is the race of corn that the first Europeans found the Indians growing all along the eastern seaboard from Florida into Canada and across northern United States and southern Canada.

Incipient Northern Flint has been noted in a collection from a Middle Woodland site in Illinois and from one in Ohio which date near the beginning of the Christian era (Cutler 1965, 1968). It is also present in a more developed form in all but one of a collection of 13 cobs from a late Middle Woodland occupation in south central Alabama (1-EL-52), which underlay a later settlement dated at approximately 920 A.D. by the C14 method. In its fully developed form, Northern Flint was the dominant corn of the Owasco culture in New York State around 1000-1200 A.D. (Brown and Anderson 1947). It is present in most of the collections that we have seen from the Missouri-Illinois area of about this time. Corn from somewhat later sites in this region shows an increasing influence of Northern Flint, and that from protohistoric and historic sites is usually almost entirely of this race.

In the south-central part of the Mississippi Valley, that is, southeastern Missouri, western Kentucky and Tennessee, northeastern Arkansas, and northwestern Mississippi, the influence of Northern Flint appears to have been less strong than elsewhere. It is possible that the growing season was longer, hotter, and more humid in this part of the river floodplain than in upland areas even during periods of climatic deterioration. There was less environmental selection of a hardier corn. Cultural resistance to change may also have been a factor.

Corn from four sites in the Yazoo Delta sent to us by John M. Connaway shows a pattern of slightly declining mean row number through time, although the samples are small (Table 2). Nearly all the corn is closer to Tropical than to Northern Flint, however.

Corn from the fifth site, the Wilsford* site (22-Co-516) should not be considered a part of this sequence, because most of the sample, consisting of five cobs, is popcorn. Popcorn was grown by many of the Indians up into historic times, but nowhere was it the main crop. Popcorn has been noted in one of the collections from the large Cahokia village near St. Louis (Cutler 1963), from three Mill Creek Aspect sites (13-Ck-21, 13-Pm-4, 13-Ob-4) in northwestern Iowa and from the protohistoric Kings Hill site (23-Bn-1) in northwestern Missouri.

The mean row number of the corn from the Powell Bayou Mound (22-Su-516), is quite similar to that of corn from the later, protohistoric Grand Village of the Natchez, which was sent to us by R. S. Neitzel several years ago (Table 2). The Powell Bayou sample may

*The mistaken name Wilford has been changed in this text to Wilsford in accordance with the correction established by Connaway (1984).

not be representative, however. The size of about half of the cobs is usually small, as measured by their cupule width. It is suspected that these small, low row-numbered cobs may be nubbins or cobs from a poor crop year. Row number and size tend to decline on nubbin ears, which sprout after other ears on the plant have begun to develop. The stress of unfavorable growing conditions may have a similar effect. A larger collection that we have seen from the Lyon's Bluff site (22-Ok-520, Table 2), which is not far from the Delta and which is of about the same time period as the Powell Bayou Mound, shows a lesser decline in mean row number.

Corn that has been sent to us from the Chucalissa site and that from the Banks and MacDuffie sites in northeastern Arkansas (Table 2), which are all rather late in time, appear to indicate a conservative preference for the old kinds of corn on the part of the Indians living there. The same preference also appears to have persisted, though to a lesser extent, in the Yazoo Delta. Corn that we have seen from the Turner-Snodgrass site (23-Bu-21) in southeastern Missouri is not out of line with that from Lyon's Bluff (22-Ok-520) in Oktibbeha County, Mississippi.

The two carbonized fragments of the cultivated common bean (Phaseolus vulgaris) were found in the Wilsford site (22-Co-516), a Mississippian village dated at approximately 1200-1500 A.D. The size of these beans is within the range of the rather limited number that we have seen from Mississippi Valley archaeological sites. One was 10.8 mm long, 6.0 mm wide and had an estimated thickness of 4.5 mm. The other had an estimated length of 8 to 10 mm and a width of 4.5 mm. Thickness could not be estimated. Beans are a valuable source of protein and probably were not wasted. They become very fragile when carbonized. These seem to be some of the reasons why beans are not more frequently recovered from archaeological sites in the Mississippi Valley, where carbonized perishables are usually the only ones found. It is still unknown at what time beans entered this area or when their use became general there.

Persimmon (Diospyros virginiana) seeds were recovered from seven of the eight sites, ranging from the earliest to the latest. This abundant and tasty fruit could be eaten out of hand as gathered and, judging from the abundance of the seeds in the samples from some of the later sites, it may have been made into dried cakes and stored for future use. Swanton (1946:363) quotes accounts of early explorers in the southeast describing the making of "persimmon bread" by historic Indians.

The presence of carbonized shells of butternut (Juglans cinerea) in material from both the Bonds site (22-Tu-530) and the Denton site (22-Qu-522) raises some interesting questions. The tree is usually found in upland forests in rich woods and on river terraces (Zawacki and Hausfater 1969:22-3). It is here near its southern limit. According to Fowells (1965:map p. 208) it does not presently occur in Tunica and Quitman counties, but it is present in De Soto County and in several counties to the north and east. He also indicates that it is present across the Mississippi in Phillips County in Arkansas. Lowe (1921) states that the butternut tree is found in De Soto, Tippah, and Union counties, but that it is not common in the state of

Mississippi. There appear to be several possibilities that could account for the presence of butternuts on these two sites. (1) The Indians may have transported the nuts across the Mississippi from Phillips County, Arkansas, or from De Soto County to the north or from elsewhere. (2) Butternut trees may have been growing on or near these sites at the time of their occupation. The first possibility appears to us to be the more probable, although some viable nuts, brought from afar, could have fallen into the village middens, sprouted, and grown to trees which bore fruit.

Similarly, carbonized black walnut (Juglans nigra) shells are present in the collections from the Noe site (22-Co-587) and from the Denton site (22-Qu-522). The black walnut tree does not presently grow wild in Coahoma or Quitman counties or indeed in any of the Mississippi floodplain from the Missouri Bootheel south, according to Fowells (1965:map p. 203). He shows it as present in De Soto and in the eastern part of Tallahatchie County, which adjoins Quitman County. Again it appears that the Indians were ranging far afield to gather plant foods or that the distribution of this tree was different prior to about 1000 A.D. than at present. It may or may not be significant that there are no black walnut or butternut shells in the collections here reviewed from sites which are after that date [butternut shells from the Bonds site come from a Baytown pit], although the use of hickory nuts, pecans, and acorns continues.

It is ordinarily not difficult to separate black walnut shells, which have smooth ridges, from butternut shells, on which the ridges are sharp. Nut shells from the Teoc Creek site (22-Cr-504) were so fragmented and eroded that it was not possible to distinguish whether they were one or the other. Both butternut and walnut are to be found in the eastern part of Carroll County, where the site is located, according to Fowells (1965).

Table 1 shows the presence of hickory nut and pecan shells and acorns on sites ranging from the Denton site (22-Qu-522), which is Middle Archaic and which lacks pecans, to the Powell Bayou Mound (22-Su-516), which has all three nut remains.

The tree cover of the Delta area is conditioned by its geologically recent floodplain origin, and it is different in many respects from that of the higher ground which surrounds it. The pecan (Carya illinoensis) and water hickory (C. aquatica) are present in the Delta region, but the shagbark hickory (C. ovata), a favorite food elsewhere, is generally absent, according to Fowells (1965). Oaks in the Delta include some with relatively sweet acorns such as overcup (Quercus lyrata), swamp chestnut (Q. michauxii), and willow oak (Q. phellos), but although Fowells (1965) states that white oak (Q. alba) does not generally occur, it has been recovered from posts at Wilsford (22-Co-516), Hays (22-Co-612), and Bonds (22-Tu-530); red oak is found similarly at Wilsford and Powell Bayou (22-Su-516). It is usually quite difficult to make precise identification as to species of hickory nut shell fragments and of acorn meats and we did not attempt to do this.

A few other plant remains were recovered. All could have been used for food, but most could just as well have been accidentally included in the midden deposits. From the Wilsford site (22-Co-516)

Table 2
 Corn From Five Sites in Yazoo Delta of Mississippi and Comparative Data from Other Sites
 (All carbonized and not adjusted for shrinkage)

Site Number	Site Name	Est. Date and Culture	Excavator	Mean Row Number	Median Cupule width in mm.	Sample size	No. of Rows, % total			
							8	10	12	14
22-Co-516	Wilsford	1200-1500 A.D. Mississippian	J. M. Connaway	11.2	4.5*	5	20	40	20	20
22-Su-516	Powell Bayou	Middle to late Mississippian Mound	J. M. Connaway	9.6	5.7	9	33	56	11	
22-Co-566	Craig	Early to Middle Mississippian	J. M. Connaway	11.3	5.3	15	13	27	40	20
22-Co-612	Hays	1000-1200 A.D. Mississippian	J. M. Connaway	11.6	6.4	14	7	29	50	7
22-Tu-530	Bonds	Middle Baytown Early Mississippian	J. M. Connaway	12.0	6.4	7	29	43	28	

OTHER SITES

1-EL-52	Tallapoosa River, Elmore Co., Alabama	Hope Hull Focus, Late M. Woodland underlying Late Woodland, C14 date 920 A.D.	D. W. Chase	9.5	7.2	13	38	54		8
22-Ad-501	Grand Village Adams Co., MS	Protohistoric	R. S. Neitzel	9.4	6.1	21	33	62	5	
22-Ok-520	Lyon's Bluff Oktibbeha Co., MS	1200-1500 A.D. Mississippian	R. A. Marshall	10.8	6.1	78	10	46	39	4

*Some of this corn is popcorn

TABLE 2 (continued)

Site Number	Site Name	Est. Date and Culture	Excavator	Mean Row Number	Median Cupule width in mm.	Sample size No. cobs	No. of Rows, % Total				
							8	10	12	14	16
40-Sy-1	Chucalissa State Park, Shelby Co., Tennessee	1350-1600 A.D. St. 1, Walls-Pecan Focus, Mississippian	C. H. Nash	11.7	6.2	135	7	29	44	13	7
	Banks Crittenden Co., Ark.	1525 A.D. ± 150 Mississippian	G. Perino	11.0	5.4	51	4	47	43	6	6
	Charles Mac-Duffie, Craig-head County, Arkansas	1400 A.D. Mississippian	F. J. Soday	12.0	6.3	26	4	23	46	23	4
23-Bu-21	Turner-Snodgrass, Butler Co., Missouri	1300 A.D. Mississippian	J. Price	10.8	6.3	51	6	49	35	8	2

are a number of carbonized seeds of some member of the family of Compositae, probably one of the many species of wild sunflower. These may well represent an accidental inclusion of plants growing on the site. A seed of a honey locust (Gleditsia triacanthos) is also present. The sweet gum in the pod of this tree is edible. From the Powell Bayou Mound (22-Su-516) there are several seeds of peppervine (Ampelopsis sp.) or possibly one of the wild grapes (Vitis sp.). From the Bonds site (22-Tu-530) there are several seeds of an unidentified grass. From the Noe site (22-Co-587) are seeds of a wild bean (Strophostyles umbellata), of a peppervine or wild grape, and a single seed of chokeberry or wild crab (Pyrus sp.). Fruits of all these plants are edible.

[Editor's note: Hugh Cutler and Leonard Blake are botanists with the Missouri Botanical Garden. This paper has been revised from their original manuscript.]

REFERENCES

- Anderson, Edgar and Hugh C. Cutler
 1942 Races of Zea Mays: I. Their Recognition and Classification. Annals of the Missouri Botanical Garden 29:69-88.
- Brown, William L., and Edgar Anderson
 1947 The Northern Flint Corns. Annals of the Missouri Botanical Garden 34:1-28.
- Cutler, Hugh C.
 1963 Identification of Plant Remains. In Melvin L. Fowler (ed.), Second Annual Report: American Bottoms Archaeology, July 1, 1962 - June 30, 1963, 16-19. Illinois Archaeological Survey, University of Illinois, Urbana.
 1965 Cultivated Plants. In Olaf H. Prufer, The McGraw Site: A Study in Hopewell Dynamics, 107-109. (Publications of the Cleveland Museum of Natural History, n.s., Vol. 4, No. 1).
- Cutler, Hugh C., and Leonard W. Blake
 1967 An Adena Ear from the Daines II Mound, Athens, Ohio. MS.
 1968 Plant Materials from the Jasper Newman Site, Ks-4, Moultrie Co., Illinois. MS.
- Fowells, H. A. (Compiler)
 1965 Silvics of Forest Trees of the United States, Agriculture Handbook No. 27, United States Department of Agriculture, Forest Service, Washington, D.C.
- Lowe, E.N.
 1921 Plants of Mississippi. Mississippi State Geological Survey Bulletin 17.
- Mangelsdorf, Paul C., Richard S. MacNeish and Walton C. Galinat
 1967 Prehistoric Wild and Cultivated Maize. In Douglas S. Byers (ed.), The Prehistory of Tehuacan Valley, Vol. I, 178-200. R. S. Peabody Foundation, Andover, Mass.
- Swanton, John R.
 1946 The Indians of the Southeastern United States. Bureau of American Ethnology Bulletin 137.

- Wellhausen, E. J., L. M. Roberts, and E. Hernandez X.
 1952 Races of Maize in Mexico, Their Origin, Characteristics and Distribution. Bussey Institute, Harvard University, Jamaica Plain, Mass.
- Zawacki, April Allison, and Glenn Hausfater
 1969 Early Vegetation of the Lower Illinois River. Illinois State Museum Report of Investigations 17.

[MAA 5 (1970) 3 (March), 1-6]

PROGRESS REPORT ON FIELD RESEARCH, 1970: FOURTH SUMMER FIELD SESSION
 IN MISSISSIPPI ARCHAEOLOGY, MISSISSIPPI STATE UNIVERSITY
 Richard A. Marshall

Two archaeological sites were test excavated this summer. As usual there were two summer terms, each of six weeks' duration.

First Summer Term

The first summer term was spent testing a small occupation mound in the Sun Creek bottom about ten miles north of Starkville, Mississippi, in Clay County. This is one of seven such occupation mounds on the cleared portion of the property of Mr. Cletus Metzger of Starkville. The bottom has been cleared in the past few years. The site, Metzger I, was cleared last fall. It is ten feet above the surrounding Sun Creek alluvial bottom. It is ten feet above the bottom of an old Sun Creek meander channel which encircles approximately one half of the mound. The mound has never been cultivated and the landowner is holding it for further exploration by Mississippi State University.

A series of five foot squares were put down on an east-west axis to give a tentative cross section of the mound. Two major zones were located.

TOP ZONE. The upper zone of occupation was greatly disorganized due to digging by the Indians, root disturbances, and by clearing activities, which disturbed the deposit to depths further below the surface than anticipated. In spite of this there did appear to be a minimum of two or more cultural complexes separable on impressions of ceramic distributions.

The uppermost complex appears coeval with the Bynum-Deasonville complexes (Miller II) of northeast and north central Mississippi and possibly with the Issaquena Phase of the central Yazoo Basin. Pottery types of Furr, Tishomingo, and Thomas series are predominant, with an admixture of decorative motifs common to ceramics of the Late Hopewell-Marksville and Issaquena-Troyville developments. Samples of clay-tempered sherds characteristic of Mississippi Alluvial Valley complexes attest to the contemporaneity of the Metzger upper zone to these complexes. One and possibly two burials belonging to this period were located but not excavated.

A second complex of ceramics can be tentatively associated with the later half of the Miller I period of northeast and north central Mississippi. Two more burials, none excavated, may belong to this

complex. Ceramics here are mainly sand-tempered types of the Alexander and Furrs series. It is interesting to note that the majority of the Alexander types greatly displayed mode characteristics like the later pottery types (Furrs-Tishomingo series), and these may be late varieties of the Alexander complex. Some sand-clay-tempered sherds appear to be copies of Late Tchula-early Hopewell types from the Upper Yazoo Basin. They resemble Cormorant Cord Impressed, Crowder Punctated, and Twin Lakes Punctated. Sherds with zoned incising and drag and jab punctations and which resemble the ceramics of the Yazoo Basin Norman complex were found (see Lake Borgne Incised, Orleans Punctated, and related types). Several sherds from this level of occupation have tentatively been identified as Tchefuncte Plain and Bayou La Batre Stamped. There is some admixture with fiber-tempered types.

The fiber-tempered ceramics are divided and quickly fall into a fiber-sand-tempered series and a fiber-only-tempered series. There is at hand only tentative evidence that this latter type (the fiber-only-tempered) had a tendency to fall lower than the fiber-sand-tempered series. The fiber-sand-tempered series occur with modes identical to the fiber-only-tempered types known as Wheeler Plain, Wheeler Punctated, Wheeler Simple Stamped, and Wheeler Dentate Stamped. Both varieties of types are very similar to ceramics found earlier this year in only the cultivated zone at the large Poverty Point Period Teoc Creek site north of Greenwood, Mississippi, in the Yazoo Basin, by John Connaway and Sam McGahey of the Mississippi Archaeological Survey. All of this presents data ripe for some interesting speculation in regard to the presence and origins of both the fiber-tempered and Alexander complex ceramics.

Also quite similar to the Teoc Creek site was the presence of approximately 3/4 inch to 1 inch thick amorphous shaped areas (up to 28 inches in diameter) of fired clay which may represent hearths. In and on some of these were amorphous lumps of fired clay and shaped fired clay balls of Spherical, Spherical Notched, and Finger Punctated types. At present no ceramics of any type were found directly associated with these hearth-like features, but a few sherds of fiber-tempered pottery were tentatively identified with fired clay objects of shaped and amorphous kinds.

It then appears that a third complex, earlier than the Miller I-like complexes, can be identified with the ceramic zone at the Metzger site. This earlier complex appears to be a watered down or "back woods" expression of the highly developed riverine-Coastal basin oriented Poverty Point cultures. Further investigation of this possibility should be given high priority in any future research in northeast Mississippi. Some speculation may be given to the possibility of Poverty Point influence in this area of Mississippi as coming either from the Yazoo Basin (the nearest) or up the Tombigbee from the Mobile Bay area or from both directions. The presence of Tchefuncte Plain-like and Bayou La Batre Stamped-like pottery in the next later complex would suggest contacts from both directions. All the more reason for researchers to want to work in the Tombigbee Valley. The heat is on in this area, as the Tombigbee Waterway is now stirring with restlessness unequalled in the past.

BOTTOM ZONE. Below the Poverty Point related culture zone was a totally non-ceramic layer containing a not-too-sparse assortment of projectile points considered typical of the Late Archaic in the Southeast United States. One or more burials may belong to this period of occupation. This zone rested squarely on the undisturbed and remarkably different colored sterile soil of the Sun Creek alluvial plain.

It is conceivably possible to use this latter data in securing a narrower range to the geographical date on the end or stagnation of alluviation of the stream valleys of northeast Mississippi, as well as delineate the change from upland hunting and gathering to intensive riverine environment-oriented subsistence which appears rather strongly entrenched in the terminal subsistence patterns of phases of the Upper Archaic of the southeast United States.

The Metzger site thus has demonstrated tentative evidence related to the early ceramic and late pre-ceramic cultures of northeast and north central Mississippi.

Second Summer Term

As was spent last year, the second summer term conducted further research on the Claiborne site (22-Ha-501) in Hancock County, Mississippi. Somewhat leery of Gulf Coast research after weathering Hurricane Camille last year, the group went down staring Hurricane Betsy in the face. We also anxiously watched Hurricane Celia pass. Another large tropical storm was brewing far to the south as we packed up and returned inland.

The Claiborne site was a large horseshoe shaped midden located on the west edge of Jackson Ridge adjacent to Mulatto Bayou near the mouth of the Pearl River. Across the gully to the north is the Cedarland site (22-Ha-506), equally disturbed by the same Hancock County Port and Harbor Commission's Mulatto Bayou Port and Industrial Park development. The site was cleared and bulldozed several years ago. Bulldozing has intermittently continued and each time the deposits are further stirred and damaged. Local collectors have carried off thousands of artifacts (by actual count well over 20,000 fired clay cooking balls) and further damaged the remaining deposit by digging. Several amateur groups have attempted controlled digs to contribute information but because of disrespect by some relic collectors an unattended controlled dig was and is impossible. What is abandoned, even temporarily, is fair game for extraneous digging.

Last year's MSU dig consisted of trenching several areas of the north end of the remaining deposit of the Claiborne Site. A nice collection of artifacts was made which with very few exceptions, was equalled or bettered by the average collector's collection from the site. In addition the total collection went under water and mud during Hurricane Camille. Approximately a 95 to 97 percent recovery of data and material has been made and a report is in preparation.

This year the MSU group concentrated on a flat area which appeared relatively undisturbed and which had been more or less preserved due to the presence of a shell-paved road. A 50 foot square block was laid out which extended partially over the edge of the present bank, the idea being to tie in a level area with the contour

of the bank in an attempt to relate the sloping deposit of the bank. The area of the bank was so greatly disturbed by bulldozing and indiscriminate digging through the shell pavement that a 30 foot square block back of the bank was finally taken to sterile soil. This excavation was a test only of the lower one-half or less of the total deposit originally at that point. Our test, as was last year's for the same reason, a test of the earlier deposit, the later portions having been bulldozed over the bank. Our objective this year, in addition to that mentioned above, was to examine living areas, possibly locating a house pattern, and to collect both charred vegetable and radiocarbon 14 samples.

Our test this year produced materials of early Poverty Point and possibly, though not too likely, Late Archaic. Both amorphous fired clay lumps (more common on the earlier Cedarland site) and shaped clay balls of numerous varieties were found in many pits, some pits containing both kinds of fired clay objects.

Our objective failed to almost every point. Several living areas were examined. Our artifact collections only duplicated that already known from the site. One technique not used last year was the use of a water sifter. A gasoline driven water pump, delivering about 60 gallons of water per minute, was used to wash the soil from the excavation units. The soil was washed through a 1/2 inch hardware cloth into a 1/4 inch hardware cloth. We were set up to wash the soil through a 1/8 inch hardware cloth but after several days of noting the "take" from the 1/8 inch screen, except for special situations, this was omitted. Numerous small finish flakes from biface artifact manufacture were collected as well as very small microlithic tools (Jaketown Perforators, drills, fragments of the same, and lamellar blades) were collected by the 1/4 inch screen. The 1/2 inch screen caught the larger artifacts, clay balls and clay ball fragments large enough to identify to size, large flakes, cores, and other artifacts missed by the digging. Clay balls and clay ball fragments amounted to approximately 95 percent by volume of all items recovered.

Soil from several pits identified as trash pits, as well as soil from several "cooking pits," was collected for filtration of possible vegetable remains. One very generous charcoal sample was collected from a hearth in a cooking area and a second sample was taken from a large isolated piece of charred wood. Both the soil samples and the charcoal samples (including the 1969 samples) are available for testing if anyone has the means and facilities available for analysis, providing such data will be beneficial to his research. In the meantime we will try to secure funds for the same. No post mold patterns as individual post molds were positively recorded, most so-called molds being finally identified as root stains and disturbances. Because of the great amount of deposit and the depth, I feel it very important to consider the Claiborne site in the light of its representing two or more closely related sequential phases of the Poverty Point Culture and possibly extending in areas of the site into the early Tchula Period (Tchefuncte Culture).

In addition to excavations at the Claiborne site, some local surveying was conducted. During our stay in Hancock County, the earth embankment located several hundred yards to the southeast and which

has been tentatively identified as the French Fort constructed on the first high ground on the east bank inside the mouth of the Pearl River in 1717-19 was taken over by the state of Mississippi (Department of Archives and History) in accordance with the new Antiquity Law of Mississippi. While looking over the fort, which extends across the ridge for nearly 1300 feet, an early historic Indian village was discovered near the east end. Two blue glass and three white porcelain beads, a Dover flint English gun spall (a possible trade item to the French), an iron trade axe, several pieces of highly weathered blue-purplish colored glass, and a few pieces of china fragments were found with a large quantity of aboriginal ceramics made in the Natchezan tradition. It is quite possible that this is one of the Acolapissa Village sites. One Sunday was spent looking for the main Acolapissa Village located "seven" leagues up the Pearl River. Several likely areas were investigated but the overgrowth and insects were too much. The search will continue this winter. A nice Tchefuncte shell midden site was located with the help of local collectors near Bayou Caddy, just west of Waveland, Mississippi.

Financial support for the summer's activities came from the operational budget, Summer Session, Mississippi State University, and a \$1,500 special grant from the Dean, School of Arts and Sciences, Mississippi State University.

[MAA 5 (1970) 6 (September), 3-7]

ARCHAEOLOGICAL SURVEY IN SOUTHWEST MISSISSIPPI*

Lower Mississippi Survey, Peabody Museum

Introduction

The lower Mississippi Valley Survey was first established in 1939 at the Peabody Museum with the stated purpose being "to investigate the northern two thirds of the alluvial valley of the Lower Mississippi River" (Phillips, Ford, and Griffin 1951:5). This area was believed to hold the key to the development of the climactic phenomenon which characterizes the late prehistory of the eastern United States--the Mississippian culture--and it was the tracing of

*Editor's Note: Peabody Museum, Harvard University, has proposed a continuation of their Lower Mississippi Valley Survey which will take place between March, 1971 and June, 1973 if the proposal is accepted. The following article is a history and background of the past work done by the survey and the objectives and procedure of the proposed survey.

With this solid background, it is now deemed desirable to extend the survey further to the south along the east side of the Mississippi River from Vicksburg to the Louisiana border. From a basic survey standpoint, such a move would link the survey area with the extensive archaeological work which has already been done in Louisiana (Ford 1935, 1936; Ford and Willey 1940; Ford and Quimby 1945; Ford 1951; Ford and Webb 1956; Quimby 1951, 1957; McIntire 1958).

this development that the survey took as its principal problem. Although the scope of the problem was beyond the resources of the original survey--less than half the intended area was actually investigated, and at least as many questions relating to cultural development were raised as were answered--a firm foundation for future work was prepared through the organization of the basic data and the presentation of a preliminary chronology (Phillips, Ford, and Griffin, 1951).

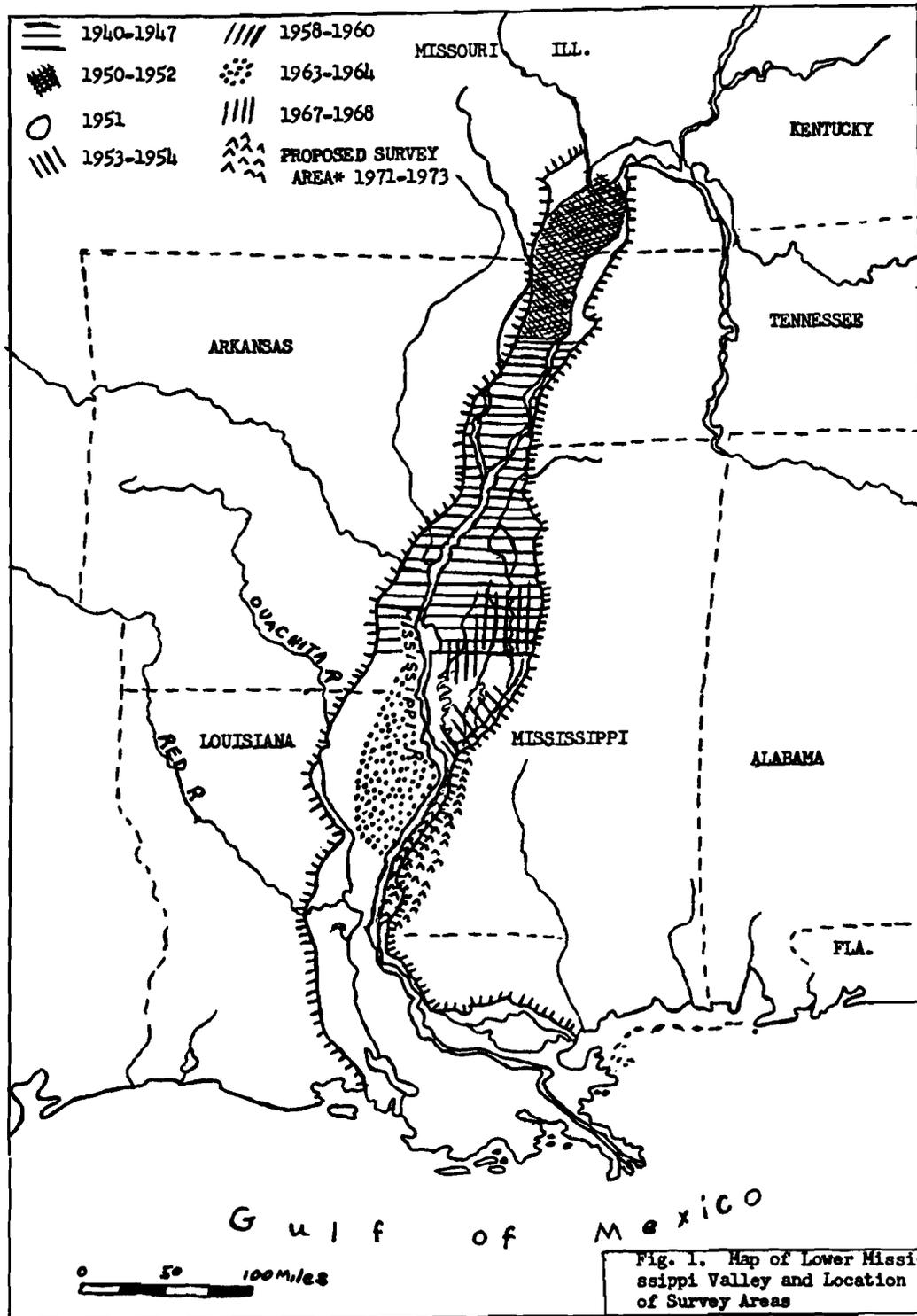
The first survey had investigated the valley down to approximately the latitude of Greenville, Mississippi, and had concentrated on the St. Francis and northern Yazoo River Basins (Figure 1). Later fieldwork has been concerned with expanding the survey to the north and to the south and filling out the basic chronology. To the north, southeast Missouri was investigated by Williams (1954); and in the other direction, a number of sites were surveyed and excavated in the southern portion of the Yazoo Basin during the 1950s (Ford, Phillips and Haag 1955; Greengo 1964; Williams and Brain n.d.). This latter trend was then continued to the Tensas Basin on the west side of the river by Williams in 1963-1964 (Williams 1966a). Recent work in these areas has been devoted to the refining of local sequences (e.g., Greengo 1964), the study of particular culture-historical problems (Brain 1969), and a synthesis of the vast amount of data accumulated during the past two decades (Phillips 1970).

The overall objectives of the Lower Mississippi Valley Survey, then, have been the location and recording of archaeological sites, the development of local sequences and chronological alignments, integration with other areas of the eastern United States, and culture-historical reconstructions at both local and inter-areal level. The relatively high degree of accomplishment of these objectives can truly be said to have resulted in the construction of a cornerstone for mid-South prehistory.

Background

The left bank of the Mississippi River, from Vicksburg south to the Louisiana border, is of great interest to the Lower Mississippi Survey. It is an area which has been only superficially surveyed (Ford 1936), and the few excavations have been very restricted in scope (Ford 1936; Cotter 1951, 1952; Neitzel 1965). Yet this is an area which is of considerable importance to the study of the protohistoric and historic periods of aboriginal occupation in the Lower Valley. The homeland of the Natchez was there and of some of their contemporaries, both friend (e.g., Yazoo, Koroa, Tioux) and foe (Tunica). The interactions between these tribal groups are relatively well documented in the early French accounts of the contact period. Supporting archaeological data is now available for the Natchez from recent excavations at their principal village (Neitzel 1965) and from earlier work reported upon by Ford (1936).

Historic archaeology has been one of the enduring concerns to members of the Lower Valley Survey (Williams 1962, 1966b). Using contemporary excavations wherever expedient, a direct historic approach has been followed to identify the villages of historic tribal groups and to project these locations and associated data back into



prehistory (Phillips, Ford and Griffin 1951:347-421; Williams 1964, 1967). An instance of culture change in a contact situation has also been the focus of a recent study (Brain n.d.).

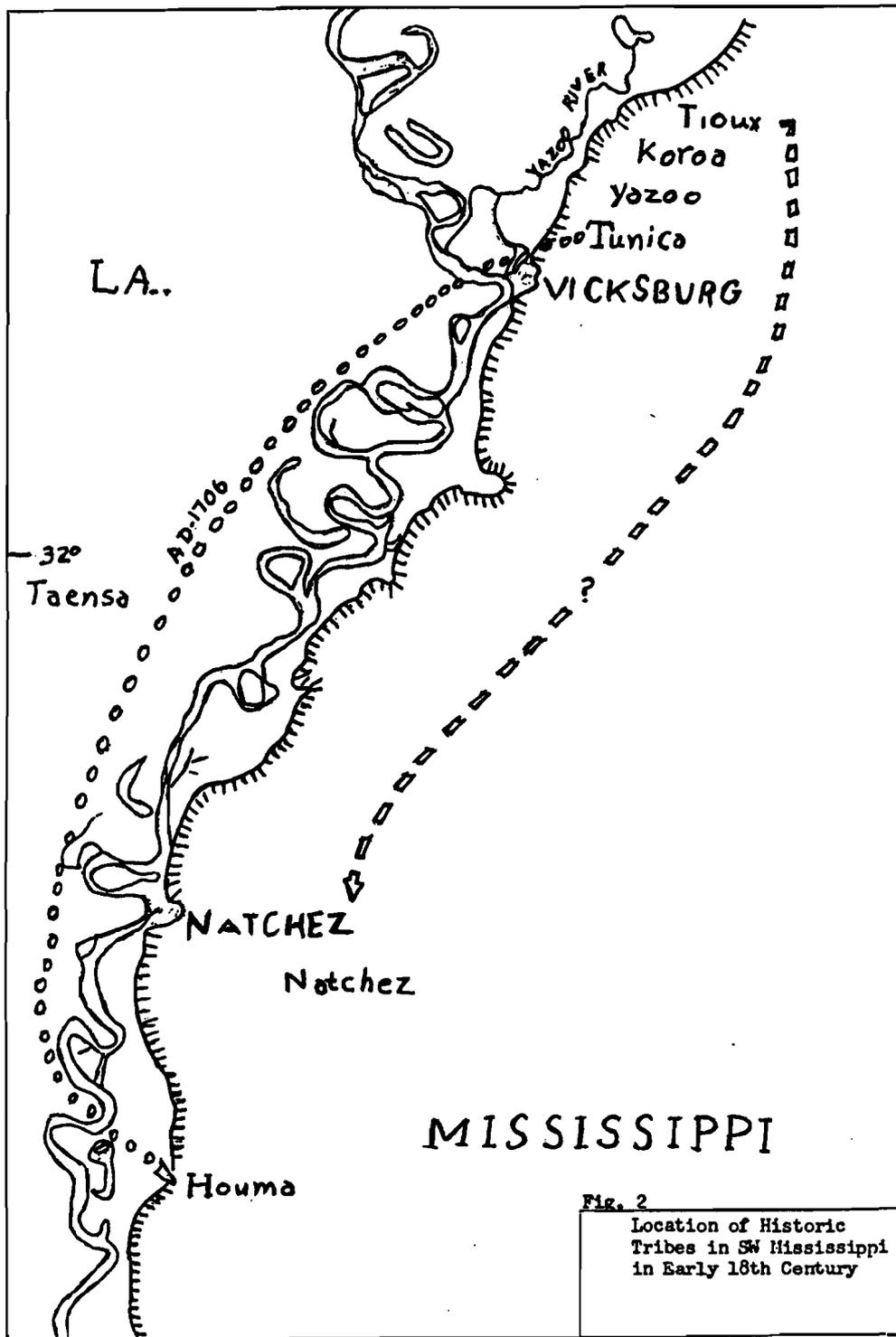
All of these investigations have been confounded by the extreme mobility of the aboriginal inhabitants of the valley during protohistoric and historic times. And nowhere were these late movements within the valley better illustrated than in the southwestern corner of Mississippi, for here in microcosm the problem is neatly illustrated.

The Tunica were a tribal group almost as well documented as the Natchez. When first contacted by the early French explorers, they were located on the Yazoo River in the vicinity of Vicksburg. The location of their village has been positively identified at Haynes Bluff through the discovery of historic burials of the period (Williams and Brain n.d.). In 1706, the Tunica left the Yazoo River and, somehow bypassing their enemies, removed themselves to a location below the Natchez at the southern margin of the proposed survey area (Figure 2). Of incidental interest, the group they settled among, the Houma, seem to have preceded the Tunica in moving downriver from the Yazoo region, thus further tying the area together from an ethnographic standpoint. The location of this combined Tunica-Houma village has recently been identified through the discovery of an associated burial cache. This cache exhibits an extraordinary quantity and variety of European trade goods as well as native pottery and other artifacts. An intensive study of this collection is contemplated as a part of this project and will provide a historic dateline for the Tunican artifacts of this period. The village site could then be excavated, and the entire cultural assemblage reconstructed and compared to that in the Yazoo region dated prior to 1706.

These comparisons should provide important data on the pace and extent of culture change in a relatively controlled historic contact situation; data which could then be correlated with other known contact situations in the valley, such as the Natchez. With a knowledge of aboriginal movements, relationships, and culture change, it would then be possible to consider such hitherto unanswered culture-historical questions as whether the Tunica originally represented an aspect of the intrusion of Mississippian culture within the Lower Valley, and, of course, this inquiry would lead to an analysis of the pre-existing situation. In other words, there is an unparalleled opportunity to study the culture and history of a known tribal group and to utilize this information to firmly establish the later end of the chronology for the aboriginal occupation of the Lower Mississippi Valley (and also perhaps provide a key for understanding events elsewhere outside the Valley).

Proposal: Objectives and Procedure

In keeping with the overall objectives of the Lower Mississippi Survey, the primary objective of this proposal is the archaeological survey of the east side of the alluvial valley of the Mississippi River, and the contiguous bluffs, between Vicksburg and the



Mississippi-Louisiana border. Initially, emphasis will be placed upon the location, recording and identification of archaeological sites with the intention of gathering enough data to construct the basic outlines of prehistory; a local chronology. The archaeological survey, then, will provide the basis for the historic alignment of this area to other areas within and outside of the valley, which is prerequisite to culture-historic interpretations. This preliminary survey operation will require two mobile field units, each composed of two research assistants, which will also have the capability for limited test excavations as warranted. It is expected that the survey could be completed in a single field season of three-four months.

The especial problem that shall be concentrated upon in this study will be the history of a particular tribal group, the Tunica, and the processes responsible for this history. Thus, what was the origin of the Tunica, and do they reflect the intrusion of peoples or only ideas; what was the subsequent development, and how long a period is represented; what changes are manifested in the culture through time, and to what may these be ascribed; and, finally, what patterns emerge, and may they be applied to other groups, in other areas, at other times? These lines of inquiry will require an extended period of intensive research on several discrete sources of data. Laboratory analysis of the survey data collected during the first field season, conservation and study of the large collection of Tunica burial goods, and library research of the early French and Spanish accounts will be but the principal activities, and will require the services of the associate investigator and a full-time research assistant for a period of approximately one year.

The results of this research will dictate the priorities for the second field season, which will be reserved for excavation, especially of sites relating to the Tunica problem. This field season would also be three-four months long and require a basic crew of three field assistants plus additional manual labor. A final period of analysis and synthesis by the associate investigator and a research assistant would then be necessary to conclude the study and prepare the results for publication as an archaeological monograph.

In summary, the following schedule is submitted for this segment of the Lower Mississippi Valley Survey project:

March-June 1971. Preliminary research, organization, and study of the Tunica burial cache. Peabody Museum, Harvard University.
June-September 1971. Archaeological survey and minor excavation. Southwest Mississippi.
September 1971-June 1972. Laboratory analysis of accumulated data, and library research. Peabody Museum, Harvard University.
June-September 1972. Excavations at one or more selected sites. Southwest Mississippi.
September 1972-June 1973. Analysis of new data, final synthesis, and preparation of report. Peabody Museum, Harvard University.

REFERENCES

- Brain, Jeffrey P.
 1969 Winterville: A Case Study of Prehistoric Culture Contact in the Lower Mississippi Valley. Ph.D. Dissertation, Yale University, New Haven.
 1971a The Natchez "paradox". Ethnology 10:215-222.
- Cotter, John L.
 1951 "Stratigraphic and Area Tests at the Emerald and Anna Mound Sites." American Antiquity 17(1):18-32.
 1952 "The Gordon Site in Southern Mississippi." American Antiquity, 18(2):110-126.
- Ford, James A.
 1935 Ceramic Decoration Sequence at an Old Indian Village Site near Sicily Island, Louisiana. Department of Conservation, Louisiana Geological Survey, Anthropological Study 1.
 1936 Analysis of Indian Village Site Collections from Louisiana and Mississippi. Department of Conservation, Louisiana Geological Survey, Anthropological Study 2.
 1951 Greenhouse: A Troyville-Coles Creek Period Site in Avoyelles Parish, Louisiana. American Museum of Natural History Anthropological Papers 44(1).
- Ford, James A., Philip Phillips, and William G. Haag
 1955 The Jaketown Site in West-Central Mississippi. American Museum of Natural History Anthropological Papers 45(1).
- Ford, James A., and George I. Quimby
 1945 The Tchefuncte Culture, An early Occupation of the Lower Mississippi Valley. Society for American Archaeology Memoir 2.
- Ford, James A., and Clarence H. Webb
 1956 Poverty Point, A Late Archaic Site in Louisiana. American Museum of Natural History Anthropological Papers 46(1).
- 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 3.
- Greengo, Robert E.
 1964 Issaquena: An Archaeological Phase in the Yazoo Basin of the Lower Mississippi Valley. Society for American Archaeology Memoir 18.
- McIntire, William G.
 1958 Prehistoric Indian Settlements of the Changing Mississippi River Delta. Louisiana State University Studies Coastal Studies Series 1.
- Neitzel, Robert S.
 1965 Archaeology of the Fatherland Site: The Grand Village of the Natchez. American Museum of Natural History Anthropological Papers 51(1).
- Phillips, Philip
 1970 Archaeological Survey in the Lower Yazoo Basin 1949-1955. Peabody Museum of Archaeology and Ethnology Papers 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 25.
- Quimby, George I.
 1951 The Medora Site, West Baton Rouge Parish, Louisiana. Field Museum of Natural History Anthropological Series 24(2).
 1957 The Bayou Goula Site, Iberville Parish, Louisiana. Natural History Museum Fieldiana: Anthropology 47(2).
- Williams, Stephen
 1954 An Archaeological Study of the Mississippian Culture in Southeast Missouri. Unpublished Ph.D. Dissertation, Yale University, New Haven.
 1962 Historic Archaeology in The Lower Mississippi Valley. Southeastern Archaeological Conference Newsletter 9(1). Cambridge.
 1964 The Aboriginal Location of the Kadohadacho and Related Tribes. In W. H. Goodenough (ed.), Explorations in Cultural Anthropology. McGraw-Hill, New York.
 1966a The Archaeology of The Upper Tensas Basin. Lower Mississippi Survey, Peabody Museum, Harvard University Interim Report.
 1966b Historic Archaeology, Past and Recent. School of American Research Annual Report for 1966. Santa Fe.
 1967 On the Location of the Historic Taensa Villages. In The Conference on Historic Site Archaeology Papers 1965-1966, 1.
- Williams, Stephen, and Jeffrey P. Brain
 n.d. Excavations at Lake George, Yazoo County, Mississippi. Peabody Museum Harvard University Papers, forthcoming volume. Cambridge.

[NMAA 6 (1971) 3 (March), 6-12]

EXCAVATIONS AT THE ACREE SITE

Carolyn Caldwell

In December, 1973, Mr. Harry Boschert, MAA member from Duncan, Mississippi, reported that the Acree site (22-Bo-551) had been recently sold to Mr. Eldon Schmidt, who had plans for landlevelling. The Acree site is located in Bolivar County about two miles southwest of Bobo. It was first recorded by Phillips, Ford, and Griffin in their Lower Valley Survey of 1940-47.

Sam Brookes, Survey Archaeologist for the Department of Archives and History, contacted Mr. Schmidt, who generously agreed to allow the Survey time for salvage excavation. During the week of December 10-14 John Connaway and Carolyn Caldwell, archaeologists with the Survey, excavated refuse pits which were uncovered by the landleveller. These pits ranged from two to four feet in diameter and all appeared to be U-shaped. The pits contained potsherds of the Baytown Period, animal and fish bones, charred plant remains, and mussel shells. The entire contents of twelve pits, including all of the dirt, were removed and stored in the Survey office for flotation at a future time. Using this method, all of the floral and faunal remains to be found in the

pits will be extracted. Following this, an analysis of pottery types will be made.

The Acree site consisted of a village area of about four acres and a small mound which was approximately three feet high. The mound is one of two reported by Phillips, Ford, and Griffin, who listed their measurements as 100 x 4 feet and 16 x 6 feet. The small mound no longer exists. The larger mound was partially destroyed years ago by a railroad and the landleveller has now destroyed the remainder. A number of human burials were uncovered, but they had been too badly damaged by cultivation and the landleveller for proper recording. All of the observed human burials were located in the village area away from the mound.

The village midden appeared to be relatively shallow and much of it was removed by the landleveller. The remaining midden will probably be destroyed by cultivation. Other than refuse pits, no features were discerned in the village area.

There were a few areas of red burned clay in the mound which may have been hearths or fire basins, but they had no regular shape. A few small scattered dark circles were observed, but no patterns such as would be formed by postmolds in a house could be seen. There were no house patterns and thus no village pattern to be found in the entire area, as had been seen on other levelled sites. The only real features observed were the refuse pits, and the upper portions of these had been removed by prior cultivation and landlevelling.

During the week the Survey team was assisted by Dr. Van Burnham, MAA northern vice-president, and Bill Vowell, member of the North Delta Chapter. The private collections of Carolyn Denton and Martha Long, obtained from the Acree site, were analyzed and recorded by the Survey archaeologists. The interest and assistance given by these people and Mr. Boschert is greatly appreciated.

Without the cooperation given by Mr. Schmidt, much valuable information would have been lost. Mr. Schmidt's generosity in allowing this work to be done could well lead to new insights into the subsistence activities of the site's inhabitants and the environment in which they lived. It is hoped that this may serve as an example of how people can help archaeologists preserve our heritage.

[MAAN 9 (1974) 1 (January), 7-8]

ARCHAEOLOGICAL SURVEY OF THE UPPER-CENTRAL TOMBIGBEE RIVER VALLEY

Marc D. Rucker and James R. Atkinson*

During the 1973 Summer Field Season, the National Park Service, Southeast Archeological Center, contracted with Mississippi State University to conduct an archaeological reconnaissance survey of the upper-central portion of the Tombigbee River. A ten week field season was initiated under the direction of Marc D. Rucker, assisted by James R. Atkinson.

*James R. Atkinson is a graduate student in the Department of Sociology and Anthropology at Mississippi State University.

The primary goal of the survey was to locate archaeological and historical sites along the Tombigbee River which might be adversely affected by construction of the Tennessee-Tombigbee Waterway, an engineering feat which is designed to connect Mobile Bay on the Gulf Coast with the Pickwick Reservoir at the juncture of the states of Tennessee, Mississippi, and Alabama. Construction of the 470-mile long Waterway will entail the construction of a series of five locks and dams, five separate locks, and a 40-mile long canal cut. It seems obvious, therefore, that a number of important archaeological and historical sites would be inundated or adversely affected as a result of construction and construction-related activities, and that an in-depth field survey would be required to locate sites deserving of salvage excavations.

The area selected for survey extended from Pickens County, Alabama, north through portions of Noxubee, Lowndes, and Monroe counties in northeast Mississippi. The entire Tombigbee River section here surveyed is situated along the eastern margin of the so-called "Blackland" or isolated prairie area of northeast Mississippi and adjacent portions of Alabama. The Tombigbee is a geologically mature drainage system, with a broad, flat flood plain ranging in width from one and one-half to four miles, marked by numerous abandoned stream channels, natural levees, and oxbow lakes. Upland soils are tough and clayey, and are today used primarily as pasturage for livestock production. Bottomland soils, on the other hand, where virtually all archaeological sites are located, are clay loams and are potentially very productive. But agricultural efforts by modern-day farmers in the Tombigbee Bottoms have been largely unsuccessful owing to (1) frequent and severe flooding, and (2) poor and inadequate surface drainage (cf. Vanderford 1962:31-37). As a result, most of the Tombigbee Bottom is covered with a nearly impenetrable growth of secondary forestation and brush which makes archaeological surveying particularly difficult. Access to many areas could be had only by foot, trail bike, or boat, all of which were resorted to frequently.

A total of 57 new sites were discovered and recorded, and a number of previously-recorded sites were relocated. Special attention was directed toward relocating, for the first time, the mounds discovered and occasionally excavated by Clarence B. Moore in his 1899 journey down the Tombigbee River below Columbus, Mississippi (Moore 1901). We were able to locate some, but not all, of Moore's mound sites.

Surface collections were taken wherever possible, and these indicate a probable continuous occupation of the Tombigbee Valley from Early Archaic to nearly historic times. However, the vast majority of sites which had escaped previous detection and were discovered by us appear to be very small, shallow hunting-foraging or other special-purpose stations. Most of these seem to date to one or more of the ceramic-making periods, probably most being Middle to Late Woodland in affiliation on the basis of the usual presence of a handful of clay-grit tempered, cordmarked and smoothed sherds, and often a small, triangular Madison projectile point or two.

Several larger and more permanently-occupied sites were discovered as well, a few of which seem to have originated well back in the Archaic Period, and to have been more or less continuously

occupied into Middle or Late Woodland times. Only a few sites yielded indisputable evidence of Mississippian cultural presence. The few square-to-rectangular, flat-topped mound sites recorded which we might expect to be of Mississippian cultural affiliation yielded little or no surface evidence of associated villages in the immediate vicinity, making their cultural identification as Mississippian only inferential.

Test excavations of significant scope were conducted at only one site, the Vaughn site, in Lowndes County, Mississippi, near Columbus and the Alabama state line. The site appears as a roughly circular, dome-shaped mound, 70 to 80 meters in diameter, and about two meters in height. It is situated on the west bank, about 1/2 mile from the Tombigbee River, on the edge of a large slough. Four one-meter square test pits were randomly placed across the top of the mound, which we expected to produce only ceramic-period materials. To our surprise, however, only the upper 30 cm zone produced ceramic-bearing deposits, and an Archaic Period zone was found to extend continuously downward to an average depth of circa 2 meters, terminating with a zone of sterile yellowish sand. This Archaic period deposit was found to contain occupational debris indicating an unbroken occupation, and large numbers of primary burials, as well.

Within the obvious limitations of such a small sampling, a good deal of information was gleaned. In three of the four test pits, primary, flexed burials were placed at the very base of the mound. A total of nine complete or partial burials were exposed in the four one-meter tests, and they tended to occur in clusters at whatever depth they were encountered. With the sole exception of an adult male burial at a depth of 78 cm, all burials were interred within 70 cm from the base of the mound, and were covered over by small mounds of varying dimensions. The fill of these mounds was obviously drawn from other occupational areas of the site, since all contained a variety of midden debris. In only one instance was there clear evidence of an individual being placed in a shallow pit rather than directly upon the existing ground surface. In all determinable cases, individuals were tightly flexed with the long axis of the torso oriented somewhere between north and east. Only a single burial, an adult male, was interred with what might be reasonably interpreted as a grave good. This consisted of an incomplete portion of an as yet unidentified marine (?) shell located immediately beneath the left side of the skull, and which probably served as an ear ornament or pendant.

There is no question that all burials encountered antedate considerably the Ceramic Period, since all are sealed by an apparently unbroken Archaic Period occupation zone above them, and there is no evidence whatever that they are intrusive into the Archaic zone. If our test excavations are representative of the mound as a whole, then there must exist several hundred additional Archaic Period burials within the mound. Radiocarbon dates will be forthcoming soon on two of the deepest, and presumably earliest, burials excavated. These dates should assist in fixing the temporal origin of the proverbial Eastern North American "Burial Mound" Complex.

No clear evidence of Archaic Period house structures was observed, but a number of interesting tools were encountered which, together with faunal remains, furnish insight into local subsistence

activities. Scattered throughout the entire fill of the mound were literally hundreds of presumably local fresh-water mussel shells, indicating a longstanding reliance upon this resource as a significant element in the local diet. The taking of deer and a long list of smaller mammals, as well as turkey and other avian species, is confirmed by faunal remains. Additional evidence of the importance of hunting is seen in hunting tools recovered from the Archaic zone. Present are dart points of a local red jasper and one of an orthoquartz. Also present is a single example of an unfinished projectile point of antler. An additional artifact of shaped antler was recovered which is thought to be an atlatl hook, and which of course implies the use of atlatl or throwing board. Also present are expanded base stone drills and, from one test pit only, a highly conventionalized type of very short, uniface scraping tool, both of which would presumably have been utilized in hide processing. Utilization of native seeds was also a prevalent practice, as broken and exhausted sandstone grinding tools were common. No floral remains were recovered, however.

Occupation of the Vaughn Mound apparently continued uninterrupted into the ceramic-making period, although our ceramic sample is relatively limited in size and was recovered largely from a mixed 15 to 20 cm thick plow zone. Nevertheless, it is possible to isolate relatively contemporaneous assemblages from at least three undisturbed contexts, and to offer some speculations on ceramic developments at the site.

The earliest known ceramic grouping in the Southeast, fiber-tempered ware, is represented in our sample by a single relatively thin and well-compacted body sherd from a mixed deposit. A relatively "pure" deposit of sand-tempered ceramics, however, was recovered within a 6 cm level below the plow zone in test Pit C. Although we hesitate to assign type names to this sand-tempered group of sherds, they seem to equate very nicely with the Alexander Series best known from the Tennessee River region. Present are body sherds with incised linear design elements, and with "pinching" or punctated surfaces. Also present in this sand-tempered group is a rim sherd bearing short vertical incisions on the exterior of the vessel rim with neatly executed dentate stamping below, and a single conical-shaped vessel foot.

A second lot of sherds was recovered from a small trash pit in test Pit D, all of which may be presumed to be roughly contemporaneous. Perhaps the most diagnostic partial vessel recovered is a clay-grit tempered, neckless jar form bearing a broad horizontal incision just below the lip and a series of carelessly executed three-line incised chevrons on the vessel shoulder. A single curvilinear incised line is discernible below the series of chevrons on one sherd. This vessel appears to be a highly decadent variety of Marksville types similar to some illustrated for Greengo's (1964) Issaquena Phase in the Yazoo Basin. Also associated with this vessel is a large rim portion of a plain, predominantly clay-tempered vessel. This vessel appears to be elongate in form, with a slightly excurvate rim, and is probably related to one of the Baytown Period wares. Another partial vessel from this lot is of essentially the same form

and paste, but includes an occasional fleck of limestone as a tempering agent. No cordmarked vessels were present in this trash pit, only incised and plain wares. This ceramic lot will also be radiocarbon dated.

From below the plow zone in test Pit A came another partial vessel, probably classifiable loosely as Mulberry Creek Cordmarked. It is a shallow bowl form, clay-sand tempered, with vertical and oblique cord-marking crisscrossing the exterior surface. This vessel probably dates to the Middle or Late Woodland Period.

Perhaps not surprisingly, only a single, plain, shell-tempered sherd was excavated from the Vaughn site. This fact seems consistent with the discovery of only a very few sites in the surveyed area which contained shell tempered Mississippian culture ceramics. In no case discovered did shell tempered ceramics dominate a surface-collected sample.

As during the Archaic Period at the Vaughn site, the later Woodland Period occupation reflects a distinct reliance upon hunting and associate hide-processing. The Madison projectile point type is present in a probable Late Woodland context, as at numerous other sites where it is consistently associated with clay-grit tempered ceramics with smoothed or cordmarked surface finishes. The inescapable conclusion is that the Madison point type predates Mississippian culture in the Tombigbee Valley, just as it seems to in other regions of the Southeast, as well. Also present in the ceramic-bearing zone at the Vaughn site are parallel-sided and expanded-base stone drills, and cutting-scraping tools.

Summary

At the present time, the most pressing archaeological problems in the northeast Mississippi area in general, and the upper central Tombigbee River Valley in particular, are those relating to temporal chronology. No existing phase, stage, or period system of cultural development appears at this time to be suitably applicable to our survey region. The more significant and ultimate questions of culture process or evolution can only be broached within a context of firm control over the temporal dimension, a control conspicuous by its absence at present. Hopefully, our survey and further excavation of relevant sites will move us in the right direction, and permit us to ask questions of culture process in the near future.

[MAAN 9 (1974) 2 (February), 8-12]

EXCAVATIONS AT EARTHWORKS ON MULATTO BAYOU

Mark J. Williams

During the spring and summer of 1972, archaeological excavations were undertaken by the Gulf Coast chapter of the Mississippi Archaeological Association on a large earthwork site in southwest Mississippi. The work was done on state property under permit from the State of Mississippi Department of Archives and History. The major concern of the project was determining the origin of a 1600-foot long semicircular earthwork located on the property.

The earthwork had been variously ascribed by local people and some professionals as dating from the Civil War, early French settlers

in the area, historic Indians, or prehistoric Indians, with most local people thinking it to be an early French fortification due to many early historic artifacts which were found by relic hunters on the site.

The site is located on Mulatto Bayou in Hancock County, Mississippi. This places it about one mile east of the Pearl River, near its mouth, and about 40 miles northeast of New Orleans. Moderate damage to the unprotected site by vandals and pot hunters prompted the Gulf Coast chapter to undertake controlled exploratory excavations on the earthwork after obtaining the permission of the state.

All excavations were carried out by members of the association on weekends only. One main area and four minor areas were excavated on the site. The first and largest unit consisted of a number of five-foot squares and two-and-one-half-foot wide trenches on and around the extreme eastern end of the earthwork. The second and third units were in the gateway and north wall to the western end of the structure, while the fourth was about 200 feet south of the western end of the earthwork. Another small unit, not on the map, was just northeast of the road at the northeastern corner of the map (See Figure 2).

A badly eroded earth mound on the extreme eastern end of the site could not be explored due to a summer house belonging to International Paper Company being located on the summit. We have no idea about its possible connection with the earthwork.

Arbitrary six-inch levels were used throughout the excavations and all levels were screened with half-inch mesh screen for artifact retrieval.

Surface collections, made prior to excavation, showed an area on the eastern end and to the northeast (noted by dashed line on map) yielding historic trade material and late Mississippian pottery types. The excavations in Unit I were undertaken with two purposes in mind. First, a good sample of the abovementioned material was to be obtained for analysis, and secondly, the relationship of the historic midden to the construction of the earthwork was to be determined by profile.

Both goals were achieved and the results of the second are evident in the accompanying profile (Figure 1). The historic midden lay in a cap over the earthwork indicating the latter to be prehistoric in construction. The earthwork, as revealed in the profiles, appears to have been built in at least three stages. The fill of the various stages was almost totally devoid of cultural material. A few small sherds of Baytown Plain pottery were the only recovered materials and these are of doubtful association. Carbon samples were collected from the trenches and three dates were obtained from the University of Georgia C14 Laboratory (financed by the Mississippi Department of Archives and History).

The earliest date, C14 sample #1 (see profile) was 400 B.C. ± 100 (UGa402). This should date the earliest construction period at the site and was a little earlier than anticipated. If the date is good for the level, it should represent an early Tchefuncte period, but no other evidence exists for this possibility. The second C14 date (C14 #2 on profile) was 290 A.D. ± 80 (UGa458). This dates the top portion of the second construction phase, and should correlate with a mid-to-late Marksville time level. The third date (not on profile), a very small sample at what should be the very top of construction Level I,

FIG. 1
22HA515

500 W. PROFILE



- STERILE SUBSOIL
- PRE-CONSTRUCTION TOPSOIL
- CONSTRUCTION STAGE 1
- CONSTRUCTION STAGE 2
- CONSTRUCTION STAGE 2 (TOP)
- CONSTRUCTION STAGE 3
- HISTORIC MIDDEN (INTACT)
- HISTORIC MIDDEN (ERODED)

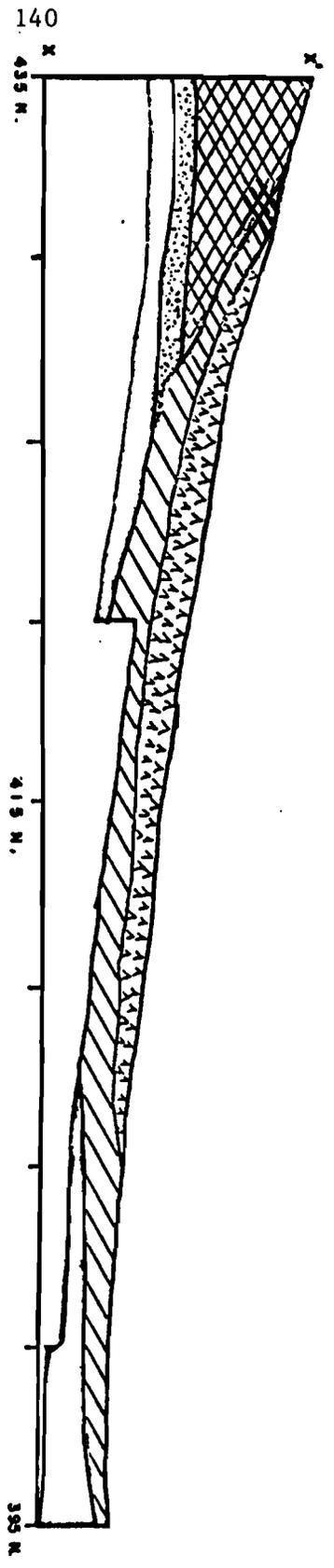
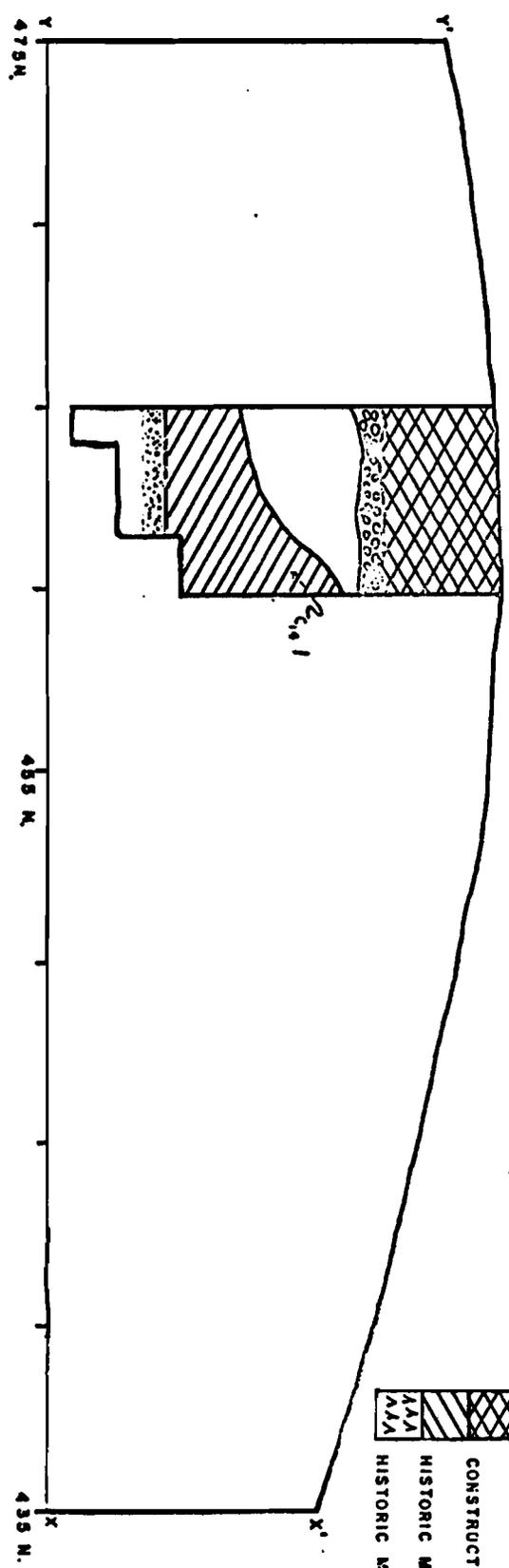
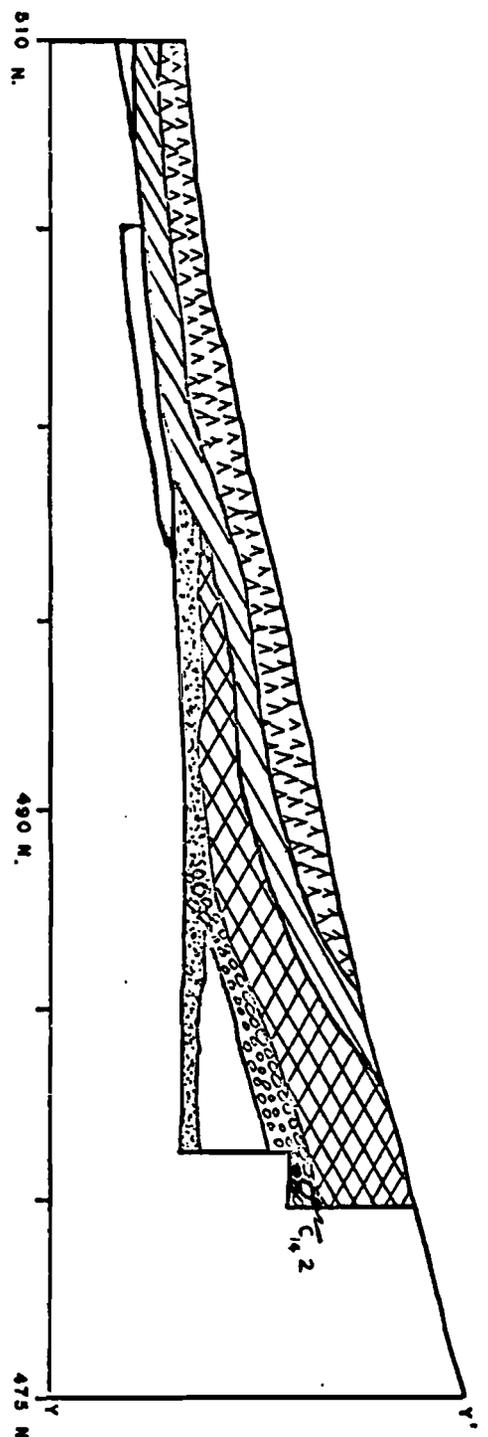
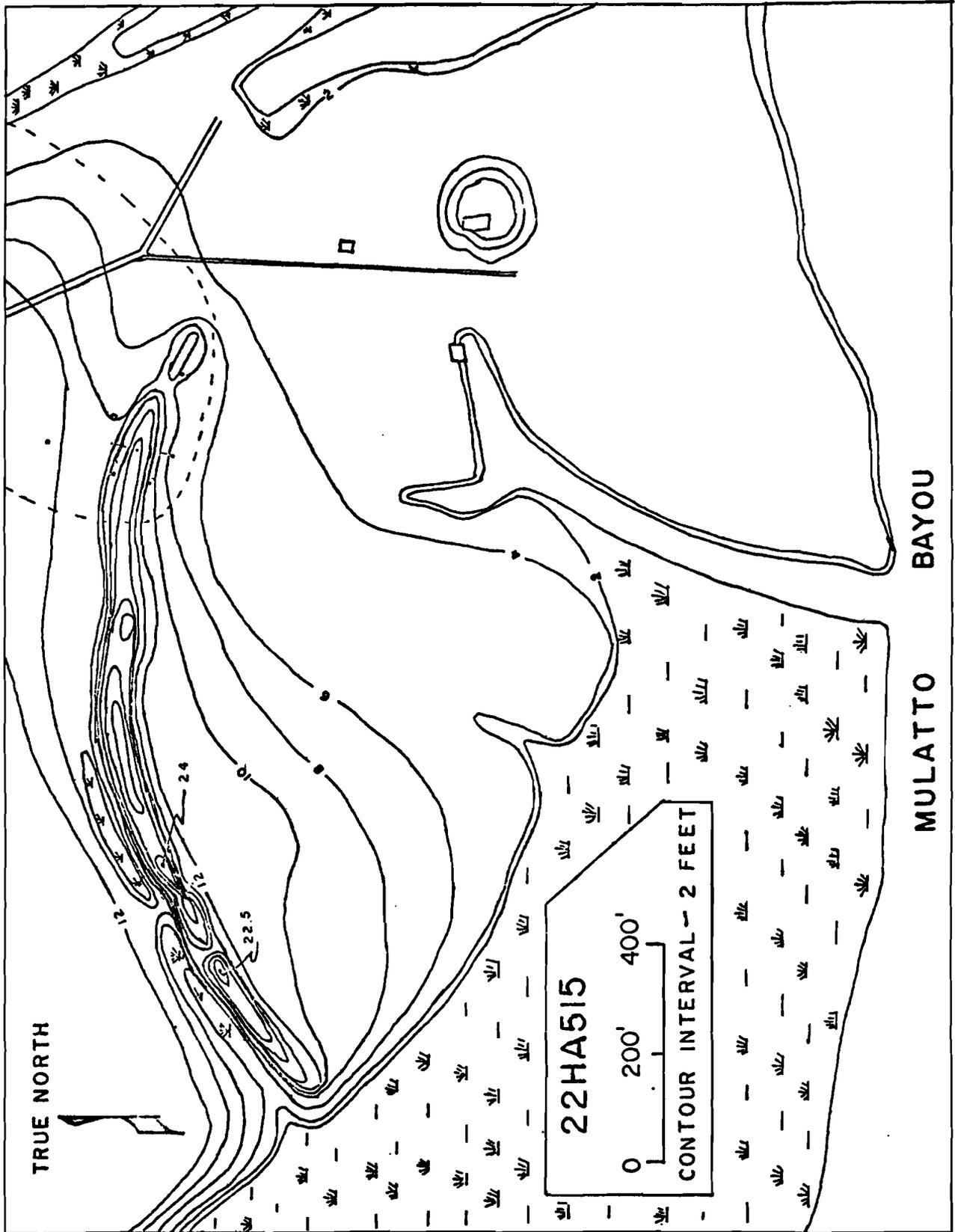


FIG. 2



was 215 A.D. \pm 315 (UGa459). Although having a wide range possibility, the third date tends to aid a conclusion that the majority of the earthwork was built in the period after 200 A.D.

The third construction phase was not dated, but a date of about 340-400 A.D. would seem reasonable. The site was apparently abandoned sometime after that, and remained so until early historic times. The bulk of the European material found in direct association with the late pottery and Rangia clam shell midden dates from about 1730 to 1780. A cufflink dated 1782 was located in the very top of the midden. The historic midden which originally covered the top of the earthwork has eroded on the north and south flanks of the wall following heavy cultivation in the 19th century.

Excavation Unit II consisted of a 60-foot long trench in what appears to be a gateway. A level hardpacked layer was located through the opening below the present surface. Several fragments of a square, flat-bottomed vessel (Baytown Plain) were found on this hardpacked surface. This layer was apparently the level in use during the functional life of the earthwork. The sherds could agree with the C14 estimate for the earthwork during its major construction period.

Unit III was a step trench on the north edge of the wall about 300 feet west of the gateway. No artifacts were found here at all.

Excavation Unit IV, to the south of the western end, consisted of a couple of five-foot squares in a buried shell midden (Rangia clams). The pottery located here represented a late Marksville component. Sherds of Marksville Stamped (variety Manny), Marksville Incised (variety unspecified), as well as fragments of a square flat-bottomed vessel (Baytown Plain) were all present in the shallow six-inch thick midden. The midden extends up and down the edge of the bluff overlooking the marsh for some distance.

Unit V, mentioned earlier, was a couple of five-foot squares which yielded only historic material from the historic midden area to the northeast of the earthwork.

The tribal affiliation of the historic occupation is not certain, but a 1725 reference by Bienville indicates a Biloxi occupation in the area. It probably was not Acolapissa, since they left the Pearl River area in 1704.

The historic pottery is an interesting admixture of lower Mississippi types, particularly Leland Incised (variety Bayou Goula), and heavily shell-tempered types from Florida, to the east, and Alabama, to the northeast. Sherds tentatively identified as Aucilla Incised, a type identified with the Apalachee Indians of northwest Florida, were located on the site. This could represent the settlement further west of some remnants of the group following their forced abandonment of settlements in northwest Florida by Col. James Moore's expedition in 1704.

In summary, then, the site under question was a large earthwork, possibly begun as early as Tchefuncte times as a low rise. The earthwork was enlarged to its final size mainly in the mid-to-late Marksville period, following abandonment of the site for over 1,000 years, the extreme eastern end of the earthwork was re-occupied by a small group of historic Indians, possibly Biloxi.

-.-.-.-.-

Mr. Williams graduated from the University of Georgia with a bachelor's degree in anthropology. He has spent the past several years in the U. S. Air Force. While stationed at Keesler Field in Biloxi, he performed a valuable service to Mississippi archaeology through sharing his anthropological training with amateur archaeologists of the area and in directing various excavation and survey projects. The Mississippi Department of Archives and History has a lengthy manuscript written by Mr. Williams concerning the excavations discussed above. Hopefully this will soon be published for the benefit of those wanting a more detailed report. Mark just recently left the Gulf Coast area for Florida State University where he plans to continue his education in anthropology. We wish him well.

A PRELIMINARY IDENTIFICATION OF FAUNAL REMAINS FROM THE CLAIBORNE SITE

Brent W. Smith*

SITE DESCRIPTION

The Claiborne site is located immediately east of the Pearl River Delta, in Hancock County, Mississippi, south of Pearlington. It is situated on a prairie terrace approximately one mile from the Pearl River and three miles from the Gulf of Mexico. This terrace rises abruptly from the marshlands to an elevation of fifteen to seventeen feet; it is dissected by deep gullies, one of which separates the site from a large Late Archaic shell midden to the north: the Cedarland Plantation site.

Discernible local microenvironments include the Pearl River estuary marshlands northwest and south of the site, the low Gulf beach to the south and west, the Mulatto Bayou swamplands to the west, and the prairie terrace of pine, marginal oak, and low shrubs to the east. Deer and turkey, two primary meat sources, were most likely derived from this latter microenvironment (Webb 1974, personal communication). These microenvironments can be viewed as potential resource areas for the prehistoric procurement systems which operated at the Claiborne site.

Webb (1968:304) describes the Claiborne site (there lumped together with the Cedarland Plantation site as the "Pearl River Delta site") as a diagnostic site of the Poverty Point culture period. Primary Poverty Point traits present at the site include Poverty Point clay objects, clay figurines (Richard Marshall and W. M. Walden, personal communications, 1970) stone vessels, microflints, rough green hoes or celts, jasper beads and ornaments, hematite and magnetite plummets, and the semi-circular settlement pattern formed by the Rangia cuneata shell midden (Webb 1968:305 and personal communication

*Mr. Smith is currently with the Department of Social Sciences, Northwestern State University in Louisiana. He has varied experience in the field of archaeology, having worked in the states of Louisiana, Texas, Arizona, Mississippi, Tennessee and Florida.

1974). Secondary traits include the following: consistent projectile points, consistent chipped tools, perforated gorgets, adzes, and boatstones. Tertiary traits include fiber and sand-tempered sherds and ground celts. Gagliano (1967:11) classifies the adjacent Cedarland site as a type site of the Pearl River Phase of the Late Archaic Period. Traits of the Claiborne site fit in well with his description of the Garcia Phase of the Poverty Point Period (Gagliano 1963:116-117).

SPATIAL DISTRIBUTION ON THE SITE

Samples of the faunal material that were used in this report were gathered by surface collecting and testing by Dr. Sherwood Gagliano in the area known as the "bone pile." This is an area in the northwest and north central portions of the site which may represent a specialized activity locality: the primary butchering area of the site. Faunal material is represented in much smaller amounts and in lesser concentrations in other areas of the site. This sample is an admittedly limited one in terms of the total quantity of faunal remains from the site. It does, however, represent a total collection from a small volume of the midden and should be viewed in that respect.

SPECIES INVENTORY

The basic information gained from the faunal analysis includes an inventory of what species were present in this site sample. Easily the most abundant species was the white tail deer (Odocoileus virginianus). Other species of mammals include dog (Canis familiaris), cottontail rabbit (Sylvilagus floridanus), and other small unidentifiable mammal bone fragments. Dog remains are represented by one mandible which has incising marks indicative of an attempt to remove the teeth, probably for use as ornaments (W. G. Haag, personal communication 1970). In addition, there were a number of long splintered fragments, which probably represent deer long bones which have been broken for the marrow.

Dr. George Lowery of the Louisiana State University Zoology Museum was unable to make definite identification of all of the bird bone samples, but observed that remains of at least five different species were represented, based upon five humeri. Turkey (Meleagris gallopavo) and the sandhill crane (Grus canadensis) could be definitely identified (Lowery, personal communication 1970).

Little is known concerning the identification of fish and turtle species from vertebrae and other fragments from the site. Only samples of gar (Lepisosteus) could be easily recognizable from the scales, while turtle could be identified from the carapace.

The molluscan diet appeared to be extremely limited as far as was indicated from the sample. Clam (Rangia cuneata) and oyster (Crassostrea) were represented in small quantities. In contrast, the dependence on oysters as a primary food staple was clearly indicated for the adjacent technologically earlier Cedarland site. Differential oyster and clam availability is clearly demonstrated in the middens at Cedarland and Claiborne. Cedarland, especially in all but the top level, was a large shell midden, primarily of oyster, with a shallow type level of mixed shell and earth midden. Claiborne, conversely, was essentially a heavy black earth midden deposit, with some shell,

shifting from oysters to clams. This change from oyster to clam exploitation seems to indicate a macroenvironmental change which altered brackishness or salinity (Webb, personal communication 1974).

BUTCHERING TECHNIQUES

The quantitative data, as listed in Table 1, indicate a preponderance of long bones. This implies that only the meatier portions of the deer carcasses were brought back to the living areas for further butchering. The minimum number of deer brought back to the site, as estimated from the number of tibia, is twenty. Since the average weight of mature bucks for southern Mississippi and Louisiana is about 125 pounds (H. K. Curry, personal communication 1974) and the approximate field-dressed weight of a 125-pound deer is 100 pounds (John 1973:27), the approximate total meat weight, as represented by the sample of deer bones, is 2,000 pounds. In Table 2 are given the pounds of meat estimates for each mammal species for a total of 2,014 pounds. This method has obvious possibilities for errors, namely that there is variation in weight by age, sex, and deer population. Also, we do not know exactly how much of the meat was being used.

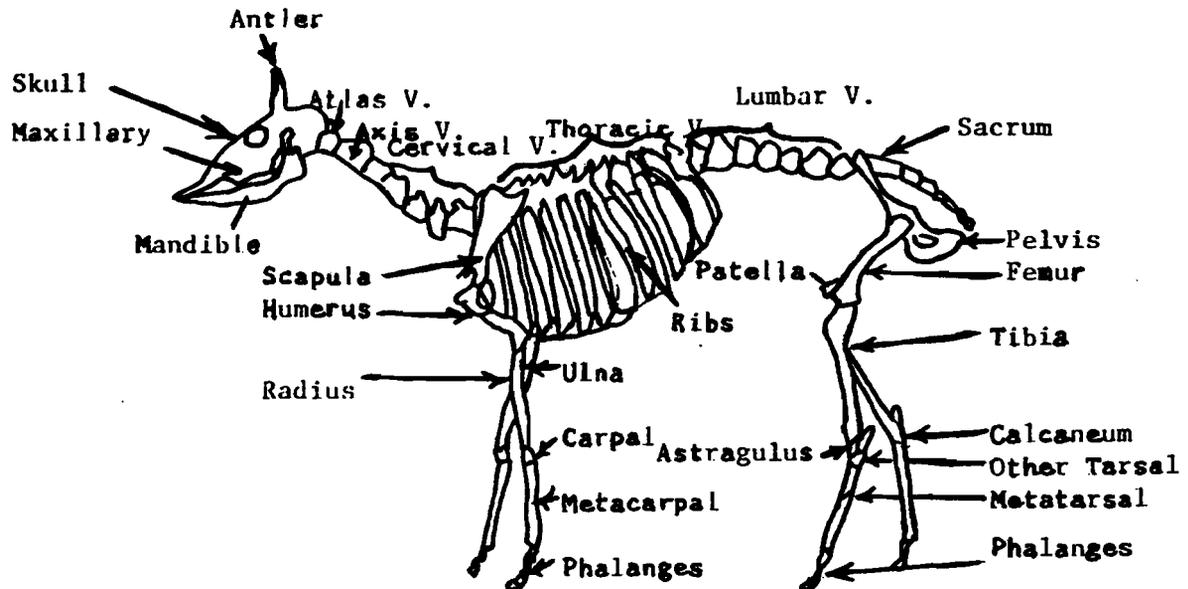
James Springer (n.d.:4) observed that the majority of the aboriginal breaks on the bones in his study collection were irregular. From this evidence he feels that butchering (at least during the Mississippian culture period in Illinois) involved more pounding and breaking of bone than cutting.

The deer long bones at Claiborne showed three basic patterns of deliberate human alteration: pounding, snapping or manual breaking, and deliberate cutting (incising). The majority of these bones show the combined techniques of separating the bones at the joint at one end and simply hacking, cutting, or snapping through the bone at the other end. These split and broken bones argue for the use of heavy cleavers or choppers, both to break off hunks of the meat and to extract the marrow.

Another factor should be taken into consideration in the evaluation of the deer bone: the uses of the deer other than for meat. Personal observations have been made of private collections (W. M. Walden and Charles Satchfield, personal communication 1970) and material excavated by the Mississippi State University field school (Richard Marshall, personal communication 1970). Artifacts manufactured from deer bone include the following: (long bones) pins, needles, knives, projectile points, beads, finger rings, ulna awls, and splinter awls; (antler) flaking tools, scraper, and perforators. A more-or-less complete breakdown of the possible uses of the deer is as follows: antler: awls, flakers, whistles, hammers, projectile points, hunting masks or decoys, and atlatl hooks; mandibles and teeth: necklaces and scrapers; scapula: hoe blades; vertebrae: scrapers; tail hair: ornaments; hide: clothes and shoes; sinew: thread; brains: tanning; hoofs: ornaments and tinklers; meat, heart, liver and tongue: food; long bones: marrow, scrapers, beamers, awls, projectile points, tubes, pins, needles, fish hooks, and gorges (H.F. Gregory, class notes 1974).

FIGURE 1. THE DEER SKELETON

*Names of the Deer Elements



*(Springer n.d.:11)

Table 1

<u>Deer Elements</u>	<u>Number of Bones</u>	<u>Minimum Number of Individuals</u>
Vertebrae	70	3
Radius	13	7
Humerus	17	9
Femur	36	18
Scapula	19	10
Metacarpal	5	3
Tibia	39	20
Antler	3	2
Teeth, Mandibles	11	6
TOTAL	218	

Table 2

POUNDS OF MEAT FROM MAMMAL SPECIES

<u>Species</u>	<u>Minimum Number of Individuals</u>	<u>Pounds of Meat per Individual</u>	<u>Pounds of Meat for Each Species</u>
<u>Odocoileus virginianus</u> , Deer	20	100	2,000
<u>Canis familiaris</u> , Dog	1	*12.5	12.5
<u>Sylvilagus floridanus</u> , Cottontail Rabbit	1	* 1.75	1.75
		TOTAL	2,014

*(White 1953:396-398)

SEASONALITY OF SITE OCCUPATION

One important contribution zooarcheology can make is in the determination of the season in which a settlement was occupied. This can be done in two ways: through the analysis of mammal remains and through the analysis of fish and bird remains. Concerning the latter, Bokonyi states:

...the starting point is the known seasonal migration of certain species. The aim of these migrations is either to wander to the south before the cold of the winter and then back again to the north with the spring (birds), or to complete certain phases of a particular process of propagation (fishes, among which certain species, e.g. salmon, spend the greater part of their life in the sea and later the rivers at spawning time, and eels who do the opposite) (Bokonyi 1972:121).

Evidences of seasonality from the bird remains from Claiborne are inconclusive. The contemporary sandhill crane in southern Mississippi occupies an area within Jackson County throughout the year (Valentine and Noble 1970:761-768). Perhaps local migratory patterns of the sandhill crane in other areas can provide definitive information for seasonality. Any analogies made between the contemporary and the prehistoric ecology, however, must take into account the possibility of the historic introduction of extraneous animal populations.

The best evidence for seasonality in deer hunting comes from antlers. Three samples (two tines and one base with its articulating surface), representing minimally two individuals, were noted. Although the base represents a shed which has been picked up from the ground, the two tines have been purposefully cut from antlers of hunted animals. Charles Viers, Jr., of the Department of Biological Sciences, Northwestern State University of Louisiana (personal communication 1974), states that the southeastern Louisiana deer shed their antlers in March and April. Since antlers start to grow in June and get hard again by late September, this would imply deer hunting at Claiborne in fall and winter.

Additional data on site seasonality is available from the estimates of the ages of the younger deer, based on dentition. Robert Murray of the Louisiana Department of Wildlife and Fisheries (personal communications 1970) provided estimates of the ages of the deer through comparisons with mandible collections of known age and origin. Table 3 indicates the distribution of the age estimates. Noble (1960:9) states

Table 3

<u>Age of Deer as Determined from Dentition</u>	<u>Number of Specimens</u>
4 - 6 months	1
2-1/2 - 3-1/2 years	4
4 years	1
5 - 6 years	3
7 - 8 years	1
8-1/2 years +	1

that 84% of the sample of the southern Mississippi deer that he studied had fawn drops between July 21 and August 31. The presence of the mandible of a four to six month old fawn indicates an occupation of the site between late November and late February. This evidence shows a consistent fall and winter pattern. However, this does not necessarily exclude the possibility at other times of the year. Certainly with a larger bone sample the complete absence of certain age groups would be more significant. One more point concerning deer seasonality should be stated: any estimate of deer seasonality should necessarily take into account local conditions and breeding and fawn drop times.

As Table 3 indicates, there is a preponderance of older deer in the sample. This fact generates two hypotheses about hunting activities at the Claiborne site:

1. As previously indicated in this paper, one reason the deer are being killed is for their meat. According to Bokonyi (1972:124), "Man generally killed young animals rather than old ones, but not too young since these would supply him with too little meat."

2. The occupants of the Claiborne site had considerable hunting prowess. The Claiborne hunters were successfully killing fully adult deer which averaged between four and five years of age. This evidence is consistent with comparative data on deer age distributions for other prehistoric sites. James Springer, in comparing prehistoric Indian sites in Missouri, Pennsylvania, and Illinois to historic and modern hunting practices, observes that

All the Indian sites show a much longer frequency of fawns and a concentration on one and a half, two and a half, and occasionally three and a half year olds....The Indian yields are older populations: the proportion of individuals five and a half years or older is consistently high compared to modern hunting (Springer n.d.:19-24).

Elder (1965:369) believes that the Indians avoided killing fawns to allow them to reach adulthood, when they provide more meat and better hides. He also notes that the youthfulness of modern deer populations could mean that they are increasing rapidly or (more likely) that modern hunting puts more pressure on the deer, requiring a higher birth rate to maintain the population.

ECOLOGICAL IMPLICATIONS: A MODEL

Further ecological implications of the deer bone are provided from ethnohistoric sources. The Pascagoula, a group whose territory was geographically proximal to the Claiborne site, sowed corn during the month of August (Margry 1883:304). Gregory (1973:242-243) interprets ethnohistoric sources for the Caddo and the Pawnee to the effect that two crops were planted, the first at the end of April and the second at the end of May, to be harvested in late July. This freed the men to hunt in May, in late summer, and fall. These ethnographic examples in conjunction with the evidence of fall and winter deer hunting, as determined from the faunal analysis, correlate well with the idea of a "lay by" as practiced in rural Southern folk

culture. This term refers to the period of slack labor between field preparation and sprouting crops, when men would be free to hunt (H.F. Gregory, personal communication 1974). This model of a prehistoric "lay by" assumes that the Claiborne people were hunting deer in the fall and winter during the periods between crop harvests. This possibility of agriculture as part of the subsistence economy in a Poverty Point culture is not that difficult to accept as a model, since inferential evidence for agriculture has already been suggested for another Poverty Point site. Excavations at the Terrel Lewis site in northern Louisiana uncovered hoe blade fragments and flaked hoes (H. F. Gregory, personal communication 1974).

In terms of material culture remains which are supportive to this model, Clarence Webb (1968:304) lists rough green hoes or celts as diagnostic primary Poverty Point traits present at the site. Although microscopic wear pattern studies can conceivably support the idea of these tools being used as digging implements, whether this represents intensive crop harvesting, semicultivation, or what Caldwell (1958) terms "Primary Forest Efficiency," in reference to a generalized Southeastern ecological efficiency, still needs to be systematically tested.

ACKNOWLEDGEMENTS

First of all, I would like to thank Dr. Sherwood Gagliano, former assistant director of the LSU Coastal Studies Institute, for directing my research as a graduate assistant in the Fall semester of 1970. I would also like to thank Avery Island, Incorporated, for providing the funding for that research assistantship.

Additionally, I would like to thank Dr. William Haag of the Department of Geography and Anthropology at LSU for the identification of the dog specimen, Dr. George Lowery of the LSU Zoology Museum for the bird specimen identification, and Robert Murray of the Louisiana Department of Wildlife and Fisheries for the aging of the deer mandibles.

I am also grateful to Monte Walden and Charles Satchfield for giving me the opportunity to look at their private collections from the Claiborne and Cedarland sites. I would also like to extend my appreciation to Dick Marshall for the opportunity to participate in the Mississippi State University field school at Claiborne in the summer of 1970 and for correspondence concerning Claiborne since that time.

Most of all, I am grateful to Clarence Webb, Kim Curry, and Pete and Jeanette Gregory for providing critical review of an earlier draft of this manuscript. Without their comments, criticisms, and encouragement, this paper could not have been completed.

REFERENCES

- Bokonyi, S.
 1972 Zoological evidence for seasonal or permanent occupation of prehistoric settlements. Warner Modular Publications, Reprint 4:1-6.

- Caldwell, Joseph
 1958 Trend and Tradition in the Prehistory of the Eastern United States. American Anthropological Association Memoir 88.
- Elder, William H.
 1965 Primeval deer hunting pressures revealed by remains from American Indian Middens. Journal of Wildlife Management 29:366-370.
- Gagliano, Sherwood M.
 1963 A survey of preceramic occupations in portions of South Louisiana and South Mississippi. Florida Anthropologist 16(4):105-132.
 1967 Occupation Sequence at Avery Island. Coastal Studies Series 22, Louisiana State University Press.
- Gregory, Hiram F. ("Pete")
 1973 Historic Caddoan archeology, a study in models and interpretations. Unpublished Ph.D. dissertation, Southern Methodist University.
- John, Dave
 1973 How old is that deer? Louisiana Conservationist 25(11-12):24-27.
- Margry, Pierre
 1883 Decouvertes et Etablissements des Francais dans L'Ouest et dans Le Sud de L'Amerique Septentrionale (1614-1754). Maisonneuve, Paris. Paris: J. Louvanst.
- Noble, Robert E.
 1960 Progress report on white-tailed deer productivity studies in Mississippi. Unpublished paper presented at the Southeastern Association of Game and Fish Commissioners Meeting, Biloxi, Mississippi, October 23-26.
- Springer, James
 n.d. Middle Mississippian ecology in the Shelbyville Reservoir, as determined from faunal remains. Unpublished manuscript.
- Valentine, Jacob M., Jr., and Robert M. Noble
 1970 A colony of sandhill cranes in Mississippi. Journal of Wildlife Management 34(4):761-768
- Webb, Clarence H.
 1968 The extent and content of Poverty Point Culture. American Antiquity 33:297-321.
- White, Theodore E.
 1953 A method of calculating the dietary percentage of various food animals utilized by aboriginal peoples. American Antiquity 18(4):396-398.

[MA 9 (1974) 5 (May), 1-14]

TWO ISSAQUENA SITES

Samuel O. Brookes

Pee Dee Site (22-Co-657)

On June 18, 1974, Carolyn Caldwell and John Connaway located a small site near Farrell, Mississippi. The next day the same site was reported to the survey by Van Burnham, MAA member. Yes, Virginia, sometimes the survey archaeologists do find sites before MAA members. Pottery from the site indicates a relatively pure Issaquena assemblage. Radiocarbon dates for Issaquena run from 470 B.C. to A.D. 850. The Issaquena ceramic complex is generally given a time span from A.D. 100 - A.D. 500, with some pushing it to A.D. 600.

One rim sherd is of the type Marksville Stamped var. Manny. The top framing line is absent from this sherd. Sherds of Marksville Stamped var. Manny with no top framing line are known from the Acree Site (22-Bo-551), and Prairie #1 (22-Co-590). Phillips mentions this unusual treatment in his work, as being present on the Manny site (1970(2):722).

Artifact Analysis from the Pee Dee site (22-Co-657)

Glass:	Turquoise bottle neck with hand applied lip.	Around A.D. 1860.	
Lithics:	Worked cobble of yellow gravel chert.		
	Two flakes yellow gravel chert.		
Sherds:	Mulberry Creek Cordmarked <u>var. unspecified</u>		29
	Mulberry Creek Cordmarked <u>var. Porter Bayou</u>		6
	Baytown Plain <u>var. unspecified</u>		35
	Baytown Plain <u>var. Satartia</u>		4
	Marksville Incised <u>var. Yokena</u>		3
	Marksville Stamped <u>var. Manny</u>		3
	Marksville Stamped <u>var. Troyville</u>		1
	Indian Bay Stamped <u>var. unspecified</u>		2
	Larto Red Filmed <u>var. Larto</u>		3
	Mississippi Plain <u>var. unspecified</u>		1
Sherd Total			87

Prairie #1 Site (22-Co-590)

The Prairie #1 Site has a good Issaquena assemblage. Some Mississippian sherds are present but these are easily sorted from the earlier materials. The site is located on a ridge that was formerly a natural levee. Pottery and flint chips are plentiful in an area encompassing approximately three acres.

Present at the Prairie #1 Site are ten rim sherds of Marksville Stamped var. Manny. Of these, six are "normal" while four lack the top framing line. This type of rim is present at the Acree and Pee Dee sites as previously mentioned.

Other unusual sherds from Prairie #1 include a sherd of Churupa Punctate var. Churupa with a single line of punctations. This

treatment is described by Phillips (1970:67). Another unusual sherd is Catahoula Zoned Red var. Catahoula. Phillips (1970:64) states that these sherds are known from only two sites, Crooks and Marksville. Prairie #1 can now be added to the list as well as the Dickerson site (22-Co-501), which has yielded several sherds of this type.

Hopefully more sites will turn up with Issaquena ceramic markers. A tabulation of sites of this phase would be a valuable addition to the literature.

Analysis of materials from Prairie #1

Flakes:	Brown chert	1
	Grey chert	1
	Yellow chert	1
Biface:	Red chert	1
Deasonville chopper:	Yellow chert	1
Quartzite hammerstone		1
Sandstone fragment		1
Barton Incised <u>var. Barton</u>		2
Mississippi Plain <u>var. unspecified</u>		2
Baytown Plain <u>var. Reed</u>		1
Baytown Plain <u>var. Satartia</u>		8
Baytown Plain <u>var. unspecified</u>		37
Catahoula Zoned Red <u>var. Catahoula</u>		1
Churupa Punctate <u>var. Churupa</u>		3
Evansville Punctate <u>var. Evansville</u>		1
Evansville Punctate <u>var. unspecified</u>		1
Indian Bay Stamped <u>var. unspecified</u>		4
Larto Red Filmed <u>var. Larto</u>		12
Marksville Incised <u>var. Yokena</u>		25
Marksville Stamped <u>var. Manny</u>		44
Marksville Stamped <u>var. Troyville</u>		12
Mulberry Creek Cordmarked <u>var. Porter Bayou</u>		49
Mulberry Creek Cordmarked <u>var. Edwards</u>		1
Withers Fabric Impressed <u>var. Withers</u>		4
Unidentified clay tempered		1
Clay tempered coils		4
Sherd Total		<u>185</u>

REFERENCES

- Greengo, Robert E.
 1964 Issaquena: An Archaeological Phase in the Yazoo Basin of the Lower Mississippi Valley. Society for American Archaeology Memoirs 18.
- Phillips, Philip
 1970 Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Papers of the Peabody Museum of American Archaeology and Ethnology 40(1-2).

PREHISTORY ON THE MISSISSIPPI GULF COAST: A REPORT ON THE MULATTO
BAYOU AREA OF SOUTHWEST HANCOCK COUNTY

Mary G. Neumaier

Foreword

The information contained in this report is not scientific. Many very excellent scientific reports or papers have been published about the Poverty Point culture and several have been or are being written about the Mulatto Bayou area in particular. This is merely a report of the work and findings of members of the Gulf Coast Chapter of the Mississippi Archaeological Association with relation to the Claiborne site (22-Ha-501), the Cedarland Plantation site (22-Ha-506), and the Earthwork Fortification site (22-Ha-515) of the Mulatto Bayou area of Hancock County.

The Mulatto Bayou Area

The discovery of the Mulatto Bayou site in general has been credited to the progress of the modern world--development of a harbor and industrial area. Bulldozers and drag lines which cut into the soil for construction of the West Hancock County Port and Harbor Industrial area in 1967 unveiled projectile points, clay cooking balls, and a wealth of other materials which are helping to reconstruct the prehistory of the area. After workers unearthed some artifacts, the site was surveyed by two members of the Gulf Coast Chapter, Charles Satchfield, its president at that time, and Robert C. Lowry, the late Southern Vice President of the Mississippi Archaeological Association (Glazier 1969). Dr. Sherwood Gagliano of Louisiana State University and Dr. Clarence H. Webb, author and archaeologist, have visited the area several times. Gagliano and his associates from LSU, who are credited with the discovery of the Cedarland Plantation site, have conducted several test excavations and secured carbon dates on both the Claiborne and the Cedarland Plantation sites.

An early Mississippi Archaeological Association Newsletter (Marshall 1970a) gives this background information: The Mulatto Bayou area, located in southwest Hancock County at the mouth of the Pearl River is a most historic site and to date the only known area on the Mississippi Gulf Coast to have approximately 4,000 years of continuous human occupation. It has proven extremely rich in prehistory artifacts and includes the Claiborne site which contains the cultural remains of certain American Indians whom we call the Poverty Point Culture people. They lived on this site between 1500 and 100 B.C. Adjacent to the Claiborne site is the Cedarland Plantation site, dating several hundred years older and apparently ancestral to those people living at Claiborne. Nearby is the Jackson Landing site which contains the cultural remains of the Tchefuncte, Marksville, Troyville I and II and Mississippian periods...historic Indians who lived there at the time of French contact, and an unusual European-like fortification tentatively identified as the French fort built circa 1719 at the mouth of the Pearl River.

Elbert Hilliard, Director of the Department of Archives and History, State of Mississippi, detailed the area's significance this way:

This is one of the most interesting and potentially valuable archaeological sites in Mississippi. Being the first elevated ground up the Pearl River from the Gulf, the area has accumulated approximately 4,000 years of pre-history and history and much of its story remains yet to be interpreted (Jacob 1970).

Richard A. Marshall, Department of Anthropology of Mississippi State University, conducted field schools of several weeks' duration during the summers of 1969 and 1970. As a result of his work in the area, Marshall feels that it is very important to consider the Claiborne site in the light of its representing two or more closely related sequential phases of the Poverty Point culture and possibly extending in areas of the site from Late Archaic through Poverty Point and perhaps into the Tchefuncte culture of the early Tchula period (Marshall 1970b:5).

Poverty Point Characteristics

Webb (1968:303-306) outlines the diagnostic characteristics of the Poverty Point culture at great length. Basically, he says that initial consideration should be given to the presence of clay balls or objects, tubular pipes of clay or stone, clay figurines of Poverty Point type, fragments of steatite or sandstone vessels, hematite plummets, microflints, greenstone celts or hoes, beads or polished ornaments, and problematical objects of red jasper. Secondary traits include chipped flint tools, projectile points, gorgets, boatstones, bannerstones, and stone beads. He says: "Numerous perforated gorgets, any polished objects made of red jasper, and numerous saws are highly significant, as is the presence of a number of these secondary traits at a given site." All of these artifacts mentioned by Webb have been recovered in the Mulatto Bayou area.

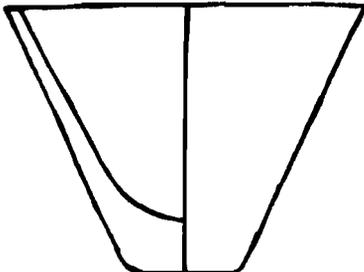
Artifacts Recovered from Cedarland and Claiborne Sites

At the 1968 Fall Meeting of the MAA, Robert C. Lowry, president at that time of the Gulf Coast Chapter, reported on the Poverty Point culture sites on the Mississippi Gulf Coast. A portion of his report follows:

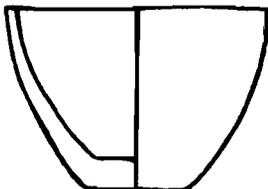
The two sites have been designated as the Cedarland Plantation Site and the Claiborne Site. Both sites are semicircular in shape with the open side facing the water. The middens are elongate deposits of oyster shells and earth from 75 feet to 550 feet in length and 30 to 150 feet in width. The depth of the accumulation ranges from 2 to 6 feet. In the Cedarland site, a number of projectile points, broken butterfly bannerstones, knives, saws, bones, perforated pebbles, plummets, microflints, scrapers,

drills, flakes, animal bones and teeth were found but no shaped or baked balls. These and all other artifacts were found in the Claiborne site. All steatite pots and sherds are found in Claiborne. Very little clay pottery was found.

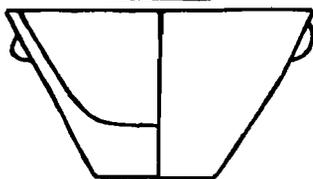
Members of the Gulf Coast Chapter reported that several steatite bowls or pots had been discovered at the Claiborne site; it is regretted that members themselves did not find the bowls, and those who recovered them have since left the state and taken the bowls with them. Members were, however, able to see the vessels and secure measurements and descriptions of them. Some of them were undamaged; others could be entirely or partially restored from fragments. The range in sizes would suggest several different uses for these bowls. Although the description of them has been given in detail in an earlier MAA Newsletter (Marshall 1969:8-10), that description is repeated here because the variation in size and shape cannot be condensed into a few sentences.



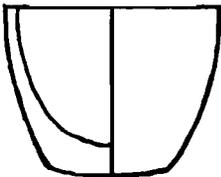
Vessel 1 - Complete. Straight sides, 1 cm thick at 1 1/2" from rim. Signs of scraping inside and out. Small lug-like handles 3/8" thick, 1/4" wide and 1 2/5" long, 2" from the rim. Lips thin and irregular and rounded. No decoration. Diameter of mouth opening 13 1/2 to 15" Height 11", interior 9", base 4 1/2" in diameter.



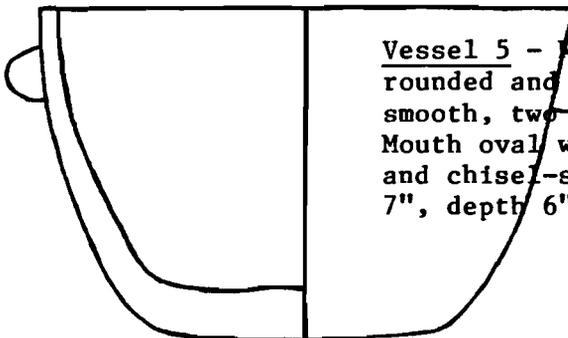
Vessel 2 - Complete. Sides slightly rounded and greatly flared. Surface smooth, no handles. Lip rounded, no decoration. Mouth opening 5 to 5 1/2" diameter. Height 3 3/4", depth inside 3 1/4" and diameter of base 2 1/4".



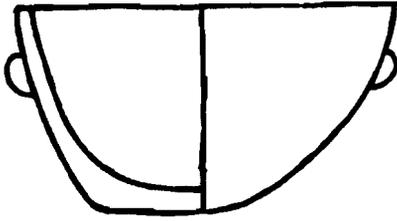
Vessel 3 - Complete. Sides almost straight but flaring. Surface smooth, lip rounded, no decoration. Two small handles on nodes on side just below lip. Diameter of mouth opening 6 1/2". Height 3 1/2", depth 2 1/2", base slightly off center and 2 3/4" in diameter.



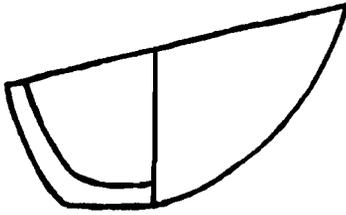
Vessel 4 - Complete. Sides slightly rounded and flaring, 1.4 cm thick. Surface smooth, no handles, lip rounded, no decoration. Mouth opening 4 1/2" diameter. Height 3 1/2", depth 3" with base 2 1/2" in diameter.



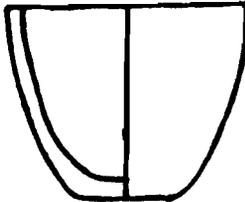
Vessel 5 - Nearly complete. Sides slightly rounded and flaring, 1.7 cm thick. Surface smooth, two handles 1" thick, 1" wide, 2" long. Mouth oval with diameter of 7 to 11"; lips rounded and chisel-shaped at narrowest diameter. Height 7", depth 6"; base oval with 4 x 6" diameter.



Vessel 6 - Nearly complete. Broken and mended prior to burial. Sides greatly flared and rounded. Surface smooth inside and scraped outside. Lips rounded. No decoration. Two handles 2" below lip, 1/2" wide, 4" long, 1.4 cm thick. Seven pairs of mending holes drilled from outside. Soot-like ring about 2" below rim on outside. Not fired after mending holes drilled. Mouth oval, 13 1/2 to 16" diameter; base off center and oval, 4 x 5" in diameter.



Vessel 7 - Nearly complete. Sides greatly flared and rounded but uneven. Surface smooth inside and scraped outside. Lips rounded and smooth, 1.4 cm thick. No decoration, no handles. Mouth oval 5 to 7" in diameter. Height uneven, 2 1/2 to 4" with depth 2-3".



Vessel 8 - Nearly complete. Sides rounded near base but parallel near mouth. Surface smooth inside and out, lips thin and rounded 1.4 to 1.9 cm thick. No handles or decoration. Mouth 10" in diameter. Height 8" with 7" depth. Base oval but centered, 3 1/2 to 4 1/2" in diameter. Soot noticed on some fragments.

Vessel 9 - Not reconstructed but base and one side in one piece.

Drawings of the vessels described were also contained in the Newsletter mentioned above. [The drawings have been added here--Editor]

All vessels except Number 3 and Number 5 were found inverted. The latter was on its side, while Number 3 was upright. There were about forty more pieces of steatite vessels in the collection from the same 12-foot diameter area. At the time of the writing of this article, more vessels may have been assembled from these pieces, but if so, this author is unaware of such work. Other artifacts found in this same location were: thin, rolled sheets of copper, possibly a bracelet; one copper object, or pendant, shaped in the outline of a plummet; and one red jasper bead 1 1/2 inches long, 3/8 inch in diameter, drilled through from both ends.

Baked clay balls and fragments are common throughout the Claiborne site. In the first salvage operations of the club, one could not put a shovel into the ground without unearthing several. Although bulldozers were working in the area, complete balls could be recovered by digging and in many cases, perfect ones were picked up on the surface. They were found singly and in groups, along with other pieces of fired clay. It appears that the clay balls were the major devices used for cooking, although a considerable quantity of fire-cracked stone was also scattered throughout the area. Most of these pieces were broken fragments of sandstone. There were very few formed or

fired balls found at Cedarland. Most of the balls found at Claiborne are very similar to those of Jaketown and Poverty Point. There are, however, some differences, whether through interpretation or actual variation is unknown. One observation, also, is that most of those balls which were decorated were made from a different type of clay--white--rather than the common red variety. It is felt that these must have been used solely for decoration rather than for cooking.

Members have salvaged in excess of 10,000 balls. Representative of those balls collected is the following collection which totals 482:

<u>Type</u>	<u>Number</u>	<u>Percent</u>
<u>Biconical, plain</u> - sizes range from 4.5 cm to 6.5 cm in length and 3.5 cm to 5.5 cm in diameter. Apparently were formed between cupped palms of hands making a circular motion.....	26	5.50%
<u>Biconical, extruded</u> - sizes similar to biconical, plain. Points of cones are extruded more than others. May just be faulty biconical, plain.....	3	0.75%
<u>Biconical, grooved</u> - sizes range from 2 cm to 6.5 cm in diameter, and 1.75 cm to 7.5 cm in length. Four grooves around the periphery with small fingers. Few with 3 or 5.....	87	18.00%
<u>Cross-grooved</u> - sizes 3.5 cm to 5.5 cm in diameter; 4.5 to 6.5 cm in length. Deep finger impressions placed at angles, usually two pairs; sometimes 5 to 8 grooves and some are distorted and irregular.....	148	30.00%
<u>Cylindrical with lateral grooves</u> - sizes range from 2.5 cm to 4.5 cm diameter to 4.5 cm to 6.5 cm in length. Peripheral grooves formed by fingers. Some slightly oval.....	41	8.00%
<u>Melon-shaped</u> - sizes approximately 5.0 cm to 6.0 cm Parallel finger impressions spaced about periphery. Four impressions.....	14	3.00%
<u>Grooved variety of melon shape</u> - sizes 4.5 cm to 5.5 cm in diameter to 4.5 x 6.5 cm in length. Similar to melon shape but just 3 grooves. Enough found to indicate separate classification.....	56	12.00%

<u>Type</u>	<u>Number</u>	<u>Percent</u>
<u>Melon-shaped with end grooves</u> - 4.5 cm by 6.0 cm. Melon-shaped, then impressed with fingers on each end, slightly distorting form.....	6	1.50%
<u>Amorphous</u> - sizes 4.0 cm to 8.0 cm Some flat and 5.0 cm thick--these may have been part of fire pit. Balance are rough lumps of clay bearing no evidence of shaping, but compact and fired and found in several cases along with the shaped balls, to indicate they served the same purpose.....	26	5.50%
<u>Unclassified</u> - Broken or deformed - uncertain form.....	37	8.00%
<u>Unusual</u>	23	5.00%
<u>Unusual</u> - sub-totals		
small hat shape - 2.5 cm x 3.0 cm	10	
flat biscuit type - 2.5 cm x 6.0 cm	4	
round - one 2 cm in diameter		
two 5.5 cm in diameter	3	
round pillar types, small	2	
marked with impressions of end of cane or stick 5.0 cm x 6.0 cm	4	
<u>Perforated Balls</u>		
Majority of these were white clay rather than red. Several broken balls. Hole through in some cases, partial in others, but drilled from both ends. One flat disc with markings; one etched; several with cross-grooved markings; two with cross-hatched incised lines.....	15	3.00%

The classification of these balls is strictly an amateur operation. Perhaps someone more knowledgeable about them would classify them in an entirely different manner.

One major find at the Claiborne site was a zoomorphic locust bead. This bead was found by Owen Heitzman (Webb 1971:110) and is of hard claystone or greenstone, pastel green in color. A complete description of it, with illustration, is given by Webb.

Several clay figurines were found. Although the number recovered is small, there are several very nice specimens. Some consist merely of torsos, but these are well-molded.

The projectile points recovered appear to be manufactured from white or light-cream-colored chert, gray chert, brown chert, red jasper, and flint. A few opalized shell points were found, as well as one copper point. Most of the points are quite crude, with little

attempted shaping. The Pontchartrain point (included under Long Gary stemmed classification in Jaketown) is one of the major projectile types. Projectile points identified by Gagliano and Webb include the following: a great number of Gary points, broad, typical, and large; points classified as Desmuke, Almagre, Morhiss, Webb, Williams, Hale, Macon, Morrow Mountain II, Shumla, Kirk, Ensor, Kent, Marcos, Stanley, Carrollton, Motley, Delhi, Snyder or Hopewell, Ellis; and some reworked points, some unidentified points, and some asymmetrical points (Lowry 1969:4).

Stone items recovered include blades, microflints, drills, scrapers, graters, knives, perforators, hammerstones, nut stones, grinding stones, geode paint pots, chisels, hones, drill sockets, celts, steatite pot fragments, chipped and honed celts, gorgets (highly polished, and broken and whole), bannerstones (one complete butterfly bannerstone in the collection of Owen Heitzman), plummets (highly polished; some grooved, perforated; one engraved with design; made of steatite, magnetite, hematite, and galena), boatstones, hematite and steatite pipes, perforated pebbles and game stones or discoidals, red jasper beads, sandstone saws, a honed point, flakes and chips, and a great quantity of problematics.

Bones were recovered from birds and from small animals including rabbit, deer, possibly bear, turtle, lemon fish, and gar. Gar scales, bison teeth, and several other kinds of teeth were found.

Bone artifacts recovered include scrapers, antler tools, drills, punches, a finger ring, hairpin, knapping tools or flint flakers, split bone awls, needles, and an engraved bone.

The shell midden at Cedarland is composed of huge oyster shells, 16.5 cm and larger. A few oyster shells appear to be partially worked to serve as spoons or digging tools. One such shell, with a hole in the center, is grease or food-stained. Few clam, snail, and related shells were found. Some opalized shell points were recovered and one pattern stamp carved of turtle shell. The midden at Claiborne is principally earth, with a few shells.

Bits of charcoal were found throughout the area, although whether these would date to the Poverty Point period is unknown. It may be more likely that they are the intrusion of a later occupation.

Engraved articles found include the engraved bone mentioned above, the incised plummet, and several pebbles with markings carved around the stone. A number of clay balls have markings.

Pottery found is both plain and marked. Potsherds have sand and fiber tempering; there are some few pieces of grit-tempered pottery. Some appear to date much later than the Poverty Point period.

Rocks and minerals found include the copper already mentioned: fragments of bracelets or beads and one copper point. In addition, red pipestone was found, red hematite, flint, chert, galena, iron rock, red and yellow ochre, limestone, fossil limestone, granite, soapstone, gneiss, conglomerate, jasper, and some unclassified materials.

A number of firepits were uncovered. A report follows on two which were cataloged and recorded.

Jay Toohey and Jim Bruseth reported finding a firepit which ran from about 6 inches below the present surface to 18 inches down, with a diameter of three feet. The area contained 86 balls, 84 of them

being biconical and two being melon shaped. Mixed in with the clay balls were burnt shell pieces.

The largest collection of balls located in a firepit was made by Charles Satchfield. Monti Walden helped him in digging and cataloging the material. The pit became apparent at a distance of 3 feet down and, measuring from north to south, it was 2 1/2 feet wide, and 2 3/4 feet long. The depth was just 8 inches, with base of pit being 3 feet 8 inches below the present surface. The following material was removed from the pit: 304 clay balls, 10 pieces of fiber tempered pottery, 2 microflint drills, 1 tip of a point, 16 flint chips, 1 pebble, 1 large rock, 1 piece of iron rock, 2 oyster shells, 2 parts of decorated balls, 1 piece of pumice. The clay balls found were further separated into these categories: 203 biconical, plain; 8 biconical with 1 groove; 26 biconical with 2 grooves; 16 biconical with 4 grooves; 1 spheroidal; 1 decorated punctated; 1 cylindrical; 2 melon shaped with 4 grooves; 14 melon shaped with 3 grooves; 5 melon shaped with 3 grooves and 1 end groove; 23 amorphous; 2 biconical with finger impressions. Photographs were taken of this find and have been preserved. The pit was excavated on December 5, 1970.

An unusual find was a cache of approximately 135 assorted beads about 6 inches below the surface. The interesting part about this is that the beads were a mixture: some glass, some porcelain, and some gray and white stone. Did later Historic Period Indians gather the stone beads of this earlier culture and use them with their own trade items? It is a puzzle which may never be solved.

Another most unusual feature discovered by the Satchfields was an area of colored sand next to a fire pit. The area was a distance of 2 feet across and down just a few inches from the present surface. Colored sand of varying hues of brown, with six distinct shades in all, ran through the area in a pattern. At the bottom of the section, which extended possibly a foot down, there was one point and also one decorated ball. The colors of the sand ranged from a very light tan, to a darker tan, medium brown, red-brown, darker brown, and a deep brown. Samples of these colors were secured and marked as to location, and are being preserved.

Present Status of Cedarland and Claiborne Sites

At the present time, no archaeological work is being done on the Cedarland and Claiborne sites. Large areas are under concrete slabs as construction progresses, and the days of pure archaeological research seem to be past for these sites. There remains only the attempt to preserve and interpret those things that have already been found, that can contribute to our knowledge of this history-rich area. The sites have been severely damaged by the Port and Harbor Commission construction and by an unusually large number of indiscriminate diggers seeking Indian relics. Archaeological salvage was conducted by the Gulf Coast Chapter primarily during 1968 and 1969. Materials which have been recovered are being preserved by the chapter members. The local group has had displays of artifacts at local libraries and banks and, for the past three years, has held an annual exhibit at the shopping mall in the area. The chapter feels that this is widespread exposure for the cause of Gulf Coast archaeology, since the Merchants

Association makes a conservative estimate that any exhibit on the mall is viewed by 50,000 people in a given weekend.

During the height of interest in Claiborne and Cedarland, unfounded reports were circulated of quantities of gold being discovered, and people came from miles around to dig. There is no way of knowing the untold hundreds of items taken by "pot holers" from Mississippi and Louisiana. At some times, when club members visiting the sites could count as many as fifty individuals digging, the area resembled a "no-man's land." There was no way a concentrated program of research could be accomplished; signs were ignored and digging from one week to the next was so indiscriminate that it was often difficult to find the same location the following week. As the work crews with bulldozers continued, it became apparent to the club members that it was hopeless to try to do any analysis of the area. They could attempt only the salvage of any artifacts which they might be able to discover through surfacing or casual salvage digging. During the field schools of 1969 and 1970, conducted by Richard A. Marshall, five samples were taken for dating. The five dates obtained were all at variance. The area had been disturbed to such an extent that it was no longer possible to tell the undisturbed areas from those which had been bulldozed or dug previously. A burial reported to the MSU crew was investigated and plans made to excavate it. When the group assigned to remove the burial arrived, they found that the skeleton had been chopped to bits with a shovel the previous day. Reconstruction was attempted from fragments, but it was not possible to reach any conclusion about the age of the skeleton, other than to surmise that the remains were those of a much later Indian, possibly Historic (Dean 1970:1).

The Port and Harbor Commission, although appearing to cooperate with Gulf Coast Chapter members, did its share in discouraging any concentrated effort. On several occasions, when returning to an area which was being worked, members found that huge loads of concrete had been dumped onto that particular area, or that a ditch had been bulldozed across the road leading to it--for no apparent reason. On one occasion, members were actually stranded until a bulldozer could be found to repair a road so that they could drive out of the area. It had been bulldozed open after they arrived on the location.

All efforts to stop construction by the Port and Harbor Commission were, of course, futile. A large bond issue had been passed and the county had a commitment to develop an industrial complex. It is fortunate that those things that were salvaged have been, and that we were able to obtain even the limited knowledge we have about the Cedarland Plantation and Claiborne sites. Although the sites have lost their value for further archaeological research, we feel that we have obtained enough information from the area to classify them as typical Poverty Point culture sites, the Cedarland site possibly being a little older than the Claiborne site, and perhaps falling into the Late Archaic category.

The Earthwork Fortification site could have met the same fate as the Cedarland and Claiborne sites, had it not been for the efforts of concerned individuals.

The Earthwork Fortification

The earliest extant description of this site is found in the original journal and field notes of B. L. C. Wailes, who visited this area in August, 1862. Wailes, State Geologist and an eminent scholar, meticulously described the site in his notes, which have been preserved in the collections of the Mississippi Department of Archives and History. One of the features recorded by Wailes was an ancient fortification of mysterious origin and attributed through the years to the French, the British, the Spanish, Andrew Jackson, and even Confederate troops (Jacob 1970).

Wailes's report tells about human bones, fragments of pottery, charcoal, and ashes that were exposed when one of the shell banks of the fortification was excavated. He also describes the discovery of an earthen vase "buried in the principal shell bank, containing sixteen of the French coins of copper of the size of a cent, coined in 1721 and 1722, and an iron bridle bit, which I saw." There is also an account that "iron hoes of the French pattern, gun barrels, and some stone axes and arrow points and pipe were frequently dug up." Wailes's explanation of the fortification is as follows:

The French colonists doubtless took possession and occupied the position and the copper coins were probably buried to commemorate the discovery and taking possession of the country (as they seemed to have been coined for that purpose, in accordance with the known practices of the discoverers of the period) and no situation could be more suitable for the purpose than the mound in question (Pouncey 1970:1-2).

The ancient earthwork fortification was saved from destruction by a group of interested people in Mississippi. Construction workers for the Port and Harbor Commission were to begin leveling the fortification on May 14, 1970. Efforts to apply the new State Antiquities Law to preserve the site had apparently failed, so a group of students from Mississippi State University decided to conduct an emergency dig on the site. When they arrived, leveling had already begun. A series of photographs were taken and the bulldozer workers agreed to aid the archaeologists by systematically scraping off certain areas of the high embankments so that these areas could be recorded. That afternoon, however, one of the bulldozers broke down and the other left the site before cross-sectioning could be done. The next morning, east-west measurements of the fortification were recorded and sent to Richard A. Marshall, State Archaeologist. It seemed that this would be the last effort to save the fortification, but a few days later Marshall received word from Hancock County that bulldozer workers had refused to work on the fortification and that the contractor did not want to be a party to the site destruction. Later that same week, Elbert Hilliard, then Director of the Division of Historic Sites and Archaeology of the State Department of Archives and History, asked to meet with the representatives of the Northrop Company, the International Paper Company, and officials of the Hancock County Port

and Harbor Commission, to discuss the possibility of saving the fortification. Hilliard had with him a copy of B. L. C. Wailes's report of 1862 describing the area. At this meeting, all parties concerned agreed to preserve this important historical site; the fort was declared a State Archaeological Landmark under the provisions of the State Antiquities Law of Mississippi (Pouncey 1970:1).

In January 1972, topographical work was started in preparation for excavation of the fortification. When a permit was received from the Department of Archives and History in April, work began and continued through October, when the excavations were backfilled. Working under J. Mark Williams, who holds a degree in Anthropology from the University of Georgia, eleven pits and five trenches were excavated by the members of the Gulf Coast Chapter. The largest of these excavations was undertaken in the eastern end of the earthwork, and others were strategically placed. Williams treats the earthwork excavations in detail in his report (1974:5-7). Results of the excavation showed that the Historic trade material and late Mississippian pottery encountered in surface exploration was part of a Historic midden of a very limited depth. The earthwork, which appeared in profile to be built in three stages, was almost completely lacking in artifacts. Carbon 14 dates were obtained from the University of Georgia. The first sample, from the earliest part of construction, gave a date of 400 B.C. \pm 100; the second, from what appeared to be the second construction level, was 290 A.D. \pm 80; and the third, from the top of Level 1, 215 A.D. \pm 315. This was a wide range of dates, but Williams concludes that most of the earthwork must have been constructed in the period after 200 A.D., with the third construction phase slightly later. The Historic midden yielded pieces of iron, small sheets of copper, porcelain beads, some old glass, gun flints, and a cufflink dated 1782, among other items. Most of the material appeared to be from the period of 1730 to 1780. Williams believes that the site was begun as early as the Tchefuncte period, enlarged in the Marksville period, and then abandoned until reoccupied by a small group of Historic Indians.

The members also undertook excavation of a nearby area, putting down several pits on property owned by the International Paper Company. The midden was shallow and contained some sherds of Marksville pottery.

Materials from this excavation have been turned over to the State Department of Archives and History. The land has been posted, and the Department has installed a chain link fence along the northern side of the property. This does not keep people out of the area, but it does discourage indiscriminate digging and it furnishes a reminder to the bulldozers that the area is a State Archaeological Landmark.

REFERENCES

Dean, Roger

1970 A Poverty Point burial? Mississippi Archaeological Association 5(8-9):1.

Glacier, Richard

1969 Indians on the coast 3200 years ago. Gulf Coast feature report, Biloxi [Miss.] Daily Herald, April 19.

- Jacob, Neville R.
 1970 Four thousand years of habitation in Hancock Archaeological Site. Biloxi [Miss.] Daily Herald, August 9.
- Lowry, Robert C.
 1969 Poverty Point sites on the Mississippi Gulf Coast. Newsletter of the Mississippi Archaeological Association 4(1):3-5.
- Marshall, Richard A.
 1969 Steatite pots found. Newsletter of the Mississippi Archaeological Association 4(1):8-10.
 1970a Unusual earthwork fortification in southwest Hancock County. Mississippi Archaeological Association 5(5) (Mimeographed attachment).
 1970b Second summer term. Mississippi Archaeological Association 5(6):3-5.
- Pouncey, Brenda
 1970 Ancient earthwork fortification in Hancock County saved by collective efforts. Mississippi Archaeological Association 5(5):1-2.
- Webb, Clarence H.
 1968 The extent and content of Poverty Point culture. American Antiquity 33:292-321.
 1971 Archaic and Poverty Point zoomorphic locust beads. American Antiquity 36:110.
- Williams, J. Mark
 1974 Excavations at earthworks on Mulatto Bayou. Mississippi Archaeological Association Newsletter 9(3):5-9.

[MAAN 9 (1974) 9 (September), 1-12]

PREHISTORIC DIFFUSION IN SOUTHEAST MISSISSIPPI: A CRITICAL REVIEW

Jon L. Gibson

For various reasons, the South has lagged behind the rest of the country in publishing her archaeology. Because we are so genuinely thankful for even small bits of information, it seems almost treasonous to criticize any article by a native son. Yet southern tradition should not be allowed to suppress honest disagreements, especially when they are rooted in fundamental differences in archaeological conceptions.

A recent article by Dale Greenwell (1974:19-26) has occasioned these remarks. In my opinion, the article is characterized by an often imprecise and confusing language, by a blind adherence to an unproductive methodological approach, and by unwarranted faith in the validity of proposed interpretations. I will first deal extensively with the problem of language clarity and "factual" disparities and then, very briefly, with the conceptual problems.

Problems of Clarity

Greenwell (1974:19-26) purports to deal with prehistoric diffusion in southeastern Mississippi. However, neither the kinds,

rates, nor possible routes of diffusion are rigorously examined (cf. Rowe 1966:334-337; Rouse 1958:62-68; Barnett 1964:351-363; Rands and Riley 1964:274-297). Had they been, Greenwell might have made a significant contribution to Mississippi prehistory. Instead he seems to have taken these factors as self-evident in site and exotic materials distributions and therefore usable as the foundation of his culture historical reconstruction, the real thrust of his article.

Problems with Greenwell's use of both data and concepts are numerous. Greenwell's chronology chart (1974: Table 1), for example, seems to push the culture periods of the Christian era back about two centuries too early. Nevertheless, the sequence does agree with Phillips' scheme A for the Lower Mississippi Valley (1970:955-960). It should be noted, however, that Phillips (1970:960-961) also presented scheme B as perhaps equally plausible. Greenwell's obvious selection in face of several viable alternatives is apt to mislead uninformed readers.

Greenwell improperly places Dalton into a Middle Archaic time slot (it is early Archaic or Late Paleo-Indian); Weeden Isle should read Weeden Island; and Bayou LaBattre is Bayou La Batre. These kinds of problems are relatively minor, however, compared with other misleading or incomprehensible comments.

I have yet to completely understand what Greenwell intended by "subsistent settlement patterns" and "settlement patterns," nor do his characterizations for each culture period offer many clues. I suspect he was trying to separate subsistence patterns from settlement patterns (Chang 1968, 1972; Trigger 1967; Gumerman 1971), but evidently he confused the concepts. Subsistence and settlement patterns are systematically interrelated and are mutually reflective of specific modes of cultural adaptation, but in most archaeological contexts, subsistence patterns refer to the nature and arrangement of food procuring activities and settlement patterns, to "...the way in which man disposed himself over the landscape on which he lived" (Willey 1953:1).

Other problematic parts of Greenwell's presentation are isolated and discussed below.

Greenwell (1974:21) indicates that polished stone and decorated bone artifacts are typical of the coastal zone but diminish inland, where they are replaced by a lithic "industry." The term, lithic, means of or pertaining to stone. Are not polished stone artifacts lithic?

He suggests that the inland forests and streams of southeastern Mississippi were more attractive than coastal areas, because the coast "...offered an easier subsistence due to its close proximity to marine life in the shallows of the estuaries and Gulf beaches." This suggestion is totally beyond my understanding. If Greenwell has discovered information that brings into question the principle of least effort with regard to primitive groups on an extractive economic level (cf. Plog and Hill 1971:12-13), he should share it with us. It is generally believed that the coastal strand and marshes offered large quantities of easily accessible foods (Sauer 1969:309-312). It is also probable (but as yet undemonstrated), given the same simple level of technology, that the coast could outproduce the hinterland

per unit of energy input. But would this comparative ease of exploitation have rendered inland areas more or less attractive than coastal areas? I really do not think this question is resolvable at the level at which Greenwell is pursuing it.

Greenwell (1974:21) further indicates that the Late Archaic culture of the coast was without settlement. It is more probable that he means that settlements were characterized by occupational impermanency (a quite separate meaning), but this is still a moot question (e.g., Cedarland, a Late Archaic site in Hancock County). Even nonpermanent occupational loci, such as stations, camps, and base camps, can be considered as settlements, or more appropriately, as parts of an inclusive settlement system.

With regard to Late Archaic subsistence, Greenwell (1974:21) indicates that fishing villages were not yet developed. However, this can be true only if he assumes that an inordinate degree of economic specialization on the village level was already emergent in Late Archaic times or that the various "structural poses" (Gearing 1958) in a village annual cycle were not plugged into optimizing fishing strategies, because he freely admits that the brackish clam, Rangia, and fish remains occur in these sites.

Greenwell (1974:21, 23) makes occasional reference to the term Circum-Caribbean to describe cultural traits from the eastern part of the southern Mississippi coast. This terminology, adopted from Steward (1948:1-41), contributes little to the understanding of southeastern archaeology at any period, and it is exceptionally misleading when used to characterize the Late Archaic and Transitional periods ("Early Woodland"). Based on Steward's (1948) description, Circum-Caribbean culture incorporated chiefdoms as the basic socio-political units and temple-priest-(chief)-idol complexes as major integrating mechanisms. Steward (1948:11) further believed that Circum-Caribbean culture owed at least part of its genesis to highland Andean inspiration. Neither the Late Archaic nor proto-Tchefuncte/-Bayou La Batre cultures came anywhere near the postulated form or level of complexity of Circum-Caribbean culture. It may be that Poverty Point, Marksville, and Coles Creek did approach, or perhaps even transcend, this level, but to say that they are manifestations of Circum-Caribbean culture is to say nothing of their adaptive contexts or formational processes, which are the real problems in cultural understanding.

According to Greenwell (1974:21), the directionality of migration and idea spread in southern Mississippi occurred in east-west, west-east, and south-north dispersions. At the risk of sounding just a bit facetious, dispersion in the only remaining direction, further south, would have come up against a significant water barrier, the Gulf of Mexico. However, even Greenwell admits that his migration and diffusion routes could be wrong (an admission he later retracts) because he might be tracing distributions instead. This slip, however momentary, is generally fatal to his argument, for while he immediately regains his positive composure, his primary criterion for determining diffusion--the distributional occurrence of foreign materials--is briefly exposed. Distribution patterns themselves tell us nothing of their nature. Trade (Wright 1974), migration, and

stimulus diffusion are but a few of the cultural events and processes which could account for the spread of exotic materials. Long distance quarrying or exploiting ventures (cf. Gibson 1973), ceremonial exchange systems (such as the Kula ring, Ubersoi 1962), large regional or interregional economic networks (e.g., the Hopewell interaction sphere, Caldwell 1964:135-143), or territorial exogamy are other types of well-described social phenomena which might account for the particular distribution patterns every bit as well as, if not better than, trade or migration. These propositions have to be tested, not merely asserted. One useful evaluatory paradigm is the deductive-nomological, or "Hempelian," model (Binford 1968:16-18; Fritz and Plog 1970:405-412; Watson, LeBlanc, and Redman 1971)--a means of scientific explanation in which any circumstance can be explained by a deductive statement drawn from explicit boundary conditions and general laws.

Unwarranted suppositions and inaccuracies on subsistence bases characterize Greenwell's reconstructions. For example, there is nothing inherent in the presence of shell tools that makes Poverty Point horticultural. The only available food remains from Claiborne (Smith 1974:1-14) do not include cultigens, nor have any been identified from any other Poverty Point component to date. As a matter of fact, the ascendancy of Poverty Point culture, as well as its decline, is perhaps more easily understood in the absence of horticulture, or, at least, in the absence of maize horticulture (Gibson 1973:311-359, 1974a:104, 1974b). Greenwell (1974:23) goes on to assert, on the basis of even slimmer evidence, that Tchefuncte and Marksville were horticultural. The presence of ceramic platform pipes does not necessarily mean that tobacco was cultivated and smoked; tobacco substitutes were numerous and widely used. Greenwell (1974:24) also identified charred "mellon" (sic) remains and beans from Marksville period sites. If confirmed, these identifications would be some of the earliest indications of these particular cultigens in North America; their principal association everywhere else seems to be with Mississippian and Historic occupations (Struever and Vickery 1973:1197-1220). In short, Greenwell has presented no new, direct, and verifiable evidence that horticulture (particularly all or part of the maize, beans, and squash complex) was practiced in the area prior to around 900 A.D. nor, if current suspicions are correct, will he or anyone else be likely to.

A rash of other problems are also evident. Tchefuncte/Bayou La Batre is regarded as the harbinger of the Burial Mound I tradition (or stage); yet, in my experience, conical burial mounds of earth have yet to be identified with either of these cultures (or the hyphenated counterpart, whatever that may be) in any type of strictly coastal setting. From a different perspective, it is difficult to see why Greenwell did not admit several earlier potential candidates to the Burial Mound I stage. Claiborne, a coastal Poverty Point center, had a low conical (burial?) mound to the east and outside of its semi-circular village ring (Gagliano and Webb 1971). If Tchefuncte is placed in the Burial Mound I stage, even though its coastal facies probably lacked burial mounds, then the local Poverty Point and Late Archaic phases, which have positive evidence of mounds (although admittedly not of burial contents), should have likewise been admitted.

Greenwell does not separate Issaquena and Troyville from what he evidently regards as a long Marksville continuum. This is unfortunate because it creates an air of certain misunderstanding. Greenwell (1974:23), for example, states that Marksville sites are the most numerous in southeastern Mississippi and that many are quite large. Certainly such a statement can only begin to take on some credibility if Issaquena, Troyville, and, probably, Coles Creek components are all added together. Everywhere else in the southeast, "pure" and "classic" Marksville village sites have rarely, if ever, been properly recognized (cf. Gibson 1970:189-191).

Similarly, the Marksville period, as normally restricted, is not characterized by "...well-made durable ware of unique and varied designs, and frequently painted" (Greenwell 1974:23). To my knowledge, the only site where Marksville painted pottery (Catahoula Zoned Red var. Catahoula) has been securely identified is Crooks in east central Louisiana, and even here the total collection consists of one complete vessel and seven sherds (Ford and Willey 1940:89). By no stretch of the imagination can this be construed as frequent. Again the only redeeming possibility is that Greenwell is including the Troyville period under the Marksville rubric, for Troyville does have a significant amount of painted pottery, i.e., Larto Red.

Copena is a name for a culture period of the interior South (Webb and De Jarnette 1942) and should not serve as a label for a specific craft or manufacturing system utilizing copper and galena.

Greenwell's discussion of the Mississippi cultural tradition is incredibly difficult to comprehend. I fail to understand who the "Temple Mound people" were who "...introduced Mississippi cultures in 700 A.D." (Greenwell 1974:24), if they were neither Mississippi nor Coles Creek people. They obviously could not have been Mississippian, because they introduced hence existed prior to--Mississippi; they could not have been Coles Creek, for Coles Creek was identified by Greenwell as a Woodland manifestation which absorbed the Temple Mound culture. Actually, linguistic ineptness is most likely responsible for this unintelligible section.

Conceptual Problems

It is apparent that Greenwell used the tried, but unproven, "distributional" method for judging diffusion. In this time-honored approach, diffusion is determined by classifying sites by culture periods and by documenting the occurrences of exotic materials. When plotted on maps, these sites and materials are unquestioningly presumed to reflect a diffusion sphere. Most of the time, stimulus (idea) diffusion and migration are collectively posed because the "distributional" method lacks the means to separate them. Only in the rare case of a "site unit intrusion" (Willey *et al.* 1956:9-19)--i.e., an exotic component separated from similar sites by a field of dissimilar ones--will an actual migration be presumed. This traditional method has several erroneous side effects. Its simplicity gives the impression that the data speak for themselves (cf. Binford 1972:5-6)--that all the archaeologist has to do is to classify them properly and place them on a map and behold the appearance of a diffusion pattern. In this approach, the archaeologist does not even

have to think. A second consequence of the simplicity of the "distributional" method is that it tends to give the archaeologist the false illusion that his statements about the archaeological record conform precisely to the way things happened in the past.

This may not always be the case, but we would have a most difficult time proving this one way or the other. We simply do not have a sound and generally acceptable method for evaluating diffusion under an historical paradigm. Archaeologists have never agreed on how much evidence is required to convince even the most skeptical opponent of diffusionary hypotheses. To this day, the acceptance or rejection of these historical assertions remains wholly conditional on the believability of their staunchest advocates (Thompson 1956), decisively a scientific procedure.

I have, for example, posed several possible alternative mechanisms which could have accounted for the site and raw material distributional patterns in southern Mississippi. I do not pretend that they, singly or collectively, have any more validity than diffusion, because all remain completely untested. I mention this only to emphasize the point that explanations other than purely historical ones may be applicable to the data at hand, and these should not be simply dismissed forthwith.

The paradigm of science furnishes one logical way of choosing among such possibilities. Deduced consequences of any postulated event must be tested against independent information to see if the data patterning conforms to expected outcomes of a general category of similar events. Until these various possibilities have been tested for southern Mississippi, we will lack confidence in Greenwell's interpretations. Mississippi archaeology might indeed have been better served had Greenwell given us a detailed site inventory for this little-known part of the state.

REFERENCES

- Barnett, H. G.
 1964 Diffusion rates. In Robert A. Manners (ed.), Process and pattern in culture, essays in honor of Julian H. Steward, 351-363. Aldine, Chicago.
- Binford, Lewis R.
 1968 Archeological perspectives. In Sally R. Binford and Lewis R. Binford (eds.), New perspectives in archeology, 5-32. Aldine, Chicago.
 1972 Introduction. In L. R. Binford, An archaeological perspective, 1-14. Seminar Press, New York and London.
- Caldwell, Joseph R.
 1964 Interaction spheres in prehistory. In Joseph R. Caldwell and Robert L. Hall (eds.), Hopewellian studies. Illinois State Museum Scientific Papers 12:135-143.
- Chang, K. C. (Editor)
 1968 Settlement archaeology. National Press, Palo Alto.
 1972 Settlement patterns in archaeology. Addison-Wesley module in anthropology 24.

- Ford, James A., and Gordon Willey
 1940 Crooks Site, a Marksville Period burial mound in LaSalle Parish, Louisiana. Louisiana Geological Survey Anthropological Study 3.
- Fritz, John M., and Fred Plog
 1970 The nature of archaeological explanation. American Antiquity 35:405-412.
- Gagliano, Sherwood M., and Clarence H. Webb
 1971 Archaic-Poverty Point transition at the Pearl River mouth. In Clarence H. Webb (ed.), The Poverty Point Culture. Southeastern Archaeological Conference Bulletin 12.
- Gearing, Fred
 1958 The structural poses of 18th century Cherokee villages. American Anthropologist 60:1148-1157.
- Gibson, Jon L.
 1970 The Hopewellian phenomenon in the Lower Mississippi Valley. Louisiana Studies 9:176-192.
 1973 Social systems at Poverty Point, an analysis of intersite and intrasite variability. Unpublished Ph.D. dissertation. Department of Anthropology, Southern Methodist University.
 1974a Poverty Point; the first North American chiefdom. Archaeology 27:96-105.
 1974b The rise and decline of Poverty Point. Louisiana Archaeology 1. (In press, MS 1974).
- Greenwell, Dale
 1974 Prehistoric cultural diffusion and migration in southeast Mississippi. The Mississippi Geographer 2:19-26.
- Gumerman, George J. (ed.)
 1970 The distribution of Prehistoric population aggregates. Prescott College Anthropological Reports 1.
- Phillips, Philip
 1970 Archaeological survey in the Lower Mississippi Basin, Mississippi, 1949-1955. Papers of the Peabody Museum of Archaeology and Ethnology 60(2).
- Plog, Fred, and James N. Hill
 1971 Explaining variability in the distribution of sites. In George J. Gumerman (ed.), The distribution of Prehistoric population aggregates. Prescott College Anthropological Reports 1:7-36.
- Rands, Robert L., and Carroll L. Riley
 1958 Diffusion and discontinuous distribution. American Archaeologist 60:274-297.
- Rouse, Irving
 1958 The inference of migrations from anthropological evidence. In Raymond H. Thompson (ed.), Migrations in New World culture history. University of Arizona Social Science Bulletin 27:62-68.
- Rowe, John H.
 1966 Diffusion and archaeology. American Antiquity 31:334-337.
- Sauer, Carl O.
 1962 Seashore - primitive home of man? Proceedings of the American Philosophical Society 106:41-47.

- Smith, Brent W.
 1974 A preliminary identification of faunal remains from the Claiborne Site. Mississippi Archaeology 9(5):1-14.
- Steward, Julian H.
 1948 The Circum-Caribbean tribes: an introduction. In Julian H. Steward (ed.), Handbook of South American Indians. Bureau of American Ethnology Bulletin 143:1-41.
- Struever, Stuart, and Kent D. Vickery
 1973 The beginnings of cultivation in the Midwest-Riverine area of the United States. American Anthropologist 75:1197-1220.
- Thompson, Raymond H.
 1956 The subjective element in archaeological inference. Southwestern Journal of Anthropology 12:327-332.
- Trigger, Bruce
 1967 Settlement archaeology--its goals and promise. American Antiquity 32:149-160.
- Uberoi, J. P. Singh
 1962 Politics of the Kula Ring. Manchester University Press, Manchester.
- Watson, Patty Jo, Steven A. LeBlanc, and Charles L. Redman
 1971 Explanation in archaeology, an explicitly scientific approach. Columbia University Press, New York and London.
- Webb, William S. and David L. De Jarnette
 1942 An archaeological survey of Pickwick Basin in the adjacent portions of the states of Alabama, Mississippi, and Tennessee. Bureau of American Ethnology Bulletin 129.
- Willey, Gordon R.
 1953 Prehistoric settlement patterns in the Viru Valley, Peru. Bureau of American Ethnology Bulletin 155.
- Willey, Gordon, et al.
 1956 An archaeological classification of culture contact situations. In Robert Wauchope (ed.), Seminars in Archaeology: 1955. Memoirs of the Society for American Archaeology 11:5-30.
- Wright, Gary A.
 1974 Archaeology and trade. Addison-Wesley Module in Anthropology 49.

[MAAN 9 (1974) 10 (October), 1-8]

A REPLY BY DALE GREENWELL TO PREHISTORIC (CULTURAL) DIFFUSION (AND MIGRATION) IN SOUTHEAST MISSISSIPPI: A CRITICAL REVIEW BY JON L. GIBSON

Dale Greenwell

In the scientific area of archaeology, as in other areas of anthropology, no publication should escape the scrutiny of the author's peers, if for no other reason than to maintain a reasonable control over the discipline. Any critique should be exercised with care and in a scholarly manner without malice intended. In my opinion, Dr. Gibson's review went beyond the scholarly approach and

bordered on vindictiveness. Each of the criticisms given by him is answered herewith.

First, citing references, he asserts that "neither the kinds, rates, nor possible routes of diffusion are rigorously examined." There have been no field studies in southeast Mississippi prior to mine, that I am aware of, concerning the diffusion of cultures and migration. If so, they have not been published. My assumptions are based on work in other areas, by archaeologists who have done no local field work, or very little if any. The title and text of my article define these factors as much as possible with the workable data at hand. There was no mention in my article of the concreteness or conclusiveness of the material therein.

Dr. Gibson goes on to state that the "problems" in my use of data and concepts are numerous. Here I detect a conflict in schools of archaeological theory and systems. Dr. Gibson is apparently of the "cultural process school," which includes such greats as Binford, while my learnings are more with the "cultural history school." The method of the former school is to isolate each system and study it as a separate variable (Flannery 1972), or to study the development of "systems theory," on an abstract level (Leone 1972). This breaks with archaeological tradition (Taylor 1972). My article reflects the latter school of theory and interpretation, which seems to go against the grain of Dr. Gibson. The cultural history approach is used throughout this region by such men as Willey, Phillips, and Ford, who are the most notable archaeologists of these parts.

I realize there is a danger of distortion in the use of charts and graphs, which are usually employed by the cultural history school (Thompson 1972). For that reason, they have been avoided as much as possible, not because of the hazards, but because schematics cannot yet be effectively employed.

As a chronological model, that of Phillips was found most suitable for this area, and it is consistent with that of Willey. There was no reason to offer alternate schemes which could have required the entire space of the article and which are not as suitable for the area under study. The choice was mine and is appropriate. Perhaps in Louisiana Dr. Gibson will find others more suitable to his studies. Willey does not offer other schemes, and the one selected (Phillips, basically) is the one he prefers for this locale. The assault on this point is irrelevant to the article. Where is the reader misled?

The Dalton period is shown in the Early Archaic on the chart, not the Middle Archaic, although I did err in allowing the arrow to ascend into and through the Middle Archaic.

I am surprised at the question raised on subsistence and settlement patterns. Archaeologists in the field frequently find the two separated, especially in the Gulf Coastal regions. Although the two are systematically interrelated, they are frequently, and most often locally, to be found in parts and separate. Survey archaeologists would recognize this presentation readily. Because subsistence stations, especially in shell heaps or midden outcrops, are more abundant and visible than the settlements themselves, it is only logical that the archaeologists may find the stations without

ever finding settlements. In this region of heavy forests the midden remains while the settlement patterns are obliterated. Thus we are provided subsistence data which may not reflect the entire lifeway pattern or settlement. We have been fortunate to find six undisturbed occupation sites of village proportions, and another half-dozen that were, apparently, seasonal camps. More than one hundred station sites, on the other hand, have provided subsistence data alone. Yes, Chang has been used as a reference in my research, as well as Trewartha, Butzner, and Clark.

The reference to polished stone and decorated bone artifacts diminishing into lithic industry may be ambiguous to some. The statement should have read that the former materials disappear, while the "chipped" lithic industry continues.

"Because" erroneously replaced "but" in my comment on the attractiveness of the forests (Greenwell 1974a:21). I agree that the "principle of least effort" in subsistence is basic, and I also agree with the principle of "primary forest efficiency" (Marshall 1973; Struever 1972). However, the salt water, sandy infertile soil, and marsh insects, among many other factors, made the coast less attractive than the forest-riverine region--with fertile soil producing richer plants and larger game. During the Archaic period the beach line was much further south, and the meadows and marshlands were larger, stretching through alluvial mud and beach sand ridges that provided few, if any, fresh water systems.

I disagree with Dr. Gibson in his contention that collection stations and occasional camps should be considered as settlements. I believe they are parts of a territorial eco-system, but not identified individually as settlements. Semisedentary and sedentary habits produce settlements. The collecting of Rangia and oyster along a muddy bayou's shoreline, in brackish water, miles from fresh water and terra firma, does not necessarily indicate settlement. Would he consider those conditions settlements? The reader should refer to the following for good readings on the theories of such settlements: Stuart Struever's Prehistoric Agriculture (1971) and Mark P. Leone's Contemporary Archaeology (1972). Perhaps there are recent developments that contradict current subsistence settlement theories. If so, I would appreciate knowing the sources.

If there is a Late Archaic village site on the Gulf Coast, please bring it to my attention. The oldest settlement site on the coast to my knowledge is the Poverty Point site at Claiborne-Cedarland. I am aware that such Late Archaic sites exist elsewhere, but my paper is concerned with southeast Mississippi, not elsewhere.

My reference to "Circum-Caribbean" is strictly geographical, and not related to the definition of Julian H. Steward. The reference is made because of ceramic ware on several coast sites which reflects a style found only in Mexican, Guatemalan, and Colombian sites. This pottery appears in fiber-tempered ware and a peculiar form of wedge and teat legs. Fiber-tempered ware is identified with the Tennessee to Georgia center of the Late Archaic-Early Woodland; however, the same ware is found on the Caribbean coast of Colombia and "suggests a diffusion by sea" (Vlahos 1970). The styles have been found in the early Zacatenco and Ocas phases of Mexico and Guatemala, of the same

period, and continue to be found in the Aztec period much later, while disappearing in the Early Woodland in the southeast. The types are found in Willey's work (1966). Nowhere did I mention a priest class or temple culture in the Woodland or Poverty Point.

The Poverty Point and Tchefuncte cultures are frequently lumped together because of both mounds (Marshall 1973) and artifacts. As for Poverty Point burials mentioned by Dr. Gibson, let me continue. "The burial complex has yet to be identified," Marshall states of that period. "...Burial Mound I period produced Louisiana's Tchefuncte Culture, with dome shaped burial mounds as high as 15 feet..." (Silverberg 1968). "Burial mounds...were found from the Lower Mississippi eastward along the Gulf Coast..." (Willey 1966:267-91). Willey states that the burial mounds are associated with the Tchefuncte and Marksville. Dr. Gibson refers to the burial areas of Poverty Point culture, especially the Cedarland! Have the burials near Cedarland been positively identified as associated with Poverty Point, or could they belong to the nearby Marksville site? I fail to see his argument here. My article describes the Tchefuncte burials sufficiently, and his failure to comprehend it in this respect is beyond me.

My paper did not pretend to establish definite movements of people through space and time, and the difficulties preventing such are given. As for the site intrusions of exotic materials--considered very rare by Dr. Gibson, and perhaps so in his area of field work--they are frequent on the coast. Intrusions and dispersion of cultural debris are the principal sorting criteria for my attempt to trace movements by diffusion or migration. They have not and cannot be positively separated into the two categories of migration and diffusion, with the processes at hand. The dichotomy is not yet discovered, but there are at least suggestions through the data available. Again, being of the cultural process school, apparently Dr. Gibson would not approach nor appreciate the hypothesis in the same manner.

Horticulture and agriculture are the major dilemmas at present among many American archaeologists, especially in the Southeast and the Mississippi Valley. With little concrete evidence to support their theories, archaeologists are making assumptions based on tools and other inferences. Incipient horticulture is believed to have had its roots in the Central Mississippi River and further south (Willey 1966:291) or in the Mississippi-Louisiana area (Marshall 1973) in the Late Archaic or Poverty Point period. Marshall states that some of the Poverty Point traits include "cultigens" and a "horticulture technology." Presently, we (archaeology team from the University of Southern Mississippi) are processing pollen samples from Woodland sites on the coast and hope to have the results available soon.

Shell and deer scapuli tools, bearing hoe type wear and haft markings, tend to support at least limited tillage (horticulture) from Poverty Point to Historic times, and even afterwards (Greenwell 1974b).

Dr. Gibson is correct in asserting that I did not separate Issaquena and Troyville from Marksville, and that the two were treated as a continuum of the latter. In fact, both are reduced to a

continuum as varieties of Marksville by Greengo and Phillips (Phillips 1970) rather than being viewed as separate cultures. Even though I did consider them as Marksville, they are distinctly catalogued separately and considered separately in time, so this does not alter my comments in the article. The most numerous ceramics of the Marksville period are Steele Bayou, French Fork, Yokena, Issaquena, Churupa, and Troyville.

The nomenclature includes well-designed, "leather-hard" ware as described by Phillips (Phillips 1970) rather than the poorly made ware described by Dr. Gibson. Perhaps he should analyze some of the local Marksville ceramics. Maybe in his part of Louisiana it is of poor quality. I would not know. Incidentally, Larto Red is quite common locally during the Troyville phase of Marksville.

Copena articles mentioned under industry in my article should have been identified as trade items. That they do indicate trade and contact with the Copena culture is evident on the coast.

The "Temple Mound" people referred to are of the Coles Creek-Weeden Island complex on the coast. The Coles Creek was a manifestation of the Woodland (from the Baytown Period) but also extended into the Middle Mississippi, through the Temple Mound I period (Phillips 1970; Willey 1966:249-251; Marshall 1973:56; Silverberg 1968:299; and others). I fail to see the question raised by Dr. Gibson on this point.

As for the distribution versus the migration aspects, the stratigraphic principle of superposition developed during excavations, ceramic typology, intrusion of exotic materials, and distribution of materials are the criteria; not just the exotic materials distribution. Dr. Gibson's assumption about the methodology employed is unfounded. I agree that deductive methods should be tested under controlled conditions, and this has been done where possible, with data from one hundred sixty-seven sites in the survey area. Again, there has been no real effort to research and publish data from the coast prior to my attempt. Calvin Brown's survey was limited, and Richard A. Marshall's was statewide with some data from the coast. Neither undertook the broad scope of migration and diffusion in southeastern Mississippi and could not be expected to have done so, considering the time and labor element required.

The reader, and Dr. Gibson, are directed to the sixth paragraph of my article (Greenwell 1974a:21), as a reminder of my comments on my success. Nowhere did I say my article presented concrete evidence and definite limits. There is little true scientific archaeological work being done on the coast or in southeastern Mississippi. It is basically a region left to the amateurs, with the exception of an archaeology team from the University of Southern Mississippi and an occasional educated archaeologist employed in another field. Such limited labor and technology are unable to cope with the problem at hand.

If Dr. Gibson would have taken into consideration the several views of experts in the region, rather than a limited view, I believe his review would have been more accurate. It is my opinion that he has established theories of his own which disallow others. That can be tragic. If, however, he is experienced in the archaeological field

work of southeast Mississippi, or if he has a good knowledge of what is being collected here and has some constructive criticism, it is most welcome. We could use expert help, and perhaps he would like to offer his assistance along with his advice.

Let me close with apologizing for the three misspelled words in the article.

REFERENCES

- Binford, Lewis R.
 1972 Archaeological Systematics and the Study of Culture Process. In Mark P. Leone (ed.), Contemporary Archaeology, 125-132. Southern Illinois University Press, Carbondale.
- Chang, K. C. (Editor)
 1968 Settlement Archaeology. National Press, Palo Alto.
- Flannery, K. V.
 1972 Cultural History vs. Cultural Process: A Debate in American Archaeology. In Mark P. Leone (ed.), Contemporary Archaeology, 102-107.
- Fowler, Melvin L.
 1971 The Origins of Plant Cultivation in the Central Mississippi Valley: A Hypothesis. In Stuart Streuver (ed.), Prehistoric Agriculture, 122-130. Natural History Press, Garden City.
- Greenwell, Dale
 1974a Prehistoric Cultural Diffusion and Migration in Southeast Mississippi. In Jesse O. McKee (ed.), The Mississippi Geographer 2:19-26.
 1974b A Research into the Origin, Development, and Decline of the Indian Tribes of the Mississippi Gulf Coast between ca. 1200 and 1831 A.D. Graduate thesis. University of Southern Mississippi, Hattiesburg.
- Leone, Mark P.
 1972 Issues in Anthropological Archaeology. In Mark P. Leone (ed.), Contemporary Archaeology, 14-27.
- Lowie, R. H.
 1937 The History of Ethnological Theory. Holt, Rinehart and Winston, New York.
- Marshall, Richard A.
 1973 The Prehistory of Mississippi. In R. A. McLemore (ed.), A History of Mississippi 1:24-68. University and College Press of Mississippi, Hattiesburg.
- Martin, Paul S.
 1972 The Revolution in Archaeology. In Mark P. Leone (ed.), Contemporary Archaeology, 5-15.
- Phillips, Philip
 1970 Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Papers of the Peabody Museum of Archaeology and Ethnology 60.
- Silverberg, Robert
 1968 Mound Builders of Ancient America: The Archaeology of a Myth. New York Graphic Society, Greenwich, Connecticut.

- Streuver, Stuart
 1972 The Hopewell Interaction Sphere in Riverine-Western Great Lakes Culture History. In Mark P. Leone (ed.), Contemporary Archaeology, 303-315.
- Taylor, W. W.
 1972 Old Wine and New Skins: A Contemporary Parable. In Mark P. Leone (ed.), Contemporary Archaeology, 28-33.
- Thompson, Raymond H.
 1972 Interpretive Trends and Linear Models in American Archaeology. In Mark P. Leone (ed.), Contemporary Archaeology, 38-38.
- Trewartha, Glen T.
 1969 A Geography of Population: World Patterns. John Wiley and Sons, New York.
- Vlahos, Olivia
 1970 New World Beginnings: Indian Cultures in the Americas. Fawcett Publications, Greenwich, Connecticut.
- Willey, Gordon R.
 1966 An Introduction to American Archaeology 1. Prentice-Hall, Englewood Cliffs, New Jersey.
- Yarnell, Richard A.
 1971 Early Woodland Plant Remains and the Question of Cultivation. In Stuart Streuver (ed.), Prehistoric Agriculture, 551-554.

[MA 10 (1975) 1 (January), 2-8]

A LAST LOOK AT THE LONGSTREET SITE (22-Qu-523)

John Connaway

On February 15, 1975, Dr. Van Burnham visited the Longstreet site in Quitman County, Mississippi, on a routine surface collecting trip. The next day at the monthly meeting of the North Delta Chapter, MAA, he reported to me that all except a couple of feet of the site had been leveled by the owner. As a result of this appalling news, I decided to visit the site in order to ascertain the damage and record anything that might have been uncovered. I arrived the afternoon of February 17 and had to walk in, since it had rained quite hard the night before. Sure enough, the "mound" was leveled and the soil spread around the area. The site of the former mound was mostly yellow sand with scattered areas of dark soil indicating refuse pits. Some of these contained amorphous lumps of fired clay and a few chert flakes, while others contained Baytown period potsherds such as Mulberry Creek Cordmarked and Baytown Plain, along with a few charred remains of nutshells or other seeds and a few chert flakes. No more than 20 feet north of where the center of the mound would have been were some small, scattered human bone fragments and some potsherds of Baytown Plain. These were in an area about 4 feet wide by 8 feet long and had been dispersed by the machinery during leveling. Along with this material was the rim of what appeared to be a tiny pot just showing through the mud. I picked it up and realized, much to my surprise, that it was a clay platform pipe. It was complete except

for about 1-1/2 inches of the stem, which I found in the mud nearby. This pipe is 8 inches long. The bowl is 3 inches from one end and measures 2 inches high with a 2-inch-wide flared lip.

Upon further investigation, I found several large sherds under the mud. I removed this mud with a trowel and discovered the remainder of the burial, which had been severely crushed and broken up by the levelers. The arrangement of the bones could not be determined, but they appeared to have been in a pit about 4 feet in diameter. The skull was so rotten that it was merely a grey impression in the sand. Immediately beside the skull were the bowl and several fragments of another platform pipe and a thin, well-made, stemmed projectile point almost 3 inches long. The second pipe, after restoration, measured 8 3/4 inches long, with its bowl being 2 1/4 inches high by 2 inches in diameter at the lip. The bowl sits 3 1/4 inches from one end. In the case of both pipes, the longer stem has the smoking hole through it. Large potsherds of Mulberry Creek Cordmarked var. Edwards, Coles Creek Incised var. Hunt, and Baytown Plain var. unspecified were found in the pit associated with the burial and pipes, indicating an age of ca. A.D. 400 to 500. The pit appeared to end about 6 to 8 inches deep, where yellow sand showed beneath the darker pit fill. However, there was more midden under this, and the sand layer was only about 2 inches thick. More potsherds of the same types were found beneath the sand layer, so it may have been a continuation of the pit, the sand having possibly been deposited during leveling operations. The extent of the midden, both vertically and horizontally, was not explored.

A test excavation was conducted on the mound by Sam McGahey and me in February, 1972, and two charcoal samples were collected from a depth of between 2 and 4 feet. Radiocarbon analysis by the University of Georgia yielded the dates of 2925 ± 145 B.C. (UGa-336) and 3050 ± 120 B.C. (UGa-337). These dated the midden which the mound covered, indicating that the burial and pipes were from an intrusive pit dug into the mound at a much later time. Evidence had been found earlier of Baytown and Mississippi period occupation on the mound surface. Of course, the details of the mound stratigraphy will never be known. Longstreet and the Denton site were the only two known Middle Archaic period sites in the Delta with deeply buried, undisturbed midden. It is deeply regrettable that Longstreet has now joined the ranks of so many other important prehistoric sites in this state. Its demise leaves many unanswered questions about these past cultures and is especially appalling in this case because of the uniqueness of the site.

[MA 10 (1975) 2 (February), 1-2]

A COMMENTARY ON TCHEFUNCTE SITES ALONG THE GULF COAST OF MISSISSIPPI
Dale Greenwell

The Tchefuncte culture of the Early Woodland tradition cannot be easily placed in a definite spatial or temporal zone. Data at hand, however, do allow a close look at the culture through site analysis,

whereby we are able to gain much knowledge of the lifeways of these people and their relationships to other peoples in time and space.

The Tchefuncte on the coast of Mississippi, like other cultures, is not an isolated life-style to say the least. It is a descendant of the Archaic, and contains elements of acculturation from earlier and contemporary cultures in Florida, Alabama, and Louisiana. In addition, strong signs of post Poverty Point Middle American contacts are evident.

The Bayou La Batre ceramics of more than 3000 years ago began to appear along the coast, especially in Jackson County, about the time the Poverty Point culture was disappearing from the Claiborne site in Hancock County. This site has produced the usual Poverty Point artifacts, such as clay cylinders, biconicals, balls, stone beads, hollow drilled ornaments, steatite and fiber tempered wares, and celts. The Bayou La Batre ceramics introduced coarse sand and grit tempering to the coast, while from both cultures we seem to have acquired the vessel styles of tetrapodal teats and wedge bottoms.

James Ford theorized that Tchefuncte ceramics were an offspring of the Orange (Florida) ceramics. Earlier styles of the Stallings Island fiber tempered wares, the oldest in the Southeast, are also found in the early Tchefuncte sites. Although Tchefuncte is considered Early Woodward, it appears to be nothing more than a continuation of the Poverty Point into the Bayou La Batre culture, and to be combined with the Deptford, if all artifacts are taken into consideration. The late Tchefuncte merges into the later Marksville culture on all known sites on the coast; there is no distinct separation in the middens between the two. Before any comment may be made on the nature of the transition (cultural diffusion, or assimilation or replacement by another people, etc.) much more archaeological investigation must be undertaken.

The Tchefuncte sites are of two types: the shell middens and the camps. It is not certain just when either were used during any year, but indications are that they were used at least during the winters and springs.

The shell middens are usually found along the marsh bayou banks and other estuarine borders. Both plain and decorated ceramic sherds are found in great quantities, with occasional bone and stone artifacts. This would suggest that their utility ware was as decorative as their ceremonial ware. Apparently, very little fractured-pot repairing was practiced. This was probably done at the camp or home station, which had to be nearby, judging from the size of most vessels.

Although no evidence of horticultural activity is recovered from their campsites, it is assumed that the people of the Tchefuncte culture were horticulturalists as were their predecessors. Shellfish were probably a supplement to their main diet. Collecting of shellfish, along with estuarine trapping and hunting, would have been most beneficial to a horticultural people during the cool months of the year. Fledgling bones, seed oysters, and small fish remains of seasonal species confirm the thesis that the area was used for collecting in the spring and fall.

If this inference is correct, it is safe to assume that the people returned to a nearby home station to conduct their horticultural activity. The campsites do not provide artifacts suggesting horticultural activity on the coast, but they do suggest an association with the shell middens. These campsites are always bordered by shell middens consisting of mammal, bird, reptile, fish, and shellfish remains. Strata of deposits with semisedentary elements reflect a seasonal return to the sites over a long period of time.

Deposits in the middens are frequently segregated into periwinkle, Rangia, and oyster. Periwinkle strata have been found as much as six inches thick over a quarter acre, under a larger strata of Rangia, which are, in turn, beneath a larger strata of Rangia and oysters. On the topside of each strata are found campsite remains (fires, utility areas, dirt loading).

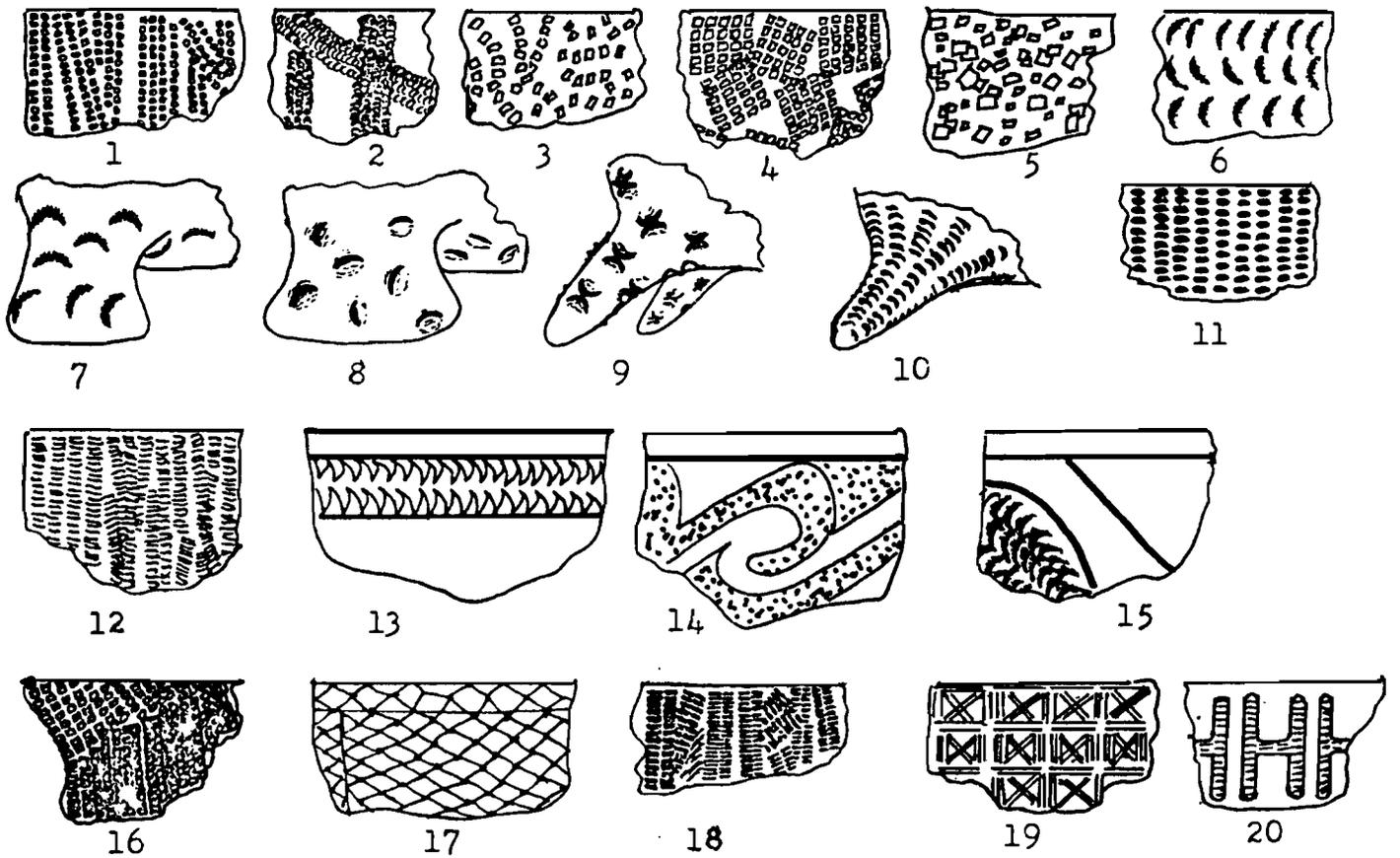
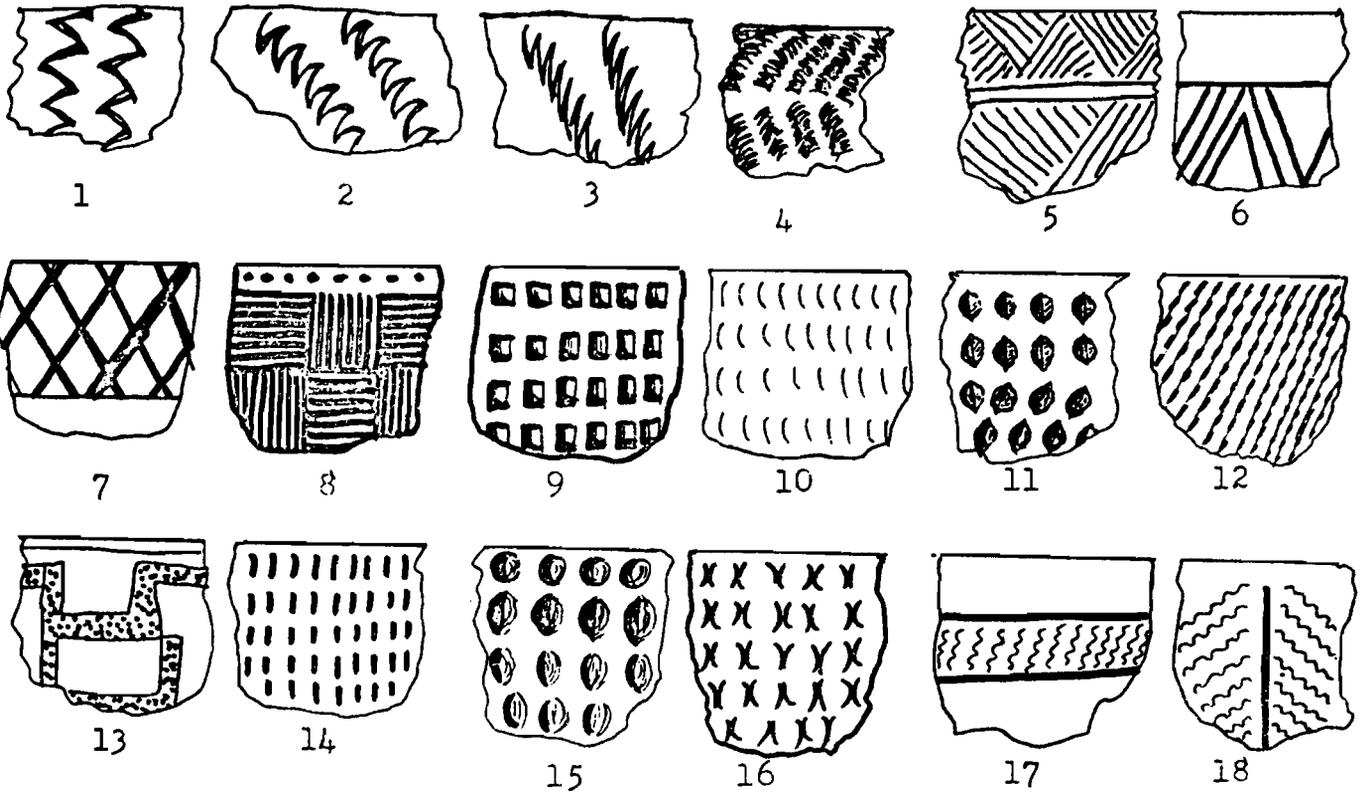
No mano-metate articles, ceramic workshop debris, or stone work debitage (other than retouch chipping) are found on the campsites. The lack of worn shells as garden tools further supports non-horticultural activity on the seashore campsites. Several miles inland Tchefuncte sites are found with celts, nut stones, great quantities of debitage, shell hoes (?) and scrapers. These sites may prove to be the farming portions of the settlement patterns.

Bone awls, needles, beads, chisels, points, and other bone articles found on the campsites, along with burials, suggest that these sites have primary status as home bases, but this evidence seems incompatible with the secondary status suggested by the other data mentioned above. For this reason much more investigation of the Tchefuncte of the coastal area is needed.

Burials are usually primary, in the prenatal-flexed position, without grave goods. Frequently a bead or pendant, or other personal item will be found with a burial, but other articles are absent. Secondary burials are in the sacked(?) bundle form. Although no burial mounds associated with Tchefuncte are found on the coast, Tchefuncte graveyards are usually higher than the surrounding area--but not more than 12 to 18 inches. Erosion due to hurricanes, however, would cause a diminishing effect not typical of elsewhere, in later times or places. More than thirty burials have been found in two of the graveyards, while others have produced as few as a dozen.

The clay cylinder of Poverty Point is absent, which is consistent with the use of ceramics in cooking rather than pre-ceramic "hot-stone" cooking. The biconical and perforated grooved clay balls which remain may represent the carry-over of a certain ritual or game. The atlatl weights and chrome finished clay pendants and gorgets are absent, while the hematite pendant and gorget remain. The Archaic and Poverty Point articles of ceremony and survival value seem to have continued.

Fiber tempered ware is not rare, to say the least, whereas steatite is barely present in the lower levels of the campsites. The fiber tempered ware is thick, poorly fired, and usually plain. Some sherds bear slight markings suggesting fabric impressed finishing. There are no artistic decorations on the marked sherds. However, the middle and upper levels produce great quantities of Crooks Stamped, Bayou La Batre Stamped, and Deptford Stamped. The ceramics at these



Tchefunte period ceramic designs of the Mississippi Gulf Coast

sites are well decorated, well fired, and have both flat bottoms (round or square) or tetrapodal teats or wedges.

Tchefuncte ceramic wares strongly suggest an influence from Meso-America, at least from Mexico or the Yucatan, and one particular site has yielded a high percentage of ceramic designs typical of these areas. The Poverty Point culture itself has traits which show Meso-American influence, and these traits were handed down to the Tchefuncte. But at least on one site the Tchefuncte ceramics point more strongly to Meso-America than do those of Poverty Point.

Conclusions can be made only with reservations, but it appears that the Tchefuncte culture, a descendant of the Poverty Point, at least in part, used the Mississippi coast for seasonal fishing, hunting, and trapping, while nearby its people maintained a farming settlement. That they did not venture far from home for their collecting of seashore foods is suggested by the size of their large vessels, which would have been a great burden, and by the fact that nearby Tchefuncte sites suggest horticultural activities and permanent settlement patterns. It is probable that they had their roots in the coastal area from as far back as the Poverty Point period.

CERAMIC DESIGNS SHOWN ARE:

TOP	BOTTOM
Tchefuncte Stamped (1-4)	Bayou La Batre Stamped (1-3)
Tchefuncte Incised (5-7)	Deptford Stamped (4, 5)
Lake Borgne Incised (8)	Apple Stamped (6, 7, 10)
Gulf Coast Check Stamped (9)	Apple Pinched (8, 9)
Tammany Pinched (10, 11)	Bayou La Batre Cord Impressed (11)
Lake Borgne Stamped (12)	Dunlap Fabric Impressed (12)
Orleans Punctate (13)	Alligator Rocker Stamped (13)
Mandeville Stamped (14)	Alligator Punctate (14)
Alexander Pinched (15, 16)	Alligator Stamped, zoned (15)
Crooks Stamped (17, 18)	Wakulla Stamped (16)
	Moundville Net Marked (17)
	McLeod Stamped (18)
	Taneksanya Complicated Stamped (19,20)

Editor's Note: A tabulation of the artifacts found by Mr. Greenwell on each site would be useful to the reader. Also needed are descriptions for some of the pottery types such as Apple Stamped, Apple Pinched, and Taneksanya Complicated Stamped. The editor hereby offers space to Mr. Greenwell for a tabulation and descriptions.

[MA 10 (1975) 7 (July-August), 2-6]

THE CEDAR CREEK #1 SITE: A MISSISSIPPIAN PERIOD SITE IN LOWNDES COUNTY, MISSISSIPPI

Samuel O. Brookes

Surface collections made recently by Sam McGahey and Paul Newsom of the Mississippi Department of Archives and History at the Cedar

Creek #1 site indicated a small area of occupation during the late prehistoric period. Immediate testing became necessary when Weyerhaeuser Corporation indicated that its construction activities would destroy the site, which is located on a small rise of ground just north of Cedar Creek in Lowndes County, Mississippi.

Knowledge of the Mississippian period in the hills of northeast Mississippi is limited, although research has indicated that Mississippian settlement patterns in the hills are similar to those in the Yazoo Basin (Bohannon 1972:40; Marshall and Glover 1974:26). The surface collections at the Cedar Creek #1 site pointed to a potential for archaeological research, and it was theorized that the site served as a small dwelling place for one or two families. If so, house patterns might be encountered and some perspective on life in a small homestead gained.

If a deep midden had been encountered, much knowledge could have been gained through excavation at the site. Such was not the case, however, and the rather superficial statements given here are based largely on a surface collection from the site.

Early Occupation of the Site

Though most of the artifacts from the site fall within the Mississippian period, an earlier component is present. This component, dating from the Baytown period (Miller IV using Rucker's 1974 ceramic chronology), is represented by two sherds and a stemmed knife. The sherds, a Mulberry Creek Cordmarked var. unspecified and a Baytown Plain var. unspecified, are nearly identical to their counterparts in the Yazoo Basin. Both, however, contain tiny flecks of mica, probably because of its natural occurrence in the clay.

The knife was not found on the site property, but was picked up several hundred feet to the northeast. It has a biconvex cross section with a tapering stem and blade edges which are recurvate as a result of resharpening, a feature which also gives the shoulders a barbed appearance. Material is Talahatta quartzite, the only example of this stone from the site. Assignment to the Baytown-Miller IV period is predicated upon the shape of the stem. This hafting element is common throughout the Late Archaic and Woodland periods. Using standard projectile point terminology, without reference to the function of the implement, the artifact could be placed in either a Gary or Ledbetter classification. No typological placement is attempted here, however, other than that of the descriptive typological classification of stemmed knife.

The Mississippian Occupation at Cedar Creek #1

Most materials from the site are from the "hot spot" located by McGahey and Newsom. This small area has a heavy scatter of artifacts, mostly lithic, but some shell tempered sherds present at the site aid the period association. Ceramics are thick, coarse, shell tempered wares with no decoration. The shell is "live," unlike the fossil shell sometimes found in the northeast region. In 1968 at Lyon's Bluff (22-Ok-501) Marshall and Koehler were calling this material Neeley's Ferry Plain var. unspecified. Sorting plainware is difficult, and considering the writer's unfamiliarity with undecorated

Mississippi ceramics, a variety classification would be untenable. At any rate, the late ceramics at the site were probably used for storage or for cooking, since the pottery is of the standard utilitarian variety. Bell Plain is absent, as are such features as strap handles and effigies.

Three small fragments of shell were found on the surface. Whether the fragments resulted from food gathering or from the procurement of raw material for pottery making, or both, is unknown. Mussels do occur in creeks in this area and probably served as a food source for prehistoric people.

Lithics from the site indicate that a major activity was the production of the small arrowheads of the late prehistoric period. Madison points, preforms, and chipping debris are the most common finds within the "hot spot." Other than Madison points and their associated debitage, only two pieces of stone were found which can definitely be assigned to the Mississippian period. One of these is a heat treated flake knife (blade-core technique). Wear is apparent on portions of both blade edges, and the distal end is missing, although part of the original striking platform is present on the proximal end. The second piece of stone is a small portion of a polished celt. Made of a greenish black granitic rock, this celt is badly broken, and what remains is part of the bit, which shows heavy use wear. In its final use this piece was much too dull to serve as an axe, and rather than being resharpened, it was used as a hammer.

This completes the artifact inventory with one exception. A small flattened piece of sandstone with a biconcave cross section was picked up on the "hot spot." There is no way to determine the association of this stone, which was used for abrading purposes.

Tests at the site indicate that all material lies within the plow zone. It is possible that a few features, such as trenches and pits, could extend deeper, but no features of this nature were encountered. Two 5' x 5' squares were dug, neither of which indicated any aboriginal material deeper than 5" below the surface. Bore holes spaced irregularly over the site indicated a similar lack of artifacts, and none were found in the hard clay containing pea gravel which lies approximately 5" to 6" below surface level. This being the case, no further work is recommended at the site. Excavation would probably be a waste of time. The site's value must be found in the data retrieved from surface collections and excavations of other similar sites.

Some speculations about the Cedar Creek #1 Site

In 1970 Connaway and McGahey excavated the Hays site (22-Co-612), which is similar to Cedar Creek #1. This small Mississippian site in the Yazoo Basin had two houses, one of which, a wall trench house, was superimposed over a square structure lacking wall trenches. Present at Hays were Madison points in all stages of manufacture, several uniface tools which resemble the blade-core specimen from Cedar Creek, and shell tempered pottery. Most ceramics were of Neeley's Ferry Plain paste (McGahey 1970).

Several similarities exist between these two sites. Both apparently represent small homesteads which were occupied by a single

family, and which in all probability were related to agricultural systems. One can surmise that individual families tended plots of ground in favorable localities outlying small hamlets. These hamlets outlay larger centers where social-religious-political systems were based. The Cedar Creek bottom afforded a desirable location for habitation. Hunting and gathering to supplement agricultural yields could readily be employed in such a location, and gravel and mussel shells for artifact production were available.

We have a rather incomplete picture of this site, but work at similar sites with deeper middens could yield valuable information. As the Cedar Creek #1 site will be destroyed, the small amount of data here is all that will remain, and it is hoped that it will be of some use to the archaeological record.

Manufacture of Madison Points

As is the case for other sites of this period, Madison points at Cedar Creek are made from cores. We do not know why this practice was followed, when utilization of large flakes would have made the process simpler. Availability of large cobbles for flake production does not seem to be a factor.

At the Flowers #3 site (22-Tu-518) small cobbles were carefully selected for the manufacture of points. A cache of small cobbles, most having one flake struck from them for the purpose of inspecting the material, was found in a wall trench at the site. Present also were Madison points and preforms (Connaway, personal communication 1975).

At Cedar Creek oval pebbles (usually 2" long, 1" wide, and 1/2" thick, but occasionally larger) were collected for the making of points. As at Flowers, a flake was removed so that the inside of the rock might be examined. The pebbles were then probably heat treated several hundred feet east of the "hot spot," since many poorly fired, or broken, burned, and fire cracked pebbles have been found in two areas to the east. No sherds or other material are present on these two spots, which suggests that heat treating was the only activity in these areas. The fired pebbles were then probably transported west to the location of major artifact concentration, which I presume to be a residence, or at least the major activity area. There they were worked into preforms and finally into finished Madison points. Many rejects are found, discarded because of hinge fractures leaving humps on the points, or because of accidental breakage during manufacture. Tiny pressure flakes occur here too, so all stages of manufacture are represented.

REFERENCES

- Bohannon, Charles F.
 1972 Excavations at the Pharr mounds, Prentiss and Itawamba counties, Mississippi, and excavations at the Bear Creek site, Tishomingo County, Mississippi. U.S. Department of the Interior, National Park Service, Washington.

- Connaway, John M., and Samuel O. McGahey
 1970 Archaeological survey and salvage in the Yazoo-Mississippi Delta and in Hinds County, 1968-1969. Mississippi Department of Archives and History, Mississippi Archaeological Survey Preliminary Report.
- Marshall, Richard A., and John Glover
 1974 Archaeological survey of Tishomingo State Park and environs, Tishomingo County, Mississippi. Mississippi State Park Commission, Jackson.
- McGahey, Samuel O.
 1970 The Hays site. Manuscript on file, Mississippi Department of Archives and History, Jackson.
- Phillips, Philip
 1970 Archaeological survey in the Lower Yazoo Basin, Mississippi 1949-1955. Peabody Museum of American Archaeology and Ethnology Papers 60.
- Rucker, Marc D.
 1974 Archaeological survey and test excavations in the upper central Tombigbee River Valley: Aliceville-Columbus lock and dam and impoundment areas, Alabama and Mississippi. Report submitted to the National Park Service.

[MA 10 (1975) 7 (July-August), 21-23]

SHADY GROVE 22-QU-525

John M. Connaway

On September 21, 1975, Mississippi Department of Archives and History archaeologists John Connaway and Sam Brookes learned from MAA North Delta Chapter member Lucy Turner that the smaller of the two mounds at the Shady Grove site south of Marks, Mississippi, had been leveled. The following day when the Clarksdale archaeologists visited the site they found the 6-7 feet mound leveled and only about 3-4 feet of the midden remaining. Some Mulberry Creek Cordmarked and Mississippi Plain sherds, along with the remains of at least two burials, were found in the midden, which consists primarily of mussel shell. A sample of mussel shells of various species was collected for identification.

Local collector Danny Joe Barron of Marks, who was on the site when leveling took place, rescued a Mississippi Plain, var. Neeley's Ferry bowl with a bird-like effigy head facing inward from the lip of the bowl and a lug on the opposite edge resembling or suggestive of a tail. According to Barron, the 4-5 feet of earth removed from the mound was layered with dark soil and shell midden in alternate strata. Major shell accumulations, which apparently underlay the mound, began at the present level. Barron reported that Baytown sherds were picked up and that at least five burials were destroyed. Connaway photographed the effigy bowl.

Within the shell midden were found Baytown Period sherds, indicating an initial Baytown occupation. Surface collection yielded a chipped chert celt, a small projectile point, Mulberry Creek

Cordmarked and Mississippi plain sherds, human skeletal remains, a few charred hickory and acorn fragments, and at least four different varieties of mussel shell.

Connaway and Brookes contacted W. A. Crabill of Marks, manager of the Self property, and obtained his permission to excavate test pits on the site of the leveled mound. After a sketch was made of the area, a north-south and east-west grid was set up from the central reference point, 0-CL. A five-foot test square dug at 25S-10E showed shell midden down to slightly over 2 feet, with dark soil down to about 3 feet, underlay by sterile yellow sand. Mulberry Creek cordmarked and Baytown Plain potsherds were found in the shell midden, along with hundreds of mussel shells. Several C-14 samples were collected at different levels.

A 2-foot square was dug at 23S-CL and all the midden within, including Baytown sherds and hundreds of shells, was extracted for washing. Identification of these shells and any seed remains within this midden sample might give some indication of the prehistoric Baytown Period economy. The shell midden stopped at 2.2 feet and some dark soil went down another few inches to sterile sand.

In the test square 25S-10E, the E-W profile showed a slope downwards from east to west, indicating a possible primary mound cresting just to the east of this square. The test was dug in 0.5-foot levels.

A 6-foot by 6-foot area was dug in the northeast corner of square 10S-10E, where a disturbed burial was showing on the surface. Removal of about 0.8 foot of earth exposed a mass burial of at least five individuals (by skull count). In the center there was evidence of the cremation of a secondary bundle burial, with skull to the north, and other bones in disarray within an area about 3 feet by 2 feet. With this bundle, near the skull, was a sandstone pipe with a smooth, concave grinding area on one side and abrading grooves on the other side and front. The flat, smooth bottom could have been used for grinding. Two conical holes drilled from the top and back meet to form a pipe. This was obviously a multipurpose tool. Along with this pipe was a chunky-stone about 4.10 inches in diameter made of soft, decomposing material, possibly clay or a soft stone. Burning of both artifacts with the bones caused deterioration of the chunky-stone and blackening of the pipe. On either side of the cremation, masses of bones belonging to several individuals extended into the square walls on the east and west sides of the test unit. Apparently these were secondary burials, the bones having been thrown in haphazardly.

Judging from the pipe and chunky-stone, as well as the secondary nature of the burials, test pit 10S-10E probably contained intrusive Mississippi period burials. The Mississippi Plain vessel found earlier by Barron also indicates intrusive Mississippi burials. Potsherds in the midden indicate that the mound was constructed either by Baytown people or by later people using Baytown Midden. It would seem, however, that if the latter were true, some Mississippian potsherds would have been included in the midden as well. The entire burial area was in dark soil with no shell, but it all rested directly on a thick shell layer of midden. The cremation had evidently been burned on the spot since there was ash and burned earth beneath it.

No other artifacts were found with the burials in 10S-10E, the cremation evidently being someone of more distinction than the others. Most of the bones and all the skulls were broken or crushed. The material was taken out in mass for later washing and screening. There was no time to excavate the rest of the burial area, so it is impossible to guess as to how large it was. It could well have contained many more burials. Barron said he would try to continue to excavate the area, since it will be deep-plowed and destroyed anyway. He will let us know of his findings.

According to local residents, a small historic cemetery, now destroyed, was located on the mound, which was originally about 70 feet in diameter, and roughly round. This is the first shell midden we have excavated, and we regret not having the opportunity to complete a meaningful investigation. The excavation or testing was limited to two days, affording only a minimum of information. Such shell middens are relatively rare in this area and very little is known about them. As soon as the remainder of the mound is plowed, the entire mound can be considered forever destroyed.

[MA 10 (1975), 8 (September-October), 5-6]

AN ARCHAEOLOGICAL SITE SURVEY IN CENTRAL OKTIBBEHA COUNTY,
MISSISSIPPI: JUNE-JULY 1975

Edited by Crawford H. Blakeman, Jr. Contributions by Diane C. Bannish, Jeyne Bennett, Jan M. Broyles, H. Sherwood Knight, Geoffrey R. Lehmann, Luanne Lott, John McCollum, Don Roy Robertson, and Danny Young

INTRODUCTION

The following report was produced by the students of the 1975 Mississippi State University Field School in Archaeology and consists of a preliminary analysis of the data obtained from a 5 week site survey in central Oktibbeha County, Mississippi. The explicit purposes of the field school are to train students in the planning, execution, and interpretation of archaeological projects and to stress upon them the importance of the dissemination of the information derived from these projects. Therefore, this report is viewed as a significant part of the field school program.

In 1975, the field school activities were wholly focused on Oktibbeha County. This was done for two reasons. First, the University is located in the county, and for logistical purposes it was convenient to center the work near the University. Second, and overall more significant, the county has not been systematically surveyed in the past, and represents, therefore, a readily available source of relatively untapped archaeological data. Furthermore, in addition to the simple need for more effort to be exercised in the county due to a general lack of past work, there is the further problem posed by the construction activities associated with the rapid growth of both the University and Starkville. It is clear from past work in Oktibbeha county that there are a number of important sites in the area, especially from the late prehistoric and early historic

periods (Marshall 1973), and there is an obvious need to counteract the destructive effects of present and planned construction work by the development of a systematic survey and excavation program within the county. As a first step in this direction the field school's activities can fill a much needed role, while at the same time providing a training ground for archaeology students.

This report is based on only a general preliminary analysis of the surface collections made by the site survey, but even from an analysis of this type it is possible to discern certain temporal and spatial changes in the prehistoric settlement patterns in central Oktibbeha County. The recognition of these trends, in addition to the location of 59 previously unrecorded sites, constitutes the primary contribution of the site survey to Mississippi archaeology as a whole, and it is for the purpose of identifying these trends that this report is being produced.

ENVIRONMENTAL SETTING

Oktibbeha County is located in east-central Mississippi and has a land area of 290,560 acres (117,590 hectares). Three of the five major physiographic zones in the northeastern quarter of the state intrude into the county (Figure 1). Moving from east to west through the county, one would move from the Black Prairie, the western boundary of which is just west of Starkville, into the Interior Flatwoods which cover most of the central portion of the county (Figure 2). Near the western border of the county the Interior Flatwoods merge into the North Central Hills. Oktibbeha County is potentially, then, an excellent area in which to examine the ways in which prehistoric settlement patterns were correlated with physiographic factors in northeastern Mississippi. A brief description of each of the five major physiographic zones in this portion of the state follows.

The Black Prairie physiographic zone extends from Alcorn County on the Tennessee border in the north to Noxubee County in the south where the Prairie turns to the east and crosses into Alabama. The Prairie varies from about 20 to 25 miles (32-40 km) in width and is bounded on both the east and west by uplands which may rise to 300 feet (91 m) above the Prairie. Topographically the Black Prairie is relatively flat, and much of it is devoid of trees except in the stream bottoms which historically have been covered by heavy timber growth. Soils of the Prairie are derived from the Cretaceous limestones of the area and are typically heavy, dark clays. Natural fertility is somewhat higher in the Prairie soils than in soils of the surrounding regions (Kelley 1974:4-7; Vanderford 1962:31-37).

The Tombigbee Hills are located in the northeastern corner of the state and border the Black Prairie on the east from the Tennessee border in the north to the point where the Prairie crosses into Alabama. This zone is developed on rocks belonging to the Cretaceous Tuscaloosa and Eutaw formations. The drainage of the Tombigbee Hills is generally to the south and east, and their elevation ranges from approximately 650 feet (198 m) up to 806 feet (246 m), the highest point in the state (Lowe 1921:30-32; Thomas 1974:20-21).

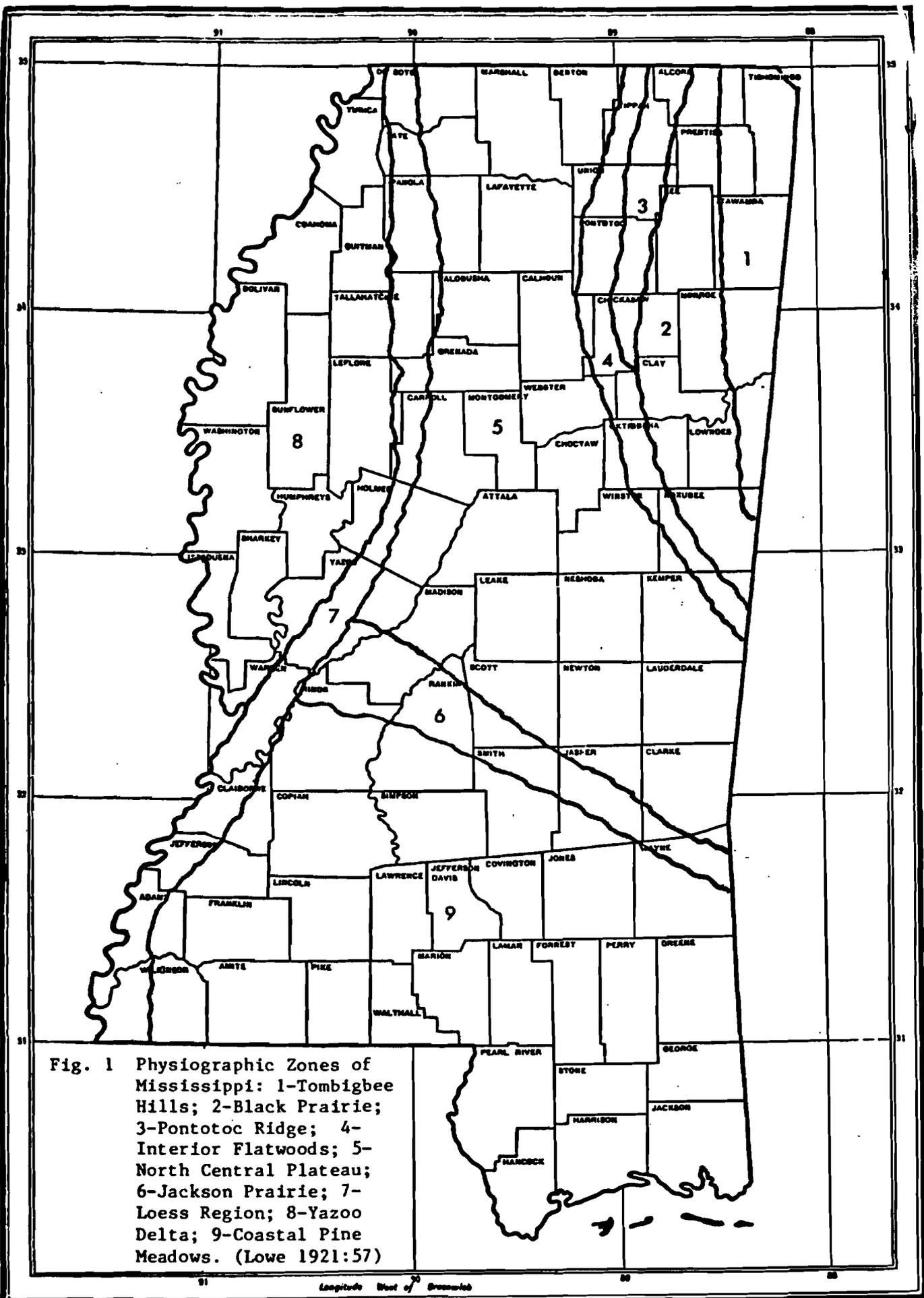


Fig. 1 Physiographic Zones of Mississippi: 1-Tombigbee Hills; 2-Black Prairie; 3-Pontotoc Ridge; 4-Interior Flatwoods; 5-North Central Plateau; 6-Jackson Prairie; 7-Loess Region; 8-Yazoo Delta; 9-Coastal Pine Meadows. (Lowe 1921:57)

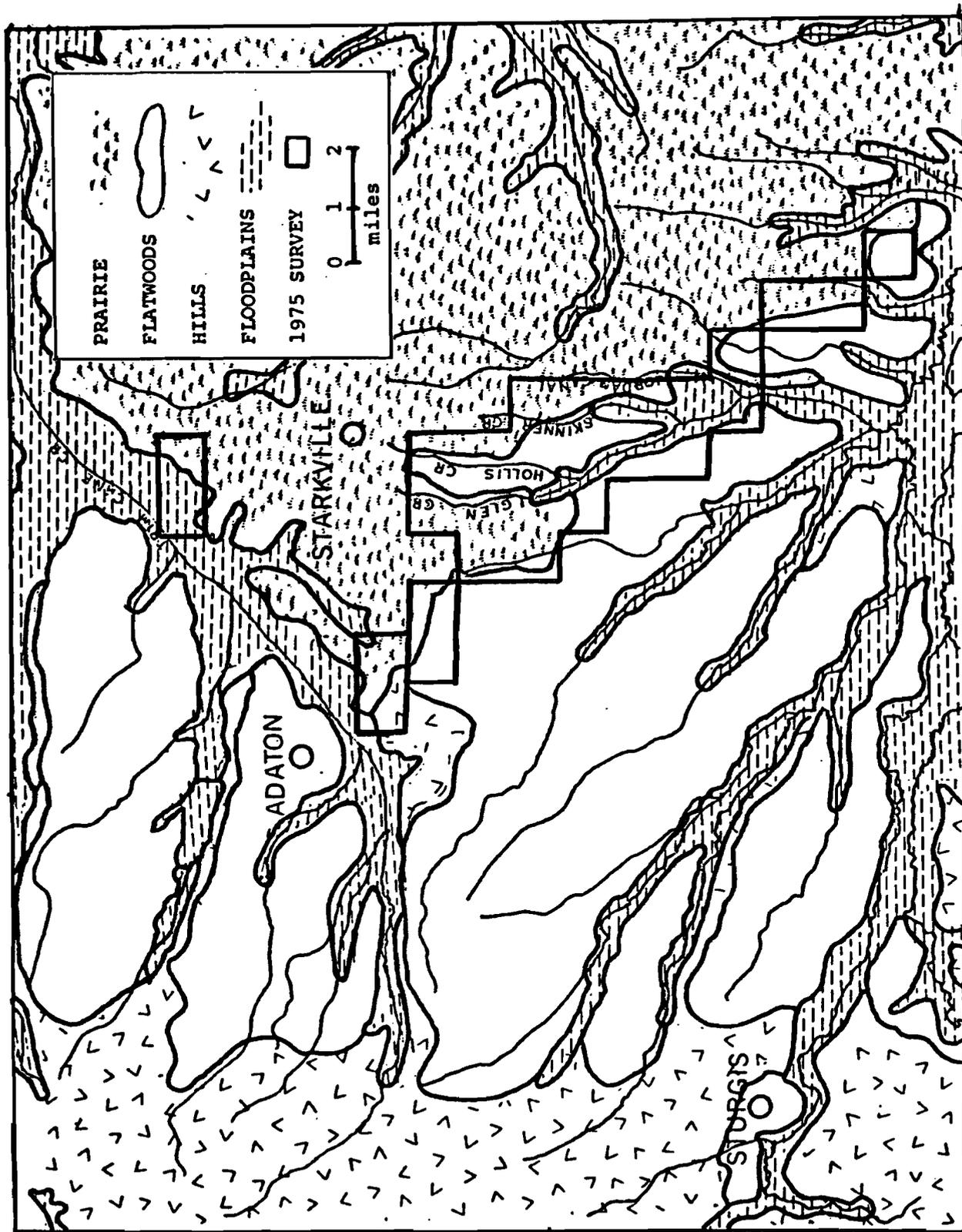


Figure 2. Ecozones of Oktebbeha County and sections of the county surveyed in 1975.

Bounding the Prairie on the west is the Pontotoc Ridge which extends from the Tennessee line to a point a few miles north of West Point, Mississippi. The ridge ranges from 400 to 600 feet (122-183 m) above sea level and serves as the divide between the Tennessee-Tombigbee basin on the east and the Mississippi River basin on the west. The ridge is formed by outcroppings of marls and sands of the Ripley Cuesta which have weathered to red sandy loams (Lowe 1921:35-37; Thomas 1974:20).

West of the Pontotoc Ridge and the Black Prairie are the Flatwoods which extend in a strip varying in width from six to twelve miles (10-20 km) from Tippah County in the north to Kemper County in the south. Topographically the Flatwoods vary from relatively flat to rolling and hilly. The soil of the Flatwoods is primarily a wet, heavy, acidic clay which tends to be either too wet or too dry for good plant growth. For this reason the vegetation cover is not rich and consists mostly of pine and some species of oak (black jack, post, and Spanish oak) (Lowe 1921:37).

To the west the Flatwoods blend into the North Central Hills which comprise the north central portion of the state, running from the Flatwoods to the Yazoo and from the Tennessee line to the Jackson Prairie. The North Central Hills represent a maturely eroded plateau varying from 400 to over 600 feet in elevation. Streams are generally characterized by two or more terraces, and the uplands are well drained while the first bottoms may be poorly drained. The soils of the eastern part of the Hills are similar to those of the Flatwoods. Similarly, the primary forest component in the Hills is the pine (*Pinus mitis* or *taeda*), often with a significant mixture of hardwoods, especially the oaks, also being represented. Lowland soils of this region tend to be sandy loams which were originally covered by heavy hardwood forests (Lowe 1921:38-41).

Geologically, Oktibbeha County consists of Cretaceous and Tertiary deposits which outcrop in bands running from northwest to southeast across the county. The dip of the strata is to the west-southwest, and therefore the oldest units outcrop in the eastern part of the county. Moving from east to west across the county, the following major formations occur: the Demopolis Chalk, consisting primarily of a "massively bedded chalk and marl consisting largely of calcite in the form of microscopic fossils..." (USDA 1973:90), over the eastern quarter of the county; the Ripley formation, outcropping as a narrow strip of calcareous sand and clay bordering the Demopolis Chalk; the Prairie Bluff formation, comprising the other major formation underlying the Prairie portion of the county and made up of massively bedded chalk and thin bands of calcareous sand; the Clayton formation, outcropping in a narrow band along the western boundary of the Prairie Bluff formation and consisting of a glauconitic sand which may be compressed into a sandstone, marl, or clay; the Porters Creek Formation, underlying the Flatwoods in the county, made up of montmorillonite clays which exhibit a conchoidal fracture; and along the western boundary of the county, the North Central Hills zone, which is underlain by the Wilcox Formation, an irregularly bedded quartz sand. Recent alluvium occupies the streambeds and floodplains in the county (USDA 1973:90).

Climatically, Oktibbeha County is warm and humid with an average rainfall of about fifty inches per year. The average temperature ranges from approximately 46°F in January to 81°F in July. There are about 226 frost-free days annually, with the first frost occurring around November 6 and the final frost on March 25.

Summarizing the floral and faunal resources of Northeastern Mississippi, the forests are primarily hickory/oak/pine, with the major species being mockernut, pignut, shagbark, and pole hickories, white, post, black, northern, and southern oaks, and loblolly and shortleaf yellow pines. Minority species include poplars, sweetgum, and magnolias. In addition the Prairie contains red cedar, durand oak, overcup oak, shumard oak, laurel oak, green ash, prairie coneflower, prairie rose, prairie sunflower, and Cherokee sedge (Thomas 1974:20-21). The fauna include whitetail deer, wild turkey, quail, cottontail rabbit, gray squirrel, beaver, muskrat, raccoon, fox, and opossum.

RESEARCH DESIGN

To initiate the systematic site survey of Oktibbeha County it was necessary to delimit that portion of the county which would be the subject of investigation during the 1975 season. It was decided that the division of the county on the basis of ecosystems would be the basic method by which the land area could be designated for survey activities. The Prairie Flatwoods ecotone was selected as the initial part of the county to be surveyed.

Ecozones were defined within the county on the basis of the distribution of soil types. The soils are reflective of the parent geological material and are intimately related to the vegetation. Therefore, it was felt that the soils could be utilized as the criterion on which the ecozones were defined. Utilizing a general soil map taken from the soil report for Oktibbeha County (USDA 1973) on which the township coordinate system was recorded, it was possible to assign each section to one of six ecozones: Prairie, Flatwoods, North Central Hills, Alluvial Floodplain, Prairie/Flatwoods ecotone, and Flatwoods/North Central Hills ecotone. While the soil types associated with the various ecozones were obviously not coterminous with section lines, it was possible to make assignments based on the predominant soil type present in any single section. Sections with approximately equal representation by soils from two of the major ecosystems were assigned to one of the ecotone zones. A total of sixteen sections were assigned to the Prairie/Flatwoods ecotone (Table 1). Originally it was felt that it would be impossible to adequately survey all sixteen of the ecotone sections in the five weeks available with the field school crew. To circumvent this problem, a simple random sample consisting of 50% of the ecotone sections was selected for survey by use of a random numbers table (Rand Corporation 1955). However, when the ecotone sections were examined it was found that most of the area was devoted to pasture or forest, and, therefore, was not accessible for survey. For this reason, we were able to cover all accessible lands in the sixteen ecotone sections during the survey. In addition, the survey also covered the accessible portions of the floodplains of Hollis, Jordan,

and Skinner Creeks which separate the Prairie and the Flatwoods south of Starkville, and one day of survey was spent on the floodplain of Trim Cane Creek north of Starkville (Table 2). Of the 17,280 acres of land in the twenty-seven sections listed in Tables 1 and 2, 1404 acres (12.3%) were covered by the survey. This includes some pasture and some forest but was primarily cultivated land. Therefore, approximately 87% of the land was for various reasons inaccessible to the survey.

The basic maps used in the survey were the 1:24,000 scale USGS topographic maps and the 1:20,000 scale soil maps included in the Oktibbeha County soil report (USDA 1973).

Within the areas selected for survey, an attempt was made to examine all accessible ground, regardless of elevation or topography. Surface collections of artifacts were made at all sites located. The method of obtaining the surface collection was unstructured other than emphasizing that all cultural materials were worthy of collection. The primary purpose of the collection was to provide a general indication of the variety and concentration of surface materials present.

Materials collected by the survey were returned to the Mississippi State University, Department of Anthropology Laboratory where they were washed and a preliminary analysis was performed. Ceramics were analyzed according to paste characteristics—primarily temper types—and decorative treatment, and lithic materials were classified on the basis of shape classes (e.g. drill, projectile point, scraper), utilization *vs.* non-utilization, and unifacial *vs.* bifacial chipping. Historic materials, rare in the collections, were not analyzed in the preliminary analysis beyond noting their presence.

Following the initial assignment of a general period of occupation to each site based on the ceramic and lithic analysis, the distribution of sites by time period, soil type, and topographic features was examined, and these patterns of distribution are discussed below.

SURFACE COLLECTIONS

Ceramics

A total of 1,569 sherds were collected during the course of the survey. Of the fifty-nine sites surveyed, five had no pottery and one had only historic European crockery. Only three sites had over 100 sherds, nine had between 50 and 99 sherds, and 41 had less than 50 sherds. Most of the sherds fall into six broad categories based on tempering. A general lack of specific information on the archaeology of the area coupled with the fact that the majority of the sherds were very small made it difficult to categorize most of the sherds other than by temper. Very few rims or decorated sherds were collected.

Tempering materials were of six major types: 1) coarse sand; 2) fine sand; 3) fine sand and clay; 4) coarse sand and clay; 5) shell; and 6) shell and sand. A total of sixty-three sherds were assigned to specific pottery types as follows:

8	fiber tempered, Wheeler sherds
1	Baldwin Plain

3	Furrs Cordmarked
7	Tishomingo Plain
28	Tishomingo Cordmarked
10	Gainesville Fabric Impressed (7 sand/clay tempered, 3 clay tempered)
1	Salomon Brushed
1	Roper Plain
4	Chickachae Combed

Wheeler Ware: Phillips (1970:82) describes fiber tempered ware as "a pottery containing carbonized fibers or fiber channels thought to represent roots or fiber bundles of rotted stems and leaves occurring as natural inclusions in the clay. Surfaces are plain or pitted with random shallow punctations." The sherds identified in this survey as fiber tempered show fiber marks on both inside and outside surfaces.

Baldwin Plain pottery is tempered with fine to very fine sand, mica flakes, and occasional clay pellets. The texture is very gritty and friable. The surface finish is smooth and may be burnished. Baldwin Plain is primarily a Middle Woodland ceramic type (Thorne and Broyles 1968:15).

Furrs Cordmarked is tempered with fine to very fine sand, mica flakes, and occasional clay pellets. The texture is gritty and very friable. The interior surface is smoothed; the exterior surface is covered with cord impressions applied with a paddle wrapped in cord. The cord impressions are not in any regular pattern. Furrs Cordmarked is associated with Baldwin Plain and is also a Middle Woodland type (Thorne and Broyles 1968:49).

Tishomingo Plain pottery is tempered with sand and clay; occasionally fossil shell or limestone is included. The texture is contorted. The interior surface is usually smoothed. It dates to the Late Woodland cultures in the region (Thorne and Broyles 1968:98).

Tishomingo Cordmarked is the decorated counterpart of Tishomingo Plain. The temper and texture are like that of Tishomingo Plain. The interior surface is usually smoothed; the exterior surface is decorated with irregularly applied, closely spaced cordmarks. It dates from the Late Woodland cultures (Thorne and Broyles 1968:97).

Gainesville Fabric Impressed is a clay tempered ceramic which may also contain medium to fine sand and manganese oxide in the paste. The entire exterior of the vessels except the lip is covered with twined fabric marks pressed into the surface. This type is associated widely with the Late Woodland cultures in the Central Tombigbee Basin (Nielsen and Jenkins 1973:119-121). This may be a Tombigbee River Valley counterpart to Withers Fabric Impressed (Nielsen and Jenkins 1973:121; Phillips 1970:174-175), which is an Early to Middle Woodland type in the Mississippi Valley. The sherds identified in this survey as Gainesville Fabric Impressed were tempered with either clay or sand and clay, and were identified by means of comparison to examples of Gainesville Fabric Impressed pottery in the laboratory collection.

Salomon Brushed pottery is described by Phillips (1970:158) as formerly being included in the Mazique Incised pottery type, from which he extracted it and made it a type in itself. By referring to both his description of Salomon Brushed and Thorne and Broyles'

discussion of Mazique Incised (1968:68-69), the characteristics of Salomon Brushed can be determined. Salomon Brushed is clay tempered with a contorted texture. The outer surface shows striations that may have been caused by dragging a cord-wrapped paddle over it. The striations may also be the result of incomplete smoothing with a corncob. Salomon Brushed is associated with Late Woodland contexts (Phillips 1970:158-159; Thorne and Broyles 1968:68).

Roper Plain pottery is tempered with clay fragments. The texture is smooth to the touch. Both the interior and exterior surfaces show tempering material so thickly that the surface looks mottled. It is a Late Woodland type (Rucker 1974:30).

Chickachae Combed pottery is tempered with very fine sand or fine sand and clay. The texture is smooth and hard; the interior and exterior surfaces are smooth and sometimes polished (Collins 1927:262). The decoration consists of simple curvilinear and angular designs made up of uniformly spaced lines, three to seven in number. The lines are usually applied with a comb-like implement and very rarely individually incised. Chickachae Combed is assignable to the historic Choctaw (Phillips 1970:66).

In addition to the pottery types already described, a few sherds have been tentatively identified as Wilson Plain. Wilson Plain is tempered with coarse fossil shell and some sand and clay. The texture is coarse and some tempering material can be seen on both the interior and exterior surfaces. The interior and exterior surfaces are poorly smoothed, with the interior rougher than the exterior. It dates to the historic period (Thorne and Broyles 1968:104).

Except for these sixty-three sherds which were classified into previously identified types, the ceramics from the survey were divided only on the basis of temper and general decorative motifs. As a classificatory tool within the region, temper types serve to provide a rough estimate of the period of occupation of a site. In general, the fiber tempered types appear first. These are superseded by coarse sand, fine sand, fine sand and clay, clay, and shell tempered types in that order. While these broad categories have a certain degree of utility, it should be emphasized that the correlation between temper types and temporal periods is far from precise. This problem is clearly indicated by the occurrence on a number of sites in the survey of ceramics which contained shell, sand, and clay temper, all in the same sherd. It may well be that in cases like this both the sand and clay are natural inclusions in the paste, while the shell represents an intentionally added tempering material. The implication of this possibility, then, should also be clear--some of the "temper types" may indeed be "untempered." Nevertheless, until a more detailed analysis of the survey collections can be accomplished, and until further excavations have been carried out, putting these ceramics into firmer chronological settings, this admittedly rough method of classifying the ceramics can be used to provide a very general estimate of the period of occupation of the sites located by the survey. Furthermore, it should be added that some of the lithic artifacts provide an additional means of determining the most probable period of occupation of a site. The ceramics recovered by the survey are listed in Table 3.

Table 3. Ceramics from the Surface Collections

Fiber Tempered	Coarse Sand	Fine Sand Temper			Fine Sand & Clay Temper			Clay Temper			Live Shell	Sand and Shell	Shell, sand, and clay	Coarse sand and clay	European	Totals	Site Numbers
		Baldwyn Plain	Furrs Cordmarked	Plain	Tishomingo Plain	Tishomingo Cordmarked	Gainesville Fab. Impressed	Plain	Gainesville Fab. Impressed	Salomon Brushed							
							1								1	2	526
										1					1	2	527
				3			1				3	2			54	63	528
								8			7			25	1	41	529
												1				1	530
				36							4		15			55	531
				20						15	14	9				58	532
				2			2				5			2		9	533
				1			3			2	23		3			33	534
											7			8		16	535
											29			4		33	536
											7			2		9	537
				30		1					69					100	538
							14					26				40	539
							25				4					29	540
							3					3				6	541
							4					8				12	542
	1						6					19				26	543
										2	25					27	544
	1						16				31					48	545
												73				73	546
				2			14					12				28	547
								2		15						17	548
1	2			1							1					5	549
							9									9	550
	1													2		3	551
				2	1	1	1	1								6	552
																0	553
							4			3						7	554
		1			2				1							4	555
																0	556
							1									1	557
	2			1								1				4	558
							1					1				2	559
										1	1					2	560

Table 3. Ceramics from the Surface Collections (continued)

Fiber Tempered	Coarse Sand	Fine Sand Temper			Fine Sand & Clay Temper				Clay Temper				Live Shell	Sand and Shell	Shell, sand, and clay	Coarse sand and clay	European	Totals	Site Numbers
		Baldwyn Plain	Furrs Cordmarked	Plain	Tishomingo Plain	Tishomingo Cordmarked	Gainesville	Fab. Impressed	Plain	Gainesville	Fab. Impressed	Salomon Brushed							
																		0	561
																	6	6	562
																		0	563
													4					4	564
								10					5					15	565
												10	30				14	54	566
				33										71				104	567
				21				6						51				78	568
														31				31	569
				1				25					5	14	9	2		56	570
								10						4				14	571
														4				4	572
													1	1				2	573
	2			1	3			1				3	6				2	18	574
																		0	575
								1					3					4	576
				1				1										2	577
													7					7	578
																45	2	47	579
7	11			10		17		4				5	16			1	1	72	580
				2				8	1			4		1	2			18	581
			3	33		9				1		29						75	582
	1			104				21				6	37			12		181	583
												3	3					6	584
8	21	1	3	303	7	28	7	194	3	1	1	96	224	431	38	105	98	1569	Total no. of sherds

Site 580 and Site 583--some of the live shell may be Wilson Plain.
Site 529--incised Chickachae Combed.

Lithic Artifacts

Ten very broad categories were used in the preliminary analysis of the lithic materials recovered by the survey (Table 4). A total of 859 separate lithic specimens were classified, of which 689 (80%) were non-utilized flakes and pebbles, and another 96 (11%) were utilized flakes. Therefore, less than 10% of the lithic items were identifiable as purposely prepared implements. It must be made clear at this juncture that the lithic classes are not functional classes, but are rather form or shape classes. Obviously the class names (e.g. hammerstone, nutting stone, projectile point, etc.) implicitly identify the function of the artifact. But without technological studies which might confirm these functions it is necessary to make the classification on the basis of form rather than function. Thus, a "hammerstone" as it is here classified consists of a relatively spherical cobble which could have been held in the hand and which shows percussion fractures on some parts of the surface. This fracturing may have been caused by use of the implement as a hammer for percussion flaking or by some similar use. The classificatory term is used to aid the reader in visualizing the artifact, not as a definite functional indicator. Similarly, each of the artifact type names is presented to assist in conceptualizing the nature of the surface collections in terms of the forms of the artifacts recovered, without the assumption that the artifact's function was exactly that which the term might imply.

Emphasizing that the classification is based on the form, and not the function, of the artifacts, it can be seen that of the 74 artifacts specifically assigned to one of the 8 "types," 28 (38%) of these were projectile points; and at present in this area they represent the most seriously studied lithic artifacts and provide the best non-ceramic data for identification of the period of occupation of the sites.

Twenty-one of the projectile points from 19 different sites (Table 5) were assignable to specific point "types." We want to state from the outset that it is realized that these point types are very much like the general lithic artifact types in the sense of being based on form, not function. Furthermore, the use of a type name which was developed in the Carolinas or in Texas (e.g. PeeDee and Fresno) should not be taken to imply that the point in our collection was made by the same group that made the points in these areas distant from Oktibbeha County. At the same time, however, there do seem to be remarkably similar trends in the development of point types over broad sections of the country. Thus, a small triangular point classifiable as a Madison can usually be associated with a Late Woodland to Mississippian group whether one is talking about southern Illinois or central Mississippi. The type names, then, like the artifact class names, provide a useful label which helps to describe the artifact, and in many cases which also has some chronological significance. At the same time the individual point type names should not be allowed to obscure the more general formal relationships between a number of the points. For example, the Fresno, Hamilton, Madison, Nodena, PeeDee, and Shetley points are all relatively distinct from one another, but they all share major similarities such as a basically triangular

Table 4. Lithic and European Materials from the Site Survey

Site Numbers	22-OK- Site Numbers	Non-utilized Pebbles and Flakes	Utilized Flakes	Cores	Scrapers	Choppers	Hammerstones	Grinding and Nutting Stones	Drills	Projectile Points	Blade Fragments	European Material	22-OK- Site Numbers	Non-utilized Pebbles and Flakes	Utilized Flakes	Flakes and Cores	Scrapers	Choppers	Hammerstones	Grinding and Nutting Stones	Drills	Projectile Points	Rlade Fragments	European Material	
526	556												1	1										1	
527	557	2															1								X
528	558	5								1	X			2											
529	559	8								1															
530	560													3											
531	561		1		1																				
532	562	13			1			1																	1
533	563	2								1	X														1
534	564	19									1														
535	565	5	3				1							7	2	1	1								2
536	566	6	3	1							1			7	2										X
537	567	2												26	8										
538	568	4	4												1										
539	569	9	10							1				8	9						1				1
540	570	9	1											8	2	1					1				2
541	571	4	1											3							1				1
542	572	6	1							1															
543	573	14			1						X			2											
544	574	4												111	2										
545	575	37	1								X			3					2						2
546	576	39								2				2											
547	577	13		1						1					1										
548	578	5								1				5											
549	579	3				1					2				18					1					
550	580		1											81	2			1							1
551	581	20						1			X			11	1	1									5
552	582	52												127	22	3	1	2	4	6					X
553	583	1								1				4						1					2
554	584													4											
555		2							1																
Total														689	96	8	8	4	5	13	1	28	7		859
Percent														80	11	1	1	1.5	1.6	1.5	1.1	3.3	.8		

Table 5. Projectile Points from the Surface Collection

Total	22-0k-583	582	580	575	569	565	563	562	561	556	553	548	547	546	542	539	533	529	528	Site Number
2	1?													1						Camp Creek (Archaic-Miss.)
1																1				Fresno (Mississippian)
1																1				Gary (Archaic-Woodland)
1					1															Hamilton (Middle-Late Woodland)
1								1												Kays (Archaic)
3			1?								1	1								Ledbetter (Archaic-Woodland)
1																			1	Little Bear Creek (Archaic-Woodland)
5								1					1	2				1		Madison (Late Woodland-Mississippian)
1																				Nodena (Mississippian)
1		1																		PeeDee (Mississippian-Historic)
1																				Shetley (Mississippian)
1																				Steuben (Middle Woodland)
1			1																	Late Archaic stemmed w/fine retouched blade edge
1		1																		Late Woodland expanding stem, barbed, fine point
21	1	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	TOTAL

shape, small size, and relatively fine workmanship. They are, in fact, apparently all late prehistoric arrow point types. In contrast, a number of Late Archaic point types in the area have characteristics such as moderate size, stems, and finely serrated blade edges. Thus, the point type names are useful for identifying specific variants of the more general patterns, but should not be allowed to obscure those patterns. The following sources were used for deriving the point type assignments recorded in Table 5: Bell 1958, 1960; Cambron and Hulse 1964; DeJarnette, Kurjac, and Cambron; and Perino 1968, 1971.

CHRONOLOGICAL ASSIGNMENTS

On the basis of the general time periods during which the various ceramic and projectile point types were produced, each of the 59 sites located by the survey has been assigned a probable period of occupation. These are recorded in Table 6, and represent an estimate of the broad time periods of occupation of each site. This temporal placement of the components should not be taken in any sense as a rigid classification of the periods of site occupation. As the sections of this report on the ceramics and the lithic material make clear, the temporal significance of the various types of artifacts in occupational settings in Oktibbeha County has not been established by the dating of materials from controlled contexts. These temporal assignments are almost wholly based on comparisons with materials from other areas and, therefore, can provide only a general index of the probable periods of occupation.

Nevertheless, it is significant to note that a great majority of the sites were probably occupied during the latest prehistoric periods, while only a relatively few contained what are generally classified as Archaic materials. Since only the area which could be broadly defined as the ecotone between the Prairie and the Flatwoods was surveyed during 1975, the possible implications of this late occupation of the ecotone hills for studies of changing patterns of prehistoric settlement location remain problematic. This concentration of relatively small, late sites in the ecotone zone does provide, however, a base line with which the occupations of other ecological zones can be compared, and as the chronology of the area is refined by the analysis of materials from datable excavated contexts, we will have the opportunity for further examination of possible changes in the prehistoric settlement patterns relative to ecological criteria.

SITE DISTRIBUTION

In analyzing the data from site surveys, several environmental factors should be considered. If site locations can be correlated with these factors, then this information can be utilized in several ways. First, this data may be used to identify probable factors which were significant in the establishment of prehistoric settlements. This can result in the development of a hypothetical settlement model which can be used to orient further research, both excavations and survey. Finally, as this original model is refined and retested we should develop a better understanding of the process of cultural change in our area and of the nature of the cultural patterns at each time level.

Table 6. Occupational Components of the Sites

Site Number	Middle Archaic	Late Archaic	Early Woodland	Middle Woodland	Late Woodland	Mississippian	Historic
526							
527							
528							
529							
530							
531							
532							
533							
534							
535							
536							
537							
538							
539							
540							
541							
542							
543							
544							
545							
546							
547							
548							
549							
550							

Table 6. Occupational Components of the Sites
(continued)

Site Num- ber 220k-	Middle Archaic	Late Archaic	Early Woodland	Middle Woodland	Late Woodland	Mississipp- ian	Historic
551				-----		-----	
552							
553		-----					
554							
555			-----				
556			-----	-----	-----		
557				-----			
558		-----	-----	-----		-----	
559							
560							
561	-----	-----					
562						-----	-----
563						-----	
564						-----	
565							
566							
567							
568							
569							
570							
571						-----	
572						-----	
573						-----	
574			-----	-----	-----	-----	

Table 6. Occupational Components of the Sites
(continued)

Site Number	Middle Archaic	Late Archaic	Early Woodland	Middle Woodland	Late Woodland	Mississippian	Historic
575							
576							
577							
578							
579							
580							
581							
582							
583							
584							
Total	1	7	12	18	45	50	13

_____ Probable occupation
 - - - - - Possible occupation

Site Locations and Soil Types

Sites identified by the survey were on a number of different soil types. We have attempted to examine our data in such a way that the utility of soil types as indicators of site locations may be assessed.

The survey covered 1,404 acres in South Central Oktibbeha County (Tables 7 and 8). This acreage contained thirty different soil types which were identified by use of the soil survey (USDA 1973). The sites were grouped by the soils on which they were located. If a site occupied more than one soil type, it was classed with the soil type having the highest elevation, our assumption being that material found on the lower soil type could have washed from the higher elevation. In Table 8 we have calculated the percentage of total sites found per soil type. Also included are the number of acres surveyed per soil type and the percentage of total acreage surveyed per soil type. By dividing the acres surveyed of each soil type by the number of sites found on the various soils, we derived the density of sites per soil type. It can be seen in Table 8 that there appears to be an association between the soil types and the occurrence of sites. Specifically, soils O1B2, OhC2, and SaB2 account for less than 6% of the total acreage surveyed but contained nearly 40% of the sites located by the survey.

To test the general hypothesis that there is a significant association between the soil types and the presence of sites, the Chi-Square test was applied to the site distributions. In computing the value of the Chi-Square, we have factored out all soil types where no sites were found or where we surveyed less than ten acres of a given soil type. The soil types which were included in the Chi-Square computations are given in Table 9. Included in this table are the number of sites or observed frequencies (O), and the expected site frequency (E) per soil type. To compute the expected frequency of sites on each soil type, the product of the total number of sites times the acres surveyed of each soil type was divided by the total number of acres surveyed given in Table 9. The formula for computing the expected frequency is:

$$E = \frac{\text{Sites (total)} \times \text{Acreage (specific type)}}{\text{Acreage (total)}}$$

The Chi-Square was utilized to test the significance of the relationship between site locations and soil types. The formula used is

$$X^2 = \frac{(O - E)^2}{E}$$

The Chi-Square value obtained for the soil-site associations was 142.2. The degree of freedom consisted of the number of soil types minus one, giving a value of 15. At the .001 level of significance for a two-tail test, the critical value is 37.697 (Champion 1970:264), indicating that there is a significant relationship between site locations and soil types. However, considering the small size of the sample and the distortion introduced into the Chi-Square distribution when expected frequencies are less than five (Champion 1970:436) we

Table 7. Soil Type Symbols and General Descriptions

BoB	Boswell fine sandy loam, 2 to 5 percent slopes
BrB	Brooksville silty clay, 2 to 5 percent slopes
Cp	Catalpa silty clay loam
FaB	Falkner silt loam, 2 to 5 percent slopes
FrA	Freestone fine sandy loam, 0 to 2 percent slopes
FrB	Freestone fine sandy loam, 2 to 5 percent slopes
Ho	Houston silty clay
KlA	Kipling silty clay loam, 0 to 2 percent slopes
KlB2	Kipling silty clay loam, 2 to 5 percent slopes, eroded
KlC2	Kipling silty clay loam, 5 to 8 percent slopes, eroded
KsF3	Kipling and Sumter soils, 17 to 40 percent slopes, severely eroded
Le	Leeper silty clay loam
LoA	Longview silt loam, 0 to 2 percent slopes
Mt	Marietta fine sandy loam
Mu	Mathiston silt loam
My	Myatt loam
OhC2	Oktibbeha fine sandy loam, thick solum variant, 5 to 8 percent slopes, eroded
O1B2	Oktibbeha silty clay loam, 2 to 5 percent slopes, eroded
O1C2	Oktibbeha silty clay loam, 5 to 8 percent slopes, eroded
OtE3	Oktibbeha soils, 8 to 17 percent slopes, severely eroded
PnA	Prentiss silt loam, 0 to 2 percent slopes
PnB	Prentiss silt loam, 2 to 5 percent slopes
SaB2	Savannah fine sandy loam, 2 to 5 percent slopes, eroded
SaC2	Savannah fine sandy loam, 5 to 8 percent slopes, eroded
SaD2	Savannah fine sandy loam, 8 to 12 percent slopes, eroded
Se	Sessum silty clay loam
St	Stough fine sandy loam
Ur	Urbo silty clay loam
W1B2	Wilcox silty clay loam, 2 to 5 percent slopes, eroded
W1C2	Wilcox silty clay loam, 5 to 8 percent slopes, eroded

Table 8. Classification of the Site Locations by Soil Types

Soils	Number of Sites Found	Acres Surveyed	Density: Sites/Acre	Total Sites	% of Total Sites
BoB	2	5	1/2.50	3.38	.36
BrB	0	10	0		.71
Cp	0	12	0		.85
FaB	1	8	1/8	1.69	.57
FrA	0	1	0		.07
FrB	0	1	0		.07
Ho	0	8	0		.57
K1A	0	30	0		2.14
K1B2	1	11	1/11	1.69	.78
K1C2	2	32	1/16	3.38	2.28
KsF3	2	22	1/11	3.38	1.57
Le	2	176	1/88	3.38	12.54
LoA	2	22	1/11	3.38	1.57
Mt	3	61	1/20.33	5.08	4.34
Mu	0	50	0		3.56
My	0	10	0		.71
OhC2	4	30	1/7.5	6.78	2.14
OlB2	5	13	1/2.60	8.47	.93
OlC2	0	71	0		5.06
OtE3	3	83	1/27.66	5.08	5.91
PnA	5	53	1/10.60	8.47	3.77
PnB	1	70	1/70	1.69	4.99
SaB2	15	40	1/2.66	25.42	2.85
SaC2	3	98	1/32.66	5.08	6.98
SaD2	1	50	1/50	1.69	3.56
Se	3	295	1/98.33	5.08	21.01
St	4	81	1/20.25	6.78	5.77
Ur	0	10	0		5.77
W1B2	0	33	0		.71
W1C2	0	18	0		1.28

Table 9. Observed and Expected Frequencies Used in Ungrouped Chi-Square Computation

Soils	No. of Sites(O)	Acres Surveyed	E
K1B2	1	11	0.5
K1C2	2	32	1.6
KsF3	2	22	1.1
Le	2	176	8.7
LoA	2	22	1.1
Mt	3	61	3.0
OhC2	4	30	1.4
O1B2	5	13	0.6
OtE3	4	83	4.1
PnA	5	53	2.6
PnB	1	70	3.4
SaB2	15	40	2.0
SaC2	3	98	4.8
SaD2	1	50	2.5
Se	3	295	14.5
St	4	81	4.0
Total	57	1137	

Table 10. Soil Groups; Observed; and Expected Site Frequencies

Soil Groups	No. of Sites (O)	Expected No. of Sites (E)
Upland Ridge Soils		
a. 02% slope (LoA, PnA)	7	3.7
b. 25% slope (K1B2, O1B2, PnB, SaB2)	22	6.5
c. 5-8% slope (K1C2, OhC2, SaC2)	9	7.9
d. 8% + slope (KsF3, OtE3, SaD2)	7	7.7
Broad Upland Flats Soils (Se, St)		
	7	18.6
Floodplain Soils (Le, Mt)		
	5	11.7

felt there was a need to alter our procedure to take these problems into account. Therefore, the soil types were grouped on the basis of general types and slopes, yielding the six soil classes recorded in Table 10. Recomputing the Chi-Square from Table 10 with five degrees of freedom, the relationship was still significant at the .001 level. The computed value of Chi-Square for the grouped soils was 51.2 and the critical value was 20.517.

The nature of this relationship becomes relatively clear when Table 9 is examined. Of the sixteen soils with over ten acres surveyed, only three (OhC2, O1B2, and SaB2) have site densities greater than 0.1 site per acre, and as noted above these soils account for nearly 40% of the sites and only 6% of the surveyed land area. At the other end of the scale are soils with extremely low site densities. Specifically, the Leeper and Sessums soils comprised nearly 1/3 of the surveyed land but produced only about 8.4% of the total number of sites.

Having identified a significant relationship between site densities and soil types, we are now in a position to begin considering factors which may have come into play in the selection of locations for aboriginal sites. Several factors for examination are apparent when the high density versus the low density soils are compared. The most glaring differences between the high density soils and the low density soils are in the areas of drainage and suitability for camping (Table 11). The Leeper soils are excessively wet floodplain soils while the Sessums series soils are poorly drained soils occupying broad upland flats. Soils of neither of these series are suitable for camping due to wetness and poor foot trafficability. In contrast, both the Oktibbeha and Savannah series soils are moderately well drained with only moderate limitations on suitability for camping. It is notable that under high level agricultural management the Leeper soils are more productive of corn than are the Oktibbeha and Savannah series soils. Nevertheless, the poor drainage and tendency toward flooding of the Leeper soils seem to have precluded their heavy use by most aboriginal occupants of the area.

Site Distributions Relative to Topograph Features and Water Sources

In addition to the apparent relationship between site locations and soil types, we can also consider the site distribution patterns in relation to other physiographic features, specifically topography and water. The implications of these site distributions can be clarified by dividing the site components into three broad occupational periods--Archaic, Woodland, and Mississippian. Two general topographic zones were covered by the survey--broad bottoms and terraces of the streams, and the narrow ridges and their associated slopes. Examining the distribution of the temporal components relative to these two major topographic zones (Table 12), we found that the Archaic sites tended to be concentrated in the bottomland and terrace zones, while more recent sites were heavily concentrated in the ridge and slope zones of the surveyed area.

Correspondingly, Table 13 indicates that the Archaic sites were more closely associated with water sources than were either the Woodland or Mississippian components located during the survey.

Table 11. Selected Characteristics of Soils with High and Low Site Densities.

Soil Series	Estimated yield of corn under high management (bushels/acre)	Agricultural Drainage	Limitations for picnic & camping areas	Flooding Probability	Wildlife Suitability	Erosion Hazard
Leeper Soils	75	Somewhat poorly drained	severe due to poor traffic ability	occasional	all species common to Mississippi	none
Sessums Soils		Poorly drained	severe due to excessive wetness	none	moderate for openland & woodland species	slight to none
Oktribbeha Soils	50(01B2)	moderately well drained	moderate; fair trafficability	none	moderately suited to openland and woodland species	severe on steep slopes
Savannah Soils	75	moderately well drained	slight to moderate except on steep slopes	none	forest game	severe on steep slopes

Table 12. Distribution of Components by General Topography

Period	Ridges & Slopes		Terraces & Bottoms		Total No.
	No.	%	No.	%	
Archaic	2	29	5	71	7
Woodland	34	72	15	28	47
Mississippian	36	72	14	28	50

Table 13. Distribution of Components by Distance to Water Source

General Occupational Period	Distance to Water Source				Total No.		
	0-999'		1000-1999'			2000-2999'	
	No.	Row %	No.	Row %		No.	Row %
Archaic	7	100	---	---	---	7	
Woodland	29	62	17	36	1	2	
Mississippian	26	52	22	44	2	4	

Discussion of the Site Distribution Patterns

The implications of these distributional patterns may well bear on the nature of the subsistence and residential patterns of the various prehistoric groups which have occupied the county. First, the general soil preferences seem to hinge upon whether the soils are well drained, trafficable, and out of the floodplain. The fact that the more fertile soils (e.g. the Leeper soils) were not heavily occupied by the later groups, which were probably more dependent upon agricultural products than the Archaic groups were, would seemingly indicate that consideration of fertility was subordinated to problems of drainage, trafficability, and flood protection. This may well be related to the degree of sedentariness of the groups being considered. Agricultural groups could have found that the establishment of residences of the permanence of even a seasonal farmstead required consideration of factors beyond soil fertility. Furthermore, it should be emphasized that the fertility figures reported in Table 11 are based on a high level of management possible with modern agricultural technology and do not take into account factors such as ease of tilling by hand which could seriously influence the selection of a soil for utilization by prehistoric horticulturalists in the area.

In contrast, Archaic hunting groups, with their high degree of mobility, may have found the bottomlands ideal for their purposes. The stream bottoms are highly suited to game production, and the limitations on permanent settlement in the bottoms may not have greatly affected more mobile groups.

The pattern of the distance from the sites to water sources holds similar implications. It would appear that during the later occupational periods the availability of water was subordinated to some other locational criterion. It was suggested above that there was possibly a need for the later sites to be located out of the floodplains, and this would inevitably lead to greater distances to water source.

Thus, our analysis of the survey data indicates a correlation between site location and environmental factors, and there is the suggestion that site locations shifted as subsistence and mobility patterns changed prehistorically.

While it is realized that this explanation of the apparent change in the prehistoric settlement patterns is still primarily hypothetical, there are a number of avenues for future research by which the model can be tested. For example, what is the nature of the late occupation of the clay hilltops in the country? It would appear from surface materials that these sites were relatively small, but their function remains unclear. Were they, in fact, small farming settlements? Questions of seasonality and specific time period of occupation of these sites and their possible relation to larger sites in the area (e.g. the Lyon's Bluff site) also need consideration. Similarly there is a need to focus on the Archaic occupations of the county in order to identify the actual nature of the Archaic subsistence patterns. Was there, as is implied above, a dependence on game and plants which were more plentiful in the bottomlands? If so, was this pattern seasonal or consistent the year round? Obviously the

answers to these questions demand that we have clearer chronological, seasonal, and subsistence data from sites of the several periods of occupation. Therefore, future excavations must not be focused on only one time period or ecological setting. We need comparative data from sites in both bottomland and upland settings and from sites representative of the various occupational periods. We will then be in a position to construct and further refine explanatory models of the prehistoric settlement patterns in Oktibbeha County, and hopefully will be able with modification to extend these models into the surrounding Prairie and Tombigbee Valley areas.

Conclusions

It is felt that the 1975 site survey by the Mississippi State University field school in Archaeology was highly successful for two important reasons. First, it provided us with further data which we can use to develop an understanding of the prehistoric cultural patterns of the county. Second, this data was developed within the context of an academic program which combined the training of students with the generation of archaeological data. In this way, we feel, the needs of the students and the demands of archaeology have both been met, to the profit of both.

Table 1. Ecotone Sections

Section	Township	Range	Section	Township	Range
Sec. 1,	T18N,	R13E	Sec. 17,	T18N,	R14E
Sec. 2,	T18N,	R13E	Sec. 20,	T18N,	R14E
Sec. 12,	T18N,	R13E	Sec. 22,	T18N,	R14E
Sec. 7,	T18N,	R14E	Sec. 23,	T18N,	R14E
Sec. 9,	T18N,	R14E	Sec. 12,	T17N,	R14E
Sec. 10,	T18N,	R14E	Sec. 18,	T17N,	R15E
Sec. 15,	T18N,	R14E	Sec. 19,	T17N,	R15E
Sec. 16,	T18N,	R14E	Sec. 29,	T17N,	R15E

Table 2. Floodplain Sections

Skinner, Hollis, & Jordan Creeks		
Section	Township	Range
Sec. 21,	T18N,	R14E
Sec. 26,	T18N,	R14E
Sec. 27,	T18N,	R14E
Sec. 28,	T18N,	R14E
Sec. 34,	T18N,	R14E
Sec. 35,	T18N,	R14E
Sec. 2,	T17N,	R14E
Sec. 3,	T17N,	R14E
Sec. 11,	T17N,	R14E
Trim Cane Creek Floodplain		
Sec. 16,	T19N,	R14E
Sec. 15,	T19N,	R14E

BIBLIOGRAPHY

- Bell, Robert E.
 1958 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society Special Bulletin 1.
 1960 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society Special Bulletin 2.
- Cambron, J. W., and D. C. Hulse
 1964 Handbook of Alabama archaeology: Part 1, point types. The Archaeological Research Association of Alabama, Inc.
- Champion, Dean J.
 1970 Basic statistics for social research. Chandler Publishing Company, Scranton, Pennsylvania.
- Collins, Henry B., Jr.
 1927 Potsherds from Choctaw village sites in Mississippi. Journal of the Washington Academy of Science 3(10):259-63.
- DeJarnette, David L., E. B. Kurjack, and J. W. Cambron
 1962 Excavations at the Stanfield-Worley Bluff Shelter. Journal of Alabama Archaeology 8(1-2):1-111.
- Kelley, Arthell
 1974 Topography. In R. D. Cross, R. W. Wales (eds.), and C. T. Traylor, chief cartographer, Atlas of Mississippi, 4-7. University Press of Mississippi, Jackson.
- Lowe, E. N.
 1921 Plants of Mississippi. Mississippi State Geological Survey Bulletin 17.
- Marshall, Richard A.
 1973 Comment on Mississippian occupation of east central Mississippi. Paper presented at the Southeast Archaeological Conference, Memphis, 1973.
- Nielsen, Jerry J., and Ned J. Jenkins
 1973 Archaeological investigations in the Gainesville Lock and Dam Reservoir: 1972. Report submitted to the National Park Service, Southeast Region.
- Perino, Gregory
 1968 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society Special Bulletin 3.
 1971 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society Special Bulletin 4.
- Phillips, Philip
 1970 Archaeological survey in the lower Yazoo Basin, Mississippi, 1949-1955. Papers of the Peabody Museum of Archeology and Ethnology Harvard University 60.
- Rand Corporation
 1955 A million random digits. Free Press, Glencoe, Illinois.

Rucker, Marc D.

- 1974 Archaeological survey and test excavations in the upper-central Tombigbee River Valley: Aliceville-Columbus Lock and Dam Impoundment areas, Alabama and Mississippi. Report submitted to the National Park Service, Southeast Region.

Thomas, Joab

- 1974 Natural vegetation. In R. D. Cross and R. W. Wales (eds.) and C. T. Traylor, chief cartographer, Atlas of Mississippi, 20-21. University Press of Mississippi, Jackson.

Thorne, Robert M., and Bettye J. Broyles

- 1968 Handbook of Mississippi pottery types. Southeast Archaeological Conference Bulletin 7.

United States Department of Agriculture

- 1973 Soil survey of Oktibbeha County, Mississippi. USDA Soil Conservation Service in cooperation with the Mississippi Agricultural Experiment Station.

Vanderford, H. B.

- 1962 Soils of Mississippi. Mississippi Agricultural Experiment Station, Mississippi State University.

[MA 10 (1975) 9 (November), 2-30]

THE PORTLAND SITE (22-M-12), AN EARLY EIGHTEENTH CENTURY HISTORIC
INDIAN SITE IN WARREN COUNTY, MISSISSIPPI

Ian W. Brown

Abstract

The Portland site (22-M-12) is located on the loess bluff hills of Warren County overlooking the Yazoo River. It is approximately twelve miles northeast of the city of Vicksburg. Preliminary excavations conducted in 1974 have revealed a number of trash pits which are believed to have been the result of a Tunica Indian occupation dating between 1698 and 1706.

—'—'—'—'—'—'—'—

History of the Site

In the winter of 1698, three French missionaries paddled up a gently flowing tributary of the Mississippi River. This tributary, later known as the Yazoo River, divided the steep loess bluff hills of Warren County from the rich bottomlands of the Mississippi Delta. Though there is some indication of English activity along the Yazoo River in the late seventeenth century (Le Page du Pratz 1774:56), these three missionaries, Rev. Francis Jolliet de Montigny, Thaumur de la Source, and Rev. Anthony Davion, were the first European men known to have visited the aboriginal groups residing upon its shores (Swanton 1911:20).

The Yazoo River region was inhabited in the late seventeenth and early eighteenth centuries by a number of Indian groups, most notably the Tunica (Swanton 1911:306-26), Yazoo (Ibid.:332-34), Koroa (Ibid.:327-32), Ofo (Ibid.:230; Swanton 1946:166), and Chakchiuma (Swanton 1911:292-96). With the exception of the Tunica, little is known about these groups. Apparently, they all differed somewhat linguistically, as Father Davion, the missionary delegated to this region, was only able to learn the language of the most populous group, the Tunica (Shea 1861:133). Since the historic accounts do not reveal other respects in which the groups were culturally similar or dissimilar, we must rely upon the archaeological evidence for this information.

The Tunica were the largest aboriginal group along the Yazoo River (Shea 1861:76; Swanton 1911:42-45), but there has been some question as to where they were actually situated. De Montigny reported the Tunica location at 20 leagues (60 miles) above the Taensa. La Source elaborated that their position was 60 leagues below the Arkansas, their first village being located 4 leagues inland from the Mississippi along a tributary (Shea 1861:80-81). Iberville, among the Taensa in 1699, was told by his hosts that their enemies, the "Tonicas," occupied the first village along the river of the Chickasaw (Swanton 1911:308), a report that agreed with La Source's description. It was in 1699 that Davion returned to the Tunica to establish his mission (Ibid.:20). There appears to have been a movement of some sort at this time, as a M. Le Sueur, visiting the area in the spring of 1700, reported that Davion and the Tunica were located 7 leagues up

the river, rather than 4 as suggested earlier. Father James Gravier also visited the Tunica in 1700 and recorded the distance to Davion's village as 4 leagues by water and 2 additional leagues by land. Had Gravier continued by water, he would have traveled a total of 7 leagues, a distance that would place the Tunica at the Haynes Bluff site (22-M-5), which is hypothesized to be the location of their village along the Yazoo River at the turn of the eighteenth century (Brain 1975; Ford 1936:110-11; Phillips 1970:430-33).

Settlement Patterns

It has been demonstrated for the Natchez Bluff area that both the historic and prehistoric Indian populations resided in many small and dispersed hamlets (Brain, Brown, and Steponaitis n.d.; Brown 1972, 1973), and a similar situation seems to have existed for the aboriginal groups along the Yazoo River. The early explorers tended to assign the villages they visited to certain "nations," but obviously they were often confused as to the area falling under the jurisdiction of each "nation." As seen in the early population estimates (Shea 1861:76; Swanton 1911:42-45), they often lumped the various groups together when making a census. La Source was the first to comment upon the aboriginal settlement patterns of the Yazoo River region:

...The first village is four leagues from the Mississippi inland on the bank of a quite pretty river; they are dispersed in little villages; they cover in all four leagues of country; they are about 260 cabins (Shea 1861:80).

Gravier described the same area in 1700, two years after La Source:

...I left my canoe four leagues from the river, at the foot of a hill, where there are five or six cabins. The road, which is 2 leagues by land, is quite pretty....We saw five or six hamlets of a few cabins....There are three different languages in his [Davion's] mission--the Jakou [Yazoo], of 30 cabins; the Ounspik [Ofo] of 10 or 12 cabins; and the Toumika [Tunica], who are in 7 hamlets and who comprise in all 50 or 60 small cabins (Shea 1861:133).

If Swanton's Tunica population of 1,575 for 1699 (Swanton 1911:42-45) was anywhere near correct, a considerable number of dwellings must have been unobserved by Gravier. Of those that the latter did see, an estimate of seven to nine cabins per hamlet seems to have been the norm. The settlement pattern of the Yazoo River Indians, similar to that of the historic Natchez, appears to have consisted of a series of small ceremonial centers, each of which, at

least in the Yazoo region, represented a "nation." Radiating out from these centers were small and scattered hamlets which presumably catered to their respective centers.

Excavations at the Portland Site

Because the Haynes Bluff site (22-M-5) was undoubtedly the main village of the Tunica at the turn of the eighteenth century, the probability of finding evidence of Tunica occupation upon the bluffs above this site was very high. In the summer of 1974 a project, jointly sponsored by the Mississippi Department of Archives and History and the Lower Mississippi Survey of Peabody Museum, Harvard University, was undertaken. The project was in part designed to locate and perform test excavations at the French Fort St. Pierre (1719-1729). The fort was discovered and was subsequently investigated during two consecutive field seasons (Brown 1974; 1975a, b, c; 1976a). In the process of searching for the fort, a number of test pits were excavated at the Portland site (22-M-12), a small historic aboriginal site situated on the bluffs less than one-quarter mile to the south of Haynes Bluff (22-M-5). Excavations at Portland revealed a series of five trash pits, four of them overlapping, which contained many historic European artifacts, aboriginal potsherds, and lithic implements.

European Artifacts

Analysis of the collection has revealed that the European artifacts are typical of materials found on early eighteenth century French culture contact sites. Two axe heads were discovered, both of which were manufactured by the "laminated method." In this particular process a strip of sheet iron was bent around a form, doubled back on itself and forged, thus leaving a hafting eye (Jelks et al. 1966:25-26). The axe heads were approximately the same size, varying between 13.5 cm and 13.8 cm in length. Neither of the heads had discernible impressions, nor did they have steel-edged blades.

Beads were the most commonly found European artifact type (Brown 1976b). Employing the classification presented by Brain in the "Tunica Treasure" volume (Brain et al. 1979), excavators recorded a total of eighty-nine beads, comprising nineteen varieties. Sixty-one of the specimens were retrieved from the trash pits. Plain, tumbled, drawn monochrome beads of simple construction were the most frequent finds, white and blue having particular popularity. A few of the specimens were drawn polychrome beads, and an even smaller number were wire wound.

A rectangular iron buckle of the type classified by Stone (1974:29; Figure 19Q, R, T) as the flanged or winged hook buckle (CI, SC, T6) was also found in one of the trash pits, as were four white clay tobacco pipe stem fragments. Three of the stem fragments ranged from 1.8 cm to 2.6 cm in length and were ground on each end, perhaps being purposely broken into small fragments for use as beads. Twenty-five fragments of glass vessels were found at Portland, ranging

in color from clear to olive green, to light green, to light blue, to "black" (actually dark amber). Only the olive green bottle glass was consistently found in the trash pits.

Thirteen aboriginal and European gunflints, strike-a-light flints, and fragments of foreign flint were found at the Portland Site. Three of these were spall flints (Stone 1974:255-61; Blanchette 1975:49). Flints of this type have often been referred to as gunspalls (Hamilton 1960:73-79), wedge-shaped Clactonian gunflints, or Dutch gunflints (Witthoft 1966:26). Spall flint is a more appropriate term because it connotes neither function nor nationality, the latter being an extremely sensitive issue at present (see White 1975). The spall flint was made by striking a plano-convex (wedge-shaped) flake from a flint pebble. The bulb of percussion can plainly be seen on the convex surface of the flake. In addition to the spall flints, five blade flints (Stone 1974:247-55; Blanchette 1975:49) were recovered at Portland. The latter type was manufactured by striking straight straplike flakes from prepared cores. Although Witthoft (1966:28-37) included both "French" and "English" flints under the blade flint type, only the flints commonly known as "French" were found at Portland. Two debitage flakes of foreign flint were found, as well as three aboriginal flints of both European and native materials which had been struck into square shapes by fine percussion flaking. The flaking occurred either bifacially, a pillow-like cross-section resulting, or unifacially, the form then being planoconvex.

A tip of an iron knife blade of the type called "hawk-billed" shape (Wittry 1963:35) was found in one of the trash pits. The cutting edge of this type was straight or nearly straight, while the back, which was either straight or slightly diverging, curved downward steeply as it approached the tip (Jelks *et al.* 1966:18-22).

Five spherical lead bullets and two lead shot were found, as well as an exquisite acanthus leaf finial made from a butt plate of a musket. Two rampipe sections for holding a ramrod were also recovered. There were several fragments of sheet brass and copper, the former probably constituting part of a bracelet. The most spectacular find was a very fine Christ figurine of solid brass found in the topsoil above the trash pits. The Marquette Mission Site in Michigan, occupied between 1670 and 1705, had very fine crucifix corpora in evidence (Stone 1972:Figure 14A, B). Crucifix corpora similar to but cruder than the figure at Portland were found at Fort Michilimackinac (Petersen 1964:52) in Michigan.

Aboriginal Material

Though the historic European assemblage at Portland was quite large for the amount of excavation which occurred, the assemblage of aboriginal material completely overshadowed the European. Over 2,200 potsherds were collected, in addition to a number of projectile points (one of which was made out of clear glass), drills, scrapers, bifaces, and other artifacts. The pottery revealed occupation as early as the Tchula Phase of the Tchefuncte Culture, but it was not until the Wasp Lake and Russell phases of the Mississippian Culture (Phillips 1970)

that the heaviest occupation occurred at the site. The large quantity of historic European artifacts in the trash pits suggests that the remains were largely the responsibility of the Russell Phase peoples. Of particular interest were a number of aboriginal vessels retrieved from the pits. One pit contained a Winterville Incised var. Tunica jar (Figure 1a)¹. This vessel, nearly identical to material found at the historic Tunica site of Trudeau (29-J-1) in Louisiana, suggested that the Portland Site (or at least this particular trash pit) dated to the Tunica occupation of the Yazoo region. In a trash pit which overlapped and was slightly later than the pit containing the above Tunica jar was found a large portion of an Owens Punctated var. Redwood bowl (Figure 1b)² with a design somewhat similar to that employed by the historic Quapaw along the Arkansas River (Ford 1961:Plate 24A). These Indians occupied an area adjacent to the believed location of the Tunica at the time of the De Soto entrada (Brain *et al.*,³ 1974). A partial Leland Incised var. Williams bowl (Figure 2a),⁴ a Barton Incised var. Estill bowl (Figure 2b),⁴ and a Barton Incised var. Portland bowl (Figure 2c)⁵ were also found in the trash pits.

Conclusions

In conclusion, it is theorized that the trash pits at Portland were the product of a small Tunica hamlet. This hypothesis is based upon (1) the close similarities between the aboriginal ceramics of Portland (22-M-12) and the Tunica sites Trudeau (29-J-1) and Haynes Bluff (22-M-5); (2) the proximity of Portland to Haynes Bluff, which is consistent with the recorded settlement patterns of the Yazoo region (small ceremonial centers surrounded by small hamlets of seven to nine cabins each); and (3) the fact that the historic European materials are typical of assemblages found on sites occupied at the turn of the eighteenth century. If this conclusion is correct, these pits would most likely have been filled between 1698 and 1706. The former date is adopted on the basis of the first recorded French contact with the Tunica Indians and the latter date is the year in which the Tunica were literally forced from the Yazoo region by a coalition of pro-British aboriginal groups (Swanton 1911:311). The date of 1698 may have to be pushed back if additional historical information is discovered, but the date of 1706 seems to be a fairly good terminal date for the formation of the trash pits excavated at Portland.

This paper is an abbreviated version of a site report presented in the author's M.A. thesis, "Archaeological Investigations at the Historic Portland and St. Pierre Sites in the Lower Yazoo Basin, Mississippi." For the interested student, copies of this manuscript are filed at the Mississippi Department of Archives and History, at the Department of Anthropology of Brown University, at the Michigan State Museum, and at the Lower Mississippi Survey, Peabody Museum, Harvard University.

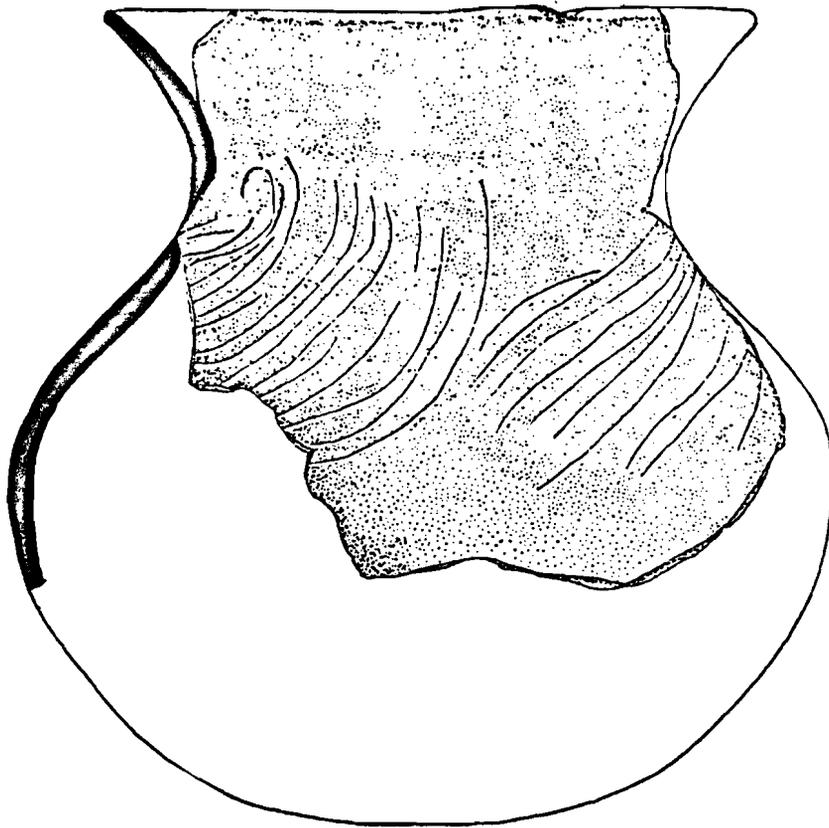
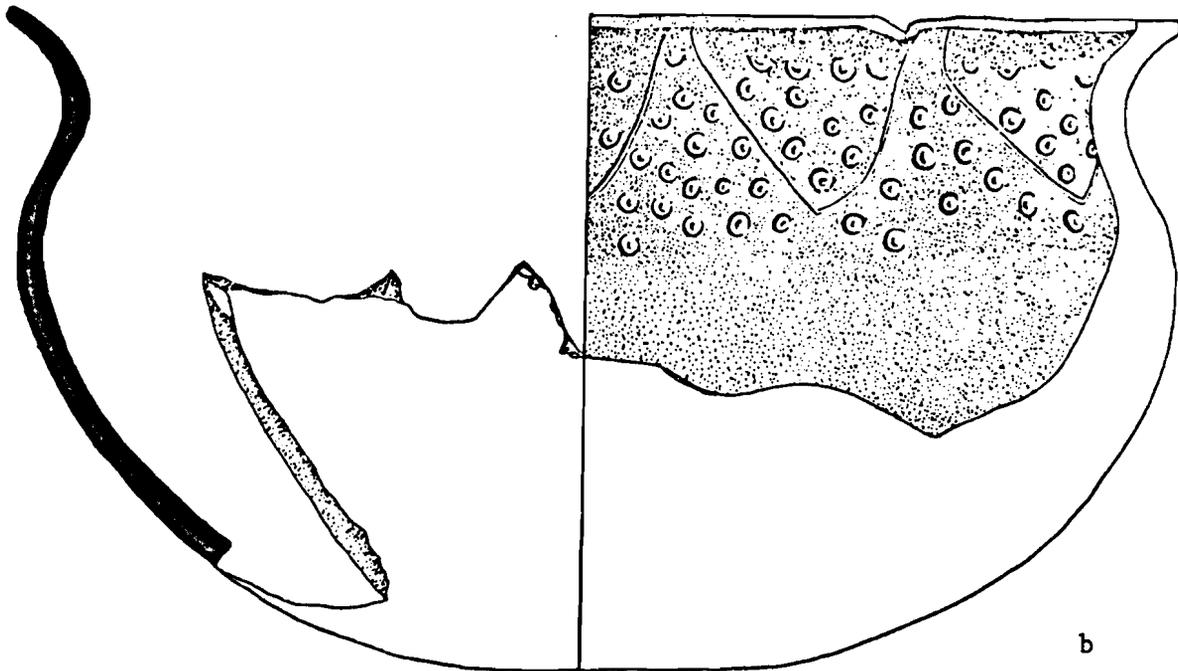


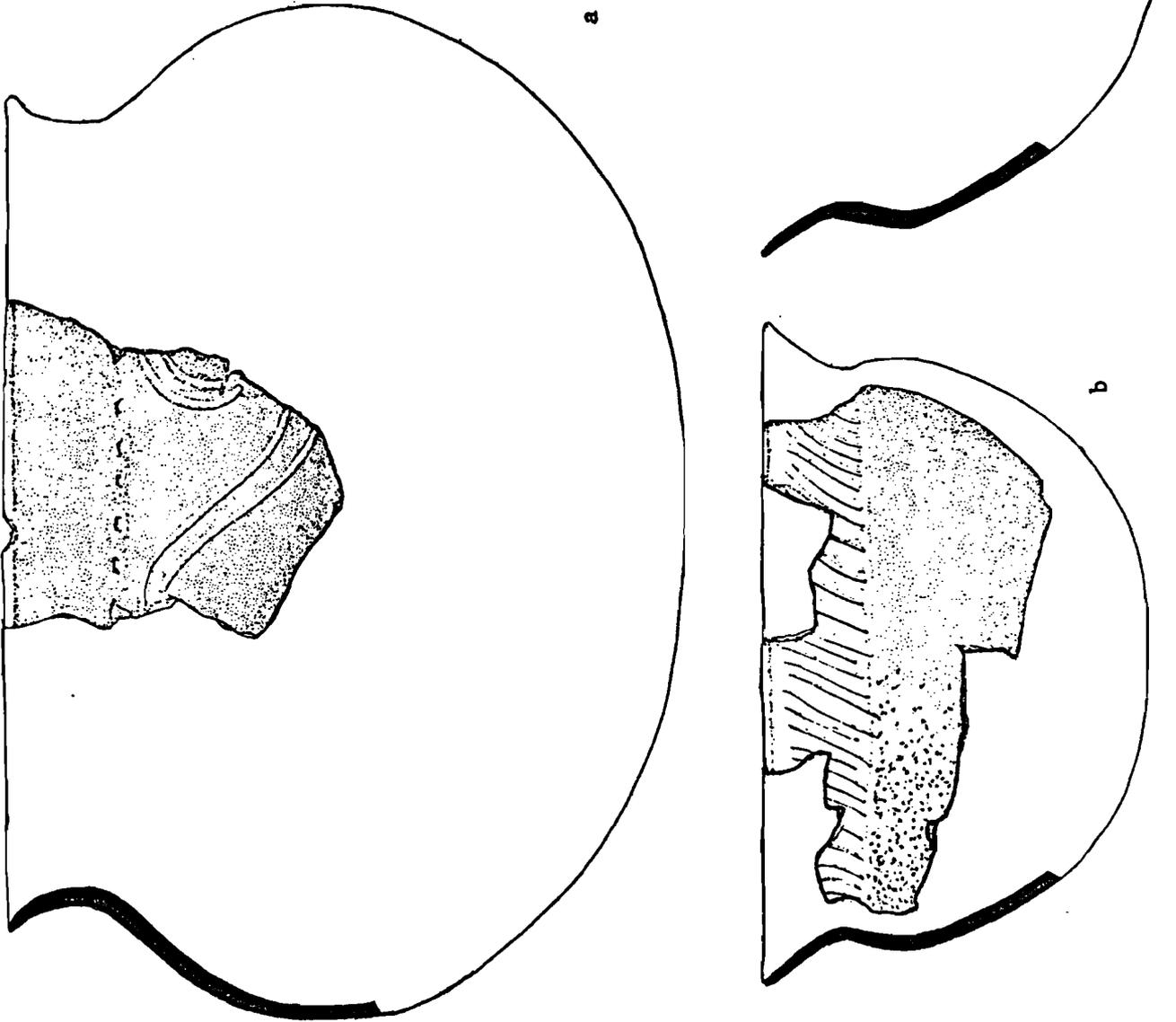
Fig. 1. Vessels from trash pits. a, Winter-ville Incised, var. Tunica jar; b, Owens Punctated, var. Redwood bowl. Reduced 1/10. (Drawings by Nancy Lambert, Courtesy of Lower Mississippi Survey, Peabody Museum, Harvard University.)

a



b

Fig. 2. Vessels from trash pits. a, Leland Incised, var. Williams bowl; b, Barton Incised, var. Estill bowl; c, Barton Incised, var. Portland bowl. Reduced 1/25. (Drawings by Nancy Lambert, Courtesy of Lower Mississippi Survey, Peabody Museum, Harvard University.)



Notes

- ¹Variety described in Brown 1975a.
²Ibid.
³Variety described in Williams and Brain n.d.
⁴Variety described in Phillips 1970.
⁵Variety described in Brown 1975a.

REFERENCES

- Brain, Jeffrey P.
 1975 The archaeology of the Tunica (cont'd): trial on the Yazoo. National Geographic Society Research Report of Investigations Conducted by the Lower Mississippi Survey, Summer 1974, (NGS Grant #1340).
- Brain, Jeffrey P. et al.
 1979 The Tunica Treasure 1. Papers of the Peabody Museum of Archaeology and Ethnology 71.
- Brain, Jeffrey P., Alan Toth and Antonio Rodriguez-Buckingham
 1974 Ehtnohistoric archaeology and the De Soto entrada into the Lower Mississippi Valley. Conference on Historic Site Archaeology Papers 7.
- Brain, Jeffrey P., Ian W. Brown and Vincas P. Steponaitis
 n.d. Archaeology of the Natchez Bluffs. Peabody Museum of Archaeology and Ethnology Papers (forthcoming volume).
- Blanchette, Jean-Francois
 1975 Gunflints from Chicoutimi Indian site (Quebec). Historical Archaeology 9.
- Brown, Ian W.
 1972 The location of the historic Natchez villages. Unpublished manuscript. On file, Lower Mississippi Survey, Peabody Museum, Harvard University.
 1973 Settlement patterns in the bluff area of the Lower Mississippi Valley. Unpublished honors thesis, Peabody Museum, Harvard University.
 1974 Excavations at the Portland and St. Pierre sites, a preliminary report, summer 1974. Mimeographed. On file, Mississippi Department of Archives and History, Jackson.
 1975a Archaeological investigations at the historic Portland and St. Pierre sites in the Lower Yazoo Basin, Mississippi. Unpublished A.M. thesis, Department of Anthropology, Brown University.
 1975b Excavations at Fort St. Pierre. Conference on Historic Site Archaeology Papers 9.
 1975c St. Pierre (23-M-5) and the lonely Frenchman (23-M-11) sites, 1975 excavations; a preliminary report. Mimeographed. On file, Mississippi Department of Archives and History, Jackson.
 1976a Fort St. Pierre, a mini-Pompeii. Paper presented at the Ninth Annual Meeting of the Society for Historical Archaeology, Philadelphia.
 1976b Glass beads from the early 18th century Portland site, Mississippi. Mimeographed.

- Ford, James A.
 1936 Analysis of Indian village site collections from Louisiana and Mississippi. State of Louisiana Department of Conservation Anthropological Study 2.
 1961 Menard site: the Quapaw village of Osotouy on the Arkansas River. American Museum of Natural History Anthropological Papers 48(2).
- Hamilton, T. M.
 1960 Additional notes on gunflints. In T. M. Hamilton (ed.), Indian trade gun. Missouri Archaeologist 22.
- Jelks, Edward B. et al.
 1966 The Gilbert site: A Norteno focus site in northeastern Texas. Texas Archeological Society Bulletin 37.
- Le Page Du Pratz, M.
 1774 The history of Louisiana or of the western parts of Virginia and Carolina. Reprinted 1972, Claiborne's Publishing Division.
- Petersen, Eugene T.
 1964 Gentlemen on the Frontier. Mackinac Island State Park Commission, Mackinac Island, Michigan.
- Phillips, Philip
 1970 Archaeological survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Peabody Museum of Archaeology and Ethnology Papers 60.
- Shea, John G.
 1861 Early Voyages Up and Down the Mississippi. Albany: Joel Munsell. Reprinted 1902, Joseph McDonough, Albany.
- Stone, Lyle M.
 1972 Archaeological investigations of the Marquette mission site, St. Ignace, Michigan, 1971: a preliminary report. Reports in Mackinac History and Archaeology 1.
 1974 Fort Michilimackinac, 1715-1781: an archaeological perspective on the revolutionary frontier. Michigan State University Publications of the Museum Anthropological Series 2.
- Swanton, John R.
 1911 Indian tribes of the Lower Mississippi Valley and adjacent coast of the Gulf of Mexico. Bureau of American Ethnology Bulletin 43.
 1946 The Indians of the southeastern United States. Bureau of American Ethnology Bulletin 137.
- White, Stephen W.
 1975 On the origin of gunspalls. Historical Archaeology 9.
- Williams, Stephen, and Jeffrey P. Brain
 n.d. Excavations at Lake George, Yazoo County, Mississippi. Papers of the Peabody Museum of Archaeology and Ethnology (forthcoming volume).
- Witthoft, John
 1966 A history of gunflints. Pennsylvania Archaeologist 36(1-2).
- Wittry, Warren L.
 1963 The Bell site, Wn 9, an early historic Fox village. The Wisconsin Archaeologist 44(1).

THE OWL CREEK SITE

Samuel O. Brookes, editor

INTRODUCTION

The Owl Creek site (22-Cs-502), located approximately three miles west of the Natchez Trace Parkway in Chickasaw County, is a classic example of a Mississippian Period ceremonial center in a region having few such sites. Owned by the National Park Service, it is in a fair state of preservation and is listed on the National Register of Historic Places. Although it has been partially excavated, the field notes and other relevant material have been lost, and consequently, little information has been published.

A collection of four documents or excerpts from documents pertaining to the site follows. The first, from a published source, is a description of the Owl Creek site as first reported by Dr. Rush Nutt in 1805 (Jennings 1974). Nutt's comments are valuable because at the time of his visit there was still visible around the mound group a low ditch, which indicated the remains of a fortified Mississippian site--one of the few known in this region. Several borrow pits used to obtain dirt for mound construction were also visible in 1805. Nutt's journal, copied in 1935 by Ruth E. Butler, who was doing research for the Natchez Trace Parkway, is now lost. His map of the site, which unfortunately was not copied, has also disappeared. Nutt's journal describes seven mounds, whereas only five are [now] present. Whether this mistake was in the original journal or can be attributed to Ms. Butler's transcription is not known at this time.

The second item is excerpts from an unpublished journal kept by Moreau B. Chambers, then a field archaeologist with the Mississippi Department of Archives and History. It is invaluable as the only surviving document pertaining to the excavation of the Owl Creek Site. Its glimpse of life in rural Mississippi during the Depression years makes for entertaining reading, and for this reason some sections not immediately relating to the mound site have been included here.

The third document, a letter to the Natchez Trace Parkway superintendent from Jesse D. Jennings, then archaeologist for the Parkway, discusses the importance of the Owl Creek site and a nearby site (MCs10), which was believed to be a camp associated with the De Soto entrada.

The fourth document, a description by Robert S. Neitzel, then archaeologist with the Mississippi Department of Archives and History, of some artifacts from the Owl Creek site, gives an inventory of ceramic material. This inventory is important, even considering the small sample size, because it refers to the largest known collection of artifacts from the site and thus allows Owl Creek to be placed in a proper cultural/historical period. Apparently, this collection has now been lost.

Utilizing Dr. Nutt's description and aerial photographs, a reconstruction of the site as viewed by him is offered in Figure 1. Figure 2 is added to aid nonprofessionals in understanding the chronological placement of the site.

22-Cs-502
 OWL CREEK SITE

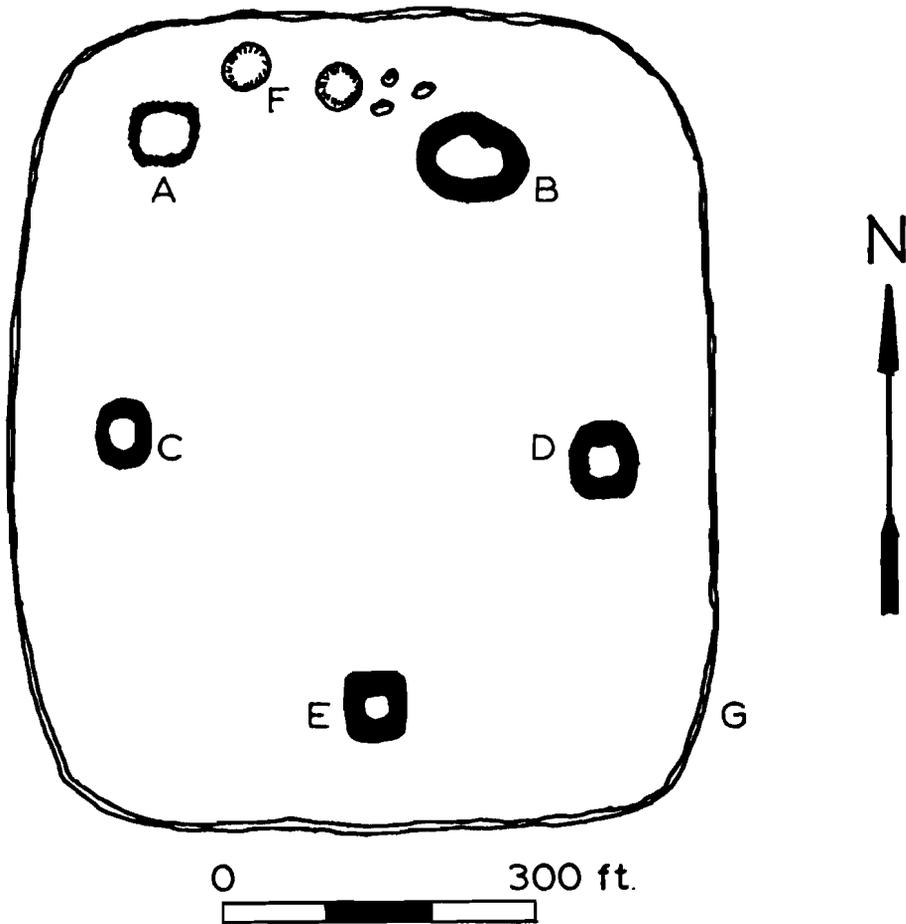
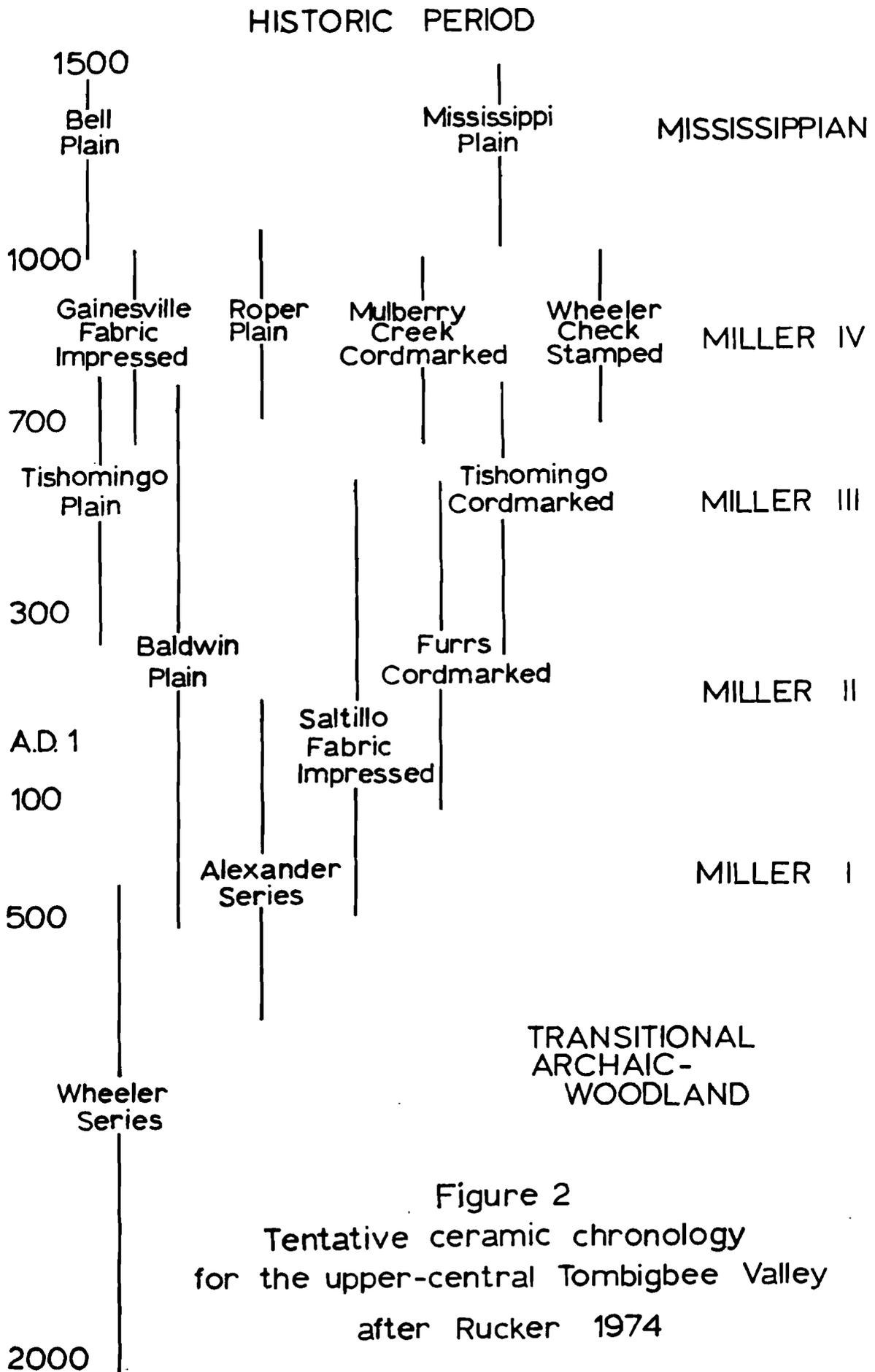


Figure 1. Reconstruction of Rush Nutt's Description. A-E, Mounds; E, Borrow Pits; G, Ditch.



Thanks go to Moreau B. Chambers, Jesse D. Jennings, and Robert S. Neitzel for giving their permission to publish letters and documents pertaining to the Owl Creek site. Comprehensive Employment Training Act (CETA) workers Mary A. Pettis and Carla Ellis helped by typing several drafts of the manuscript. Finally, appreciation is expressed to Richard Marshall, who loaned for analysis the only known remaining collection of material from the site.

EXCERPTS FROM THE DIARY OF DR. RUSH NUTT*

On the 18 of august I visited the ruins of an ancient fortification in the fork of Chee,caw,tun,chaw Creek, 4 miles from agency house after crossing this creek I immediately came to the mounds with their surrounding intrenchment--My perception was soon turned into surprise to see so many inequalities in a given space of earth, which situation was such as for it to have a gradual ascent extending from the creek, north, as far the extreme end of the ruins, as I could perceive.

letter (g) was the first mound I came to in the lower end of the fork near its junction, which was square upon top 18 yards by 22 & 10 feet in height. The next two extending across were in a line (e & f) were 18 by 22 yds on the flat top & 6 feet high. The next two in a line extending across were (c d) 20 by 16 yds on top & 6 feet high on both of them there had been many peach trees of tolerable size, but were in a decay. The next two were (a & b) & unequal in height. (a) was 22 by 18 yds on the top & 25 feet in height, very steep so that the base did not measure more than the top. There were several oak trees on top of this mound two was 1/x½ [?] feet cross the stump were kill'd & partly consumed by fire on them I found several pieces of earthen ware. (b) was 44 by 30 yds & 7 feet high. The top of which is very thick set with peach trees. (h) is a round sink hole 15 yds across & 7 feet deep with several trees in it. (i) is another of the same size but deeper & about 50 yds from (a) to the hole (i) which contains water perhaps all the winter & greater part of summer, this is from its being low. more low than the rest--not far from the creek. beside these there are several shallow concavities in the earth near the rest, which appears as if the earth was taken from them. All this work is enclosed by a ditch of 5 or 6 feet wide, runing [sic] 20 or 30 yds of the mounds. The surface of the earth within the circle of mounds is 6 inches lower than without. about the ruins of this fortification are to be found pieces of earthen ware, such as pots, pans &c. stone axes, points of arrows made of stone, &c.

*Excerpts from "Diary of a Tour through the Western and Southern Parts of the United States of America" by Dr. Rush Nutt are reproduced in "Nutt's Trip to the Chickasaw Country," edited by Jesse D. Jennings, Journal of Mississippi History 9:34-61. Permission to quote a section of the diary, found on pages 51-52 of the Journal article, has been granted by the Mississippi Department of Archives and History and the Mississippi Historical Society.

EXCERPTS FROM THE JOURNAL OF THE FIELD ARCHAEOLOGIST
OF THE MISSISSIPPI DEPARTMENT OF ARCHIVES AND HISTORY,
MOREAU B. CHAMBERS*

Friday. July 26, 1935

This morning Mr. Winston went with us to the site toward Houlka identified by him, Prof. Lewis, and others, as the place where De Soto probably spent the winter of 1540-1541 in camp. Next we passed through Redlands and along a section of the Natchez Trace before turning eastward past Shiloh Church a mile from the Shiloh Church Mound Group on the property of Mrs. Annie Cole Weeks. There are five nice mounds in this group on the west side of Good Food Creek a mile above its confluence with Suqatonchee Creek, and on the side of Gaines Trace to Houlka. From the surface of the ridge-like mound east of the large, flat-topped mound three years ago Mr. Winston secured two sherds of Natchez-like pottery (now in the Pontotoc County Museum) when a shallow grave was plowed into. In his opinion this mound group was the seat of the Chickasaw Chief when De Soto spent the winter in this neighborhood. Leaving here, we drove to Houlka, where we ate lunch, then on west to Buckhorn, where Mr. Winston and the other candidates spoke to a crowd of approximately 1500 (chiefly rural) inhabitants of Pontotoc County. In his campaign address Mr. Winston emphasized the need for old-age insurance. Upon our return toward Gershwin, we stopped at a village site on the Owen property on the west side of Skuna channel, then on eastward to the junction of this road with Highway 15. In a small rural cemetery here we saw the grave of Senator Thomas Hickman Williams, then continued on to Pontotoc. During the morning on our way to the De Soto Camp ground we had paused at the old Monroe Mission Church. The present building--third at this site--was said by Mr. Winston to have been erected in the 1870's; the second, a few yards west of the present structure; the first missionary station, a crude log house, stood perhaps 50 yards NW from the present site, now in a clump of alder or sumac bushes. The large, well-scraped cemetery south of the church contains the graves of many Indians and early white settlers. Mr. Winston showed us the graves of Samuel Lesly Watt--there are two flat stones not far apart, both intended for the same person, b. Feb. 18, 1789; d. Dec. 20, 1850--and told us that "French Nancy" is said to be buried in this cemetery. David Crockett was visiting at the home of former Tennessee neighbor--says Mr. Winston--Mr. Samuel Watt, then a resident near Pontotoc, when James Colbert, who resided on the Natchez Trace a few miles to the south, brought news that trouble with the Mexicahs had broken out in Texas. At once Crockett disposed of the string of horses that he had brought along for sale, unloaded "Old Betsey" by firing it off at a sparrow-hawk from the porch of the Watt home, and set off for Texas,

*Chambers's unpublished journal (August 1, 1932-September 10, 1935) is in the archives of the Mississippi Department of Archives and History in Jackson. The sections quoted here are found on pp. 111-14, 116, and 124-34 of the journal.

passing through Memphis and Little Rock on the way. At Little Rock he fell sick in a friend's home. Before continuing on to Texas he turned over to his friend his watch and the money realized from the horse sale at Pontotoc for delivery to his wife in Tennessee.

Saturday, July 27, 1935

At Mr. Winston's suggestion, this morning we drove to Okolona to obtain excavation privileges from the owner of the Shiloh Church Mounds. We saw Mr. R. C. Stovall at his law offices, and he helped us locate Mrs. Annette Cole Wicks, wife of Dr. Wicks. We found Mrs. Wicks and her brother, Mr. George Cole, at the Dr. Wicks home east of Okolona, and she readily granted the desired permission. While in Okolona we talked with Mr. Bowles, Secretary of the Chamber of Commerce, to whom Mr. Winston had sent us. He thought it unlikely that we could secure Federal funds for excavation in Chickasaw County; he further confessed that he had no idea how or where the new \$4,000,000,000 would be spent, considering it entirely political in purpose, and not intended to be soon spent. He seemed completely discouraged by the present political outlook. Dejectedly he sent us to Mrs. Murphree, who has charge of FERA work at Okolona. She, when found, saw no prospect of aid, but introduced us to the Mayor of Okolona, Mr. Wilson, a man of some political experience who made a most helpful suggestion as to how we might obtain a "project" from the Works Progress Administration, of which Wayne Alliston is State Director. It is his suggestion that Dr. Rowland go to see Wayne Alliston and apply for a state project for archaeological work throughout the entire state, for which a project number would be assigned. Whenever we should require laborers in any county, we would merely need to present our project number to the district manager, and there would be no delay in obtaining laborers. The Health Department and other state offices that that [sic] need labor in various counties use this device to expedite their work. Upon our return toward Pontotoc from Okolona, after passing over the beautifully wooded hills near Troy on the Pontotoc Ridge, we stopped at the boulder erected by the Children of the American Revolution commemorating the Chickasaw battle with D'Artaguettes. After eating lunch near this boulder we collected some sherds and artifacts in the adjacent cotton field, the property of R. B. Calloway. Grit-tempered cord-marked sherds occur here. Upon our return to town we found Mr. Winston in the Museum-Library and spent most of the afternoon looking over it. Its prize archaeological objects are a silver nimbus and cross, a small jug (all attributed by Mr. Winston to D'Artaguettes) and some trade beads of French type, all found from time to time by farmers plowing into shallow Indian graves. County agent Kelly helped us contact some farmers and employees in his office who knew of Indian sites. We returned to camp opposite Mr. Winston's residence. During the afternoon there was considerable political speaking (and watermelon eating) in the public square in front of the Court House.

Sunday, July 28, 1935

We slept late--indeed, most of the morning. Slater [Gordon] went after mail to the Post Office after the arrival of the 3:30 train. I stayed in camp all day, spending the latter part of the afternoon writing my report to Dr. Rowland covering the activities of the past two weeks.

Monday, July 29, 1935

This morning considerable time was lost while we waited on Mr. Winston, who--in turn--waited for the arrival of Mr. Heddleston from Tupelo, with whom he desired a better understanding concerning the participation of the Pontotoc County Museum in our proposed work in the Shiloh Church Mounds. Mr. Heddleston failing to arrive during the morning, we finally drove out to the field on the R. B. Calloway place west of Tobas Ridge, where the Washington boys had plowed into some Indian graves containing the alleged relics of the D'Artaguette expedition. We picked up a fair amount of broken pottery from this "Battleground" site, and then returned to Pontotoc, but Mr. Heddleston had not yet arrived. In the afternoon we drove with Mr. Winston to Algoma, where we saw the collection of Eugene Campbell, consisting of stone axes, hammerstones, bannerstones, projectile points of all sized, sherds from sites along the Skuna channel, and two grit-tempered pottery pipes. Campbell drove with us 1½ miles west of Algoma to a mound site in a cultivated field on the Owens Estate 200 yds. E. of Skuna Canal, at the south side of the public road. This is one of the sites from which Campbell had made his collection, and here we picked up a good collection of grit-tempered, cord-and-fabric marked sherds and a few projectile points. The mound has been altered in size and shape by cultivation and is now approximately four feet high and 60' x 100' in basal dimensions, with the long axis east and west parallel to the rows of cotton. Upon our return to Algoma we waited until Mr. Winston had made his campaign address with the other candidates in the school house, then returned with him the mile and a quarter to Highway 15. On a high ridge on the Stephen Daggett place just south-east of the junction of the two roads we collected from the surface of a mound and village site some grit-tempered, cord-marked sherds. A fine view of the country for many miles to the south, west, and northwest can be obtained from this eminence. Piomingo's (Jonnemain's [?]) Mountain shows up clearly on the sky line to the southwest. This mound (which we pitted) is composed of reddish loam above, with dark loam beneath the upper stratum. Our pit on the north approach yielded only one sherd of grit-tempered ware. This mound is approximately 60' in diam. X 6' high.

.....

Wednesday, July 31, 1935

Mr. Ticer accompanied us to several sites near Keownville, one being situated just north of the Tallahatchie R. on the old Cotton Gin

Port Road to Tennessee, 3 mi. N. of Keownville. Before leaving Mr. Ticer, I lent him my latest issue of "American Anthropologist." He is interested in our proposed work among the Shiloh Church Mounds in Chickasaw County and wishes to see the work when we begin. Upon our return to New Albany Slater recovered the camera from the Kroger Store, we saw the archaeological collection on display in the Bank of Commerce, and Slater saw his friend Lee Rogers while I went to the office of the New Albany Gazette, introduced myself to Mr. Owen and received a very cool welcome. Upon reading my letter of introduction he said that he was very busy getting out a 7-page paper and didn't have time to talk to me, and would I come back some other time! Slater and I drove out to the Tupelo highway to Sherman, where we found Prof. John Donaldson on the point of departure to make a campaign speech for Supt. of Education Bond. We were shown a mound on the V. V. Cowley place at the edge of town, then talked with 88-year-old Mr. Paul C. Hardin, formerly a resident in the Poplar Springs neighborhood. He told us of mounds and other sites back in the hills near his old home, but when we tried the places no one there knew them by the names known to Mr. Hardin; so we found only one of the mounds that he told us of--the mound at New Harmony, just north of the Union-Pontotoc County line. Our return to Pontotoc carried us through the hills over circuitous roads to Ecu, from where we had a paved road (Hwy. #15) into Pontotoc.

Thursday, August 1, 1935

This morning Mr. Winston accompanied us out along the Tupelo Highway to the crossing of the Natchez Trace, where a D.A.R. marker attests that fact. I took a picture of the boulder, and we then drove south along a local road, turning west at a crossroads and eventually reached Black Zion Baptist Church, where a singing school was in session, and which was to be the scene of the political speaking of the afternoon. In the west edge of the negro cemetery adjoining that of the white residents on the east (across the public road south of the church) Mr. Charlie Boland, a local resident, pointed out to us the two rotten sassafras stumps of trees that once sheltered the pioneer mission station of the Rev. Joseph Bullen, the first Protestant preacher among the Chickasaws at this first Presbyterian church.

.....

Wednesday, August 7, 1935

This morning we got away before breakfast and dug out the Indian grave, completing the work before nine o'clock. In it we found some broken, unidentified, bones with a massive mandible and humerus of some ruminant, possible buffalo, as well as smaller, badly decayed bones scattered through the earth, ashy and dark in color, quite easily distinguishable from the dark red clay of the field. When we found this pit it was about two feet deep and nearly 9½ ft. across at the top. If a human skeleton had been buried in it, possibly it was

plowed away before our arrival. Together with the bone fragments we found the bowl of an Indian-made pipe, the iron ear of a brass kettle, and bits of glass and metal. Banks arrived after we had restored the pit to its original (filled) condition, and we then collected from the ridges near the center of the long site known now in its entirety as Ackia. Very few stone projectile points were found; such as were found were small proj. pts. The pottery on the whole is grit-and-shell-tempered, red on the outer surface and occasionally decorated with wavy trailed lines or with a row of punctations below the rim. A very few scroll and meander designs were found. We secured some beads, gun flints, iron celts, and other refuse that shows with fair assurance that this was an historic Chickasaw village, probably Ackia. We returned to Tupelo and then drove to Pontotoc, reaching there just after dinnertime, learning that Mr. Winston had secured the relief labor and had left in the morning with some diggers, bound for the Shiloh Church Mounds. As all our funds, both personal and official, had been expended lately in maintaining the Survey, we had to get gas on credit in order to continue the 21 miles to the mounds. Upon arriving, we found Mr. Winston and the crew puttering around in a crooked trench on one side of mound #2, with the temperature 108°F. No expense check has yet arrived in the mail from Dr. Rowland. Mr. Winston and the crew returned to Pontotoc at 4:00 P.M., while we camped on the wooded summit of mound #I, the largest in the group. The air became cool toward morning.

Thursday, August 8, 1935

This morning I drove to Pontotoc, hoping to find in the mail the expense check from Dr. Rowland, but it had not arrived. The laborers had reached the mounds before my return with Mr. Winston, since I met them a quarter of a mile south of Monroe Mission. Today it became necessary to purchase groceries and a roll of Kodak film on credit, since nearly all our cash had been used up previously. Work in the mound was limited to two pits, #1 being 8' X 10', and #2 the beginning of a N-S trench 5' wide, starting from the north side of mound #II directly across it along its short axis. Pit #1 is near the center of this oblong mound, and it will be extended downward to the base. The laborers assigned to this project with two exceptions are not worth killing; town boys, for the most part, more accustomed to loafing around stores, and not at all used to manual labor, their efforts today showed their complete unfitness for the work that we are attempting to carry on. Mr. Jimmie Watts and Tom Crews are reasonably good workers, but the other three are too lazy and trifling to bother with. True, the heat of the day was a mitigating circumstance, but willingness to work can be recognized, and this characteristic was but infrequently in evidence. The earth in pit #2 displayed a mottled appearance, showing the lens-shaped masses of sand and clay in the places where the different hamperfuls had been deposited on the growing mound as each Indian brought his burden from the surrounding hills, ridges, and creek bottoms. In the early afternoon the temperature passed the 102° mark, dropping about 4:00 P.M. to 90°, then about dark to 80°, and when it was almost day, taking a still lower drop of 10° or 15°.

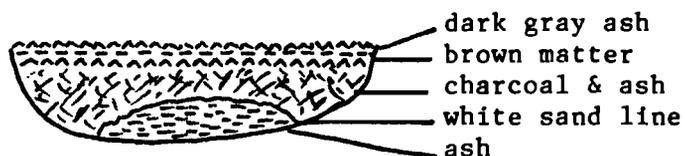
Friday, August 9, 1935

We continued work in both pits in mound #II today, still finding discolored earth in pit #1 as we dig deeper, and in pit #2 the stratification of the mound is beginning to show up nicely. The boys worked much more energetically today than yesterday. After work today we went swimming in Suquattonchee channel. During the heat of the day Mr. Winston typed on Bullen's Journal which he is copying for Hagen. Hot. today.

Saturday, August 10, 1935

I received a reply this morning from Dr. Rowland [about] the much needed expense check, which is being delayed for the signature of Bishop Bratton as President of the Bd. of Trustees. During the morning I took Mr. Winston into Pontotoc to see about getting pay for the FERA laborers. To our dismay we learned that our work-week instead of being 48 hours in length is limited to 30 hours, and that today is the last day of this work-week (thursday to Thursday) that they can receive pay for. Hence, there is likely to be a period of inactivity, as far as our labor is concerned, until next Thursday. Mr. Winston is at a loss to explain this latest development, as his understanding with Mr. Heddleston was that this project would get six 8 hr. days a week for this work. While we were in Pontotoc, I got some more gas and groceries on credit for the Survey and cashed a personal check for ten dollars at the First National Bank of Pontotoc, having had my pocket money reduced to 17¢ through the necessity for carrying on the Survey with our personal funds. Upon my return with Mr. Winston to the mounds, we found Slater and the boys had uncovered the edge of a pit 5' 10" below the surface of the mound, in Pit #1, Mound II. Through hard work in the afternoon we removed a large block of earth which lay above it and lay bare the top of an oval pit with hard burned sides measuring 36" in length by 29" in width. Photographs were taken during the stages of its excavation. First came a half-inch layer of dark gray ash, then a half-inch of dark brown nearly decayed matter, below which occurred a layer of charcoal and ashes, in which the charcoal--small round branches--predominated.

Immediately below this, and mounded up in the bottom of the bowl-shaped pit 3" deep and 1' 6" in diameter was a heap of fine, white ash with but little charcoal admixture. From top to bottom the



Sketch of Fire Bowl in Mound #II
Shiloh Church Mounds
8-10-35

pit was nine inches deep. The long axis was NNW-SSE. The walls of the pit were burned hard. Two sherds of shell-tempered pottery were found against the upper side of the fire bowl, and small white bits of calcined bones were found sparingly among the charcoal. A thin layer of white sand had been strewn over the ash deposit below the charcoal. In the evening Slater and I attended an ice cream supper under the trees in front of Shiloh Baptist Church a short distance up the road from the mounds. Several of our visitors to the mounds had hospitably invited us to this supper of which the aim was to raise funds to pay for the new piano in the church. \$7.50 was so raised. Recurring storms have much damaged this church and its surrounding grove of oaks. Only two or three fine trees remain of what was once a splendid grove, I am told. The present church building is of very plain construction and is cheaply made.

Sunday, August 11, 1935

A summer cold having settled in my eyes, I have become almost incapacitated while it lasts. I had intended accompanying some of the boys from this neighborhood to an all day singing at Macedonia Church near Algoma, but my wretched condition made me forego this diversion, and I hung around camp all day. In the evening Slater went calling with Edwin Davis, while Edwin's brother Walker remained awhile to keep me company.

Monday, August 12, 1935

This morning we dug for awhile in the trench bisecting Mound IV. From about 11:00 A.M. until sunset I was busy, with Slater's aid in preparing a financial report covering the just-ended three-week period of the Survey, which accompanied my weekly report to Dr. Rowland. My cold is leaving my eyes for my throat, apparently.

Tuesday, August 12, 1935

As we were preparing to break camp intent upon doing some survey work for a day or two west of Pontotoc, three men with shovels arrived from the Troy neighborhood, saying that Mr. Winston had secured their labor for the day, and that he would soon arrive, which he did at 8:00 A.M. in company with Jim Watts, Chastain Johnson, Tom Crews, & Wayne Harrison. Th three men from Troy worked efficiently in mound IV--very hard sandy clay--recovering a few potsherds and a short strip of cut mica. The other four workers dug very well in Mounds II, Pits 1 and 2. Very hot today. During the early part of the afternoon Slater and I mapped the site. A good hard rain, with wind, thunder, and lightening, arrived at 4:30 P.M., breaking the severe drought.

Wednesday, August 14, 1935

Mr. Winston and four diggers from Pontotoc arrived for work. During the morning candidate W. T. Johnson from Houston, who announced that he is Dr. Rowland's appointed president of the Chickasaw County

Historical Commission, stopped by the mounds to learn what is taking place. Shortly after 2 P.M. a hard rain set in which lasted sufficiently long to fill the cotton, corn, and potato middles with water, and to thoroughly soak the earth. After the rain had ended and the Pontotoc contingent had gone back to town, we collected some nice projectile points and the fragment of a perforated banner-stone in adjacent fields. After supper I walked 3/4 mile up to the Joe Davis home to call, finding that Mr. Lancaster, teacher of the singing school being held at Shiloh Church, was spending the night there. He sang and play[ed] on the guitar some selection of his own composing, as well as some old favorites. His musical taste, reflecting that of his neighbors, runs to the mountain ballad and similar folk music.

Thursday, August 15, 1935

Up at 5:30 to get ready to leave for a day's jaunt to Oxford, on which Mr. Winston is to accompany us. As I catch up with my notes a fog is settling over everything, although sunrise was clear. A wait until 9:00 A.M. for possible mail was fruitless, whereupon we drove at once into Pontotoc, where we squeezed Mr. Winston into our truck, then headed west for Oxford. After passing Toccopolo and traversing the hills of Lafayette County, we reached Oxford and continued direct to the University. Finding that Dr. Calvin S. Brown was at his residence on the campus, we reached there at 11:30 A.M., just as a shower began falling. We met Mrs. Brown, Calvin Jr., and his British wife, the younger son Robert, and had the pleasure of again seeing Dr. Brown, whom I first met this past winter in Jackson. He showed us his private archaeological collection and his much prized bells and brasses. Upon leaving at noon we arranged to join Dr. Brown at 1:30 at the library building to see the Geological Survey Museum, meanwhile driving to town, where we ate a satisfactory dinner at Buffalo's cafe. Later, while Slater got a haircut, I attempted to find Prof. Little, who it developed had left on his vacation with his family for Texas a week ago. Upon rejoining Dr. Brown at the University, in company of his son and daughter-in-law, we climbed to the top floor of the library building to the Miss. Geol. Survey Museum, in which we were shown the tall glass cases filled with the Walls Collection from De Soto County, and in nearby flat cases the Ticer and Ballard collections. After we had sufficiently seen the sights there, we left Dr. Brown and Slater made another fruitless effort to learn whether or not the Registrar was authorized to give him a scholastic aptitude test for admission to the University of Chicago. Upon our return through Oxford, while Slater wrote Dr. Brown a card telling of his failure to secure a copy of "Archaeology of Mississippi," I met Dr. P W Rowland in his drugstore entrance and introduced myself, having a pleasant chat with him. A hard shower of rain fell while [we] were parked there on the court square, and we drove through several showers while returning to Pontotoc. No mail there. We got some extra provisions in town, then drove to New Houlka, finding that the post office had closed at 5:00 P.M. At Old Houlka we got some gas, then continued on past Shiloh Church to camp on Mound I. No rain had fallen during our absence.

Friday, August 16, 1935

We arose at 6:00 A.M.; temperature 80° at 7:00 A.M. Three diggers--Johnson, Watts and Dillard--arrived at eight. Mr. Winston was detained at a meeting [sic] of F.E.R.A. foremen, Tom Crews was still dissipating in Memphis, and Wayne Harrison had claimed sickness as an excuse for not working. We worked with narrowed trenches, to avoid moving so much extra dirt, until the rain commenced at 3:30 P.M., when we let the diggers return to Pontotoc. Upon Mr. Winston's suggestion, we secured an additional digger in the person of Wallace Gregory (col.) whom we set at digging a trench parallel to the road on the north approach to Mound V. Nothing much turned up here, although Wallace found the dirt unusually hard. After the rain it was too wet to resume digging. In the mail today Dr. Rowland's letter enclosed the badly-needed expense check.

Saturday, August 17, 1935

The F.E.R.A. labor did not operate today. I drove to Pontotoc during the morning to cash the \$50.00 check to pay off our indebtedness for the past few weeks. Rain fell in town while I was there. At the County Library-Museum I saw Mary Ella Spencer, Mrs. Fontaine, Mrs. Gilmore, nee Saveley, and Mr. Winston. After getting provisions and paying off our creditors, I was leaving town when the motor began missing in its distinctive way, as heavy clouds promised rain at any moment. Rather than get stalled in the rain out on one of the ridges of the Pontotoc range of hills, I returned to have the ignition checked at a garage, where it was found necessary to have the distributor head replaced. Charge, 50¢. While I was in this garage, the shower of rain fell. There I read in my copy of the Commercial Appeal of the accidental death of Wiley Post and Will Rogers near Barrow, Alaska. I stopped in out of the rain at Whitworth's Country Store on[e] mile south of Pontotoc, then continued over rain-soaked roads through a drizzle to camp. Slater had found the weather extremely sultry during the morning's digging--before the rain commenced falling. Hard rain and wind at camp.

Sunday, August 18, 1935

I stayed at camp all day. Erskine McCullough appeared at camp during the afternoon and loafed with us awhile. During the morning we took some Irish potatoes over to Stella to cook for us. She was in one of her difficult moods. Finally she baked them for us, then got greatly disturbed when Slater asked Wallace for some pepper with which to season the potatoes, claiming that to take pepper from one's house would tend to break up a family, continuing to harp on this story for several hours. Rain threatened in the afternoon and I remained at camp writing my weekly report to Dr. Rowland while Slater paid our visit to "Lochinvar," once the home of Col. James Gordon, now the home of the Fontaines, related both to Lamar Fontaine and to Mr. Winston. A shower of rain fell while Slater was absent from camp.

Monday, August 19, 1935

Overcast this morning, temperature 74° at 7:00 A.M.; 84° at 6: P.M. Mr. Winston and six laborers arrived at ten o'clock, after we had been at work for two hours in Mounds IV and V. An interesting area of white dirt showed up below 2½ ft. level in Mound IV, extending down as far as we dug today. No rain today. Ex-Atty.-Gen. Rush Knox drove by the mounds campaigning for State Senator. We managed to get a lot of work out of the boys today, despite their laziness.

Tuesday, August 20, 1935

Today we had anticipated a visit from Dr. Brown, Mrs. Wicks, and Mr. Will Ticer, none of whom came. Awfully hot! I kept Tom Crews and Wayne Harrison digging in Mound IV, carrying the pit floor down past 8-foot depth, through a continuation of the yellowish-tan, ash-colored soft loam lying in the east part of the trench, which stayed with us until the base of the mound had been reached. This feature continued to taper in on its west edge. Two or three sherds were found when the mound base was reached. The original ground level had apparently been covered with a thin layer of this ashy soil before the mound was erected. Slater had Hattox and Thurmon digging into the extremely hard clay of Mound V in a trench extending south from the trench 10 ft long running east and west at the north foot of the mound by the road ditch. This new trench is being dug from the edge toward the center of the mound. As a worker Hattox is worthless; he even tried to steal one of our shovels while leaving with the other boys for home. Finally, he left with Wallace's shovel, leaving in exchange the broken tool that he had brought with him. He was given employment by the F.E.R.A. because he had a car and could haul the real workers, who had to chip in and pay their transportation expenses out of their \$1.20 per diem wages. "Uncle Jimmy" Watts and Chastain Johnson kept digging in the L-shaped trench on Mound II, uniting Pits 1 & 2. After work today I looked unsuccessfully for a village site on the ridge of Good food Cr., then went swimming in Shuquatonchee Channel. Being invited by the Davis brothers to take supper with them, Slater and I drove to their home after dark; having a good supper with the family, followed by a pleasant evening. As we left at ten o'clock on our return to camp, we were given two nice watermelons to carry along with us.

Wednesday, August 21, 1935

Today we completed the work in Mounds IV and V; in the latter the trench fell short of the center by about five feet. As it was uncertain whether or not our crew of workers would get back here while we are still at this place, I posed the group in Pit #1 of Mound II before they left and photographed them, also taking a snap-shot of "Uncle Jimmy" in Pit #2, by the scraped profile of the east wall. Slater and Wallace Gregory drove into Okolona for provisions during the late afternoon, while I remained in camp reading "Up from the Ape" by Hooton. A light shower fell while they were away, and after their return at night we had a hard rain and electrical storm.

Thursday, August 22, 1935

Today we worked leisurely recording the profiles in Mounds IV and V. Slater scraped down the walls in Mound II damaged by the rain, preparatory to recording them. Some of the singing school crowd from the Shiloh Church came at lunch time to see the pits. Steady breeze at night.

Friday, August 23, 1935

Temperatures 72° at 6:30 A.M. We got to work before breakfast recording profiles in Pit #2, Mound II, Ck-2, having made fair progress by the time Mr. Winston, Uncle Jimmy, Dillard, Thurmon and Tillman arrived to work, my urgings to Mr. Winston Wednesday having proven effective. I set them to work sinking a pit north of the road on the slight plateau between Mounds I and V, in an effort to locate the cemetery. Uncle Jimmy was directed by Mr. Winston to collect surface material from surrounding fields, while two of the boys filled in on Mound V. Wallace assisted with the work in the new pit. Mr. Winston talks of wishing to continue the Museum project under the W.P.A., with Mr. Heddleston approving archaeological field work to be carried on during the remainder of this year. After the delay caused by the arrival of our F.E.R.A. co-workers had ended, we resumed work on the profiles in Mound II. As we were pausing for lunch, a strange car was seen cruising slowly along the road past the mounds, finally turning in on Wallace's by-road and coming to a stop near Mound I. The visitors in this car were Dr. Calvin S. Brown, his son, Calvin, Jr., and the British wife. They had been unable to leave Oxford Tuesday, as Calvin, Jr., had been expecting an important telegram. He has been teaching at Exeter Academy in New Hampshire. We began showing Dr. Brown the profiles and some of the things that we had found here--an enterprise that by common consent was interrupted for lunch, as none of us had eaten. Our visitors ate their lunch on the western end of the nicely shaded plateau of Mound I, while we dined on the eastern end near our tent. Mr. Winston and his crew had brought no lunches; so we invited them to eat with us. Soon Uncle Jimmy arrived from his collecting expedition, and our F.E.R.A. workers left for Pontotoc, with Mr. Winston remaining to return with Dr. Brown's party. Dr. Brown complimented my profile drawings and was particularly interested in the fire basin in Pit #1, Mound II, which (though partially protected by dirt heaped over it) is now considerably damaged by rain. Dr. Brown advises us to mark the trenches that we have by glass-stopper bottles enclosing strips of paper giving the date of excavation and by whom. When they had inspected the entire site, the Browns left for Pontotoc with Mr. Winston, who planned to show them his County Museum. Again we got back to our profile recording and mapping, soon to be interrupted by the arrival of Mr. and Mrs. David Heddleston, Jr., and Miss Sage, all from the F.E.R.A. office of Pontotoc and Tupelo. With Mr. Heddleston, whom I had not met before, I had an enjoyable conversation concerning the work that has been done here, and a possible continuation of our archaeological work with the F.E.R.A. and W.P.A. through the Pontotoc Museum set-up. Mr. Heddleston

inquired if the fire basin was of historical and scientific interest--sufficiently so to warrant removal to the Pontotoc County Museum, as expense was not a consideration. I assured him of its uniqueness and told him that it was quite worth preserving, but that the process of removal would be tedious and painstaking. He will not object to having Mr. Winston and a crew work at it a week or so if necessary to accomplish its removal, as they are all dependent upon the F.E.R.A. for support anyhow, and anything to keep them usefully employed is sufficient justification of the time and expense involved. So seems to be the principle upon which the F.E.R.A. is administered. Mr. Heddleston inquired about what work in my estimation Mr. Winston could do archaeologically without our guiding presence. I recommended a survey of village sites, including James M. Watts in the scope of this work. Apparently Mr. Heddleston regards Mr. Watts as little higher in the intellectual scale than a half-wit, which is not an entirely fair estimate of his ability. Evidently Mr. Heddleston's cooperation can be relied upon for future work with his organization if we desire it, possibly later in the year. Mr. Heddleston wishes a project established that could be maintained over the period of a year. He and the ladies were greatly impressed by the amount of work done by the F.E.R.A. crew, which I bluntly explained had been of poor quality. The stratification in the trenches walls, and my explanation of the probable significance, particularly intrigued our visitors. I indicated the possibility that the sagged lines in the north end of Pit #2, Mound II, might reveal the existence of a sagged house structure covered with dirt. I explained that Mr. Winston's fitness lay chiefly in the role of museum director, and that he had not mastered archaeological technique. The most useful work that the Pontotoc County Museum can accomplish will be survey work--a task wherein Jimmy Watts can be effectively used--but no excavation program is recommended. After the departure of our guests, we resumed profile platting, completing it before six o'clock. Following this, we took down the tent and did all possible packing in readiness for an early departure in the morning. Partly cloudy night, with a steady breeze.

Saturday, August 24, 1935

We arose while it was yet dark, about 4:30 A.M., then packed up all our effects and left the Shiloh Church Mound Group at twenty minutes to five. Wallace's crazy wife, Stella, must have heard us stirring about, for she was sitting quietly on her porch as we left at daylight. We purchased gas and oil from Mr. Sansine at Old Houlka and by 7:35 we had reached Starkville. Slater got in touch with Dr. J. C. Herbert and found that the anticipated test papers from the Univ. of Chicago had just arrived and by 10:30 he had completed taking this scholastic aptitude test, which must be successfully passed if he is to enter the Univ. of Chi--this autumn. Meanwhile, I had a talk with Mrs. Albert Love at her office in Montgomery Hall, learning that "Father" Love is well and that her husband has a position now as agronomist at the new C C C camp at Payne Field near West Point. Later I called on Prof. Garner, laid up in bed from foot trouble. The Oktibbeha County Museum, while not yet assembled, is gaining promises

of exhibits, but still lacks suitable space. It is fostered by the Oktibbeha County Historical Commission, whose members are clamoring to Prof. Garner for assignments on which to work. The first public program to be presented by the commission will deal with the Indians. Prof. Garner is interested in the Congressional Bill authorizing the marking of the De Soto route and he wishes data connecting the Spanish with the Chocchuma village at Lyon's Bluff, requesting me to ask Dr. Rowland for this information for him. While at the College I also saw Prof. Clay Lyle and Dr. Paul Dunn. We left Starkville at 10:45 A.M., paused in Ackerman to J. Frank Rhodes and were delayed there by tire trouble, passed through a hard rain near Dossville, and as a result of motor trouble between Kosciusko and Carthage, had the ignition checked in Carthage, and finally reached Jackson, continuing on through Clinton to "Belvedere Place." Slater drove home in the truck.

Sunday, August 25, 1935

Dr. Rowland's birthday anniversary!

Monday, August 26, 1935

I spent the day in the Department of Archives and History, labelling photographic prints and delivering reports--oral and written--to Dr. Rowland on the work of this season. We shall finish our field work with investigations in Rankin County. I got prints from Hiatt Studios (7 rolls). After eating supper in town I heard part of the public speaking in Poindexter Park.

MEMORANDUM FROM JESSE D. JENNINGS
TO THE SUPERINTENDENT OF THE NATCHEZ TRACE PARKWAY*

August 26, 1946

On February 24, 1941, you transmitted to the Director two memoranda, dated October 7, 1940 and February 13, 1941, with which I called to you attention the De Soto camp site and the Shiloh Mound group lying approximately 1-1/2 miles west of the parkway motor road location in Chickasaw County, Mississippi. Copies of these memoranda and the accompanying map went to Regional Historian Appleman. Both sites lie on Federally owned lands which are a part of the Natchez Trace Land Utilization Area. Although the data and recommendations of the memoranda cited above are still valid, I desire to review the significance of the areas.

First I suggest that the term Owl Creek site be used to designate the site because the two sites, Shiloh Mound group (MCs9) and the

*A xerox copy of this memorandum is in the Archaeological File (Chickasaw County) at the Mississippi Department of Archives and History.

DeSoto Camp (MCs10) are in reality two portions of a single site, and should be so considered. Renaming the site gives it a simple individual name, in addition to removing from use the easily confused term "Shiloh Mound Group" which is usually confused with the mounds at Shiloh National Military Park.

The Owl Creek site is important in several ways. Historically the village portion is of great interest. According to the DeSoto Commission it is probably the site of the Chickasaw village where DeSoto spent the winter of 1540-41, and where his expedition suffered one of its most disastrous attacks. Identification of the village by the commission is far from positive. Their conclusions rest on the evaluation of tenuous inferences from indirect, inadequate data. However it was selected after a long period [period] of analysis by competent students; it can be accepted as [their] best judgment of the probable location. In any event, we know that the intrepid DeSoto did winter near the Trace, and that it was assuredly within a few miles of this place. Certainly these courageous men should be remembered in our interpretive presentation at some point in the region.

Archaeologically the Owl Creek Mounds are as significant as any along the Parkway. The mound group was built up during two periods. An early occupation by Miller III people is evidenced by the pottery found on the site, and by the one or two domed mounds. Later use by Middle Mississippians is seen in the large truncate mounds. The village site yields only Miller III pottery. On scanty evidence, chiefly plain pottery wares, I have postulated the development of part of historic Chickasaw material culture from Miller III prototypes. That is to say that historic Chickasaw culture (1700) observed archaeologically, is in part descended from earlier Miller III. Most probably the historic tribes possessed a culture characterized by the fusion of Middle Mississippi elements. The Owl Creek mounds and associated village site, apparently were abandoned at a time of transition from Miller III to Middle Mississippi, will provide an ideal test of the hypothesis regarding the relationship of prehistoric Chickasaw culture to the historic traits. It is certain that the Owl Creek site is prehistoric because neither historic Chickasaw materials or European trade goods were found on the site.

Aside from the specific historic value, and the important Indian data the site possesses, Owl Creek is intrinsically valuable because of high potential interpretive uses.

The various portions of the Owl Creek site are not deteriorating at present. The area where the village site lies is pasture; the mounds are tree covered....

/s/ Jess D. Jennings
 Jesse D. Jennings, Archaeologist.
 [Natchez Trace Parkway, National
 Park Service, United States
 Department of the Interior]

SITE MCS10 - OWL CREEK SITE
Robert S. Neitzel*

This site consisting of probably five flat topped mounds originally is characteristic of a small ceremonial center as recognized in the Lower Mississippi Valley Survey Area of Northwest Mississippi, eastern Arkansas, and adjacent portions of Louisiana. If the principal mounds were larger, it might be called a large center, but it is smaller than those in the region where such groupings are common. Located as it is in a sort of archaeological no-man's land, it must certainly have been an important aboriginal establishment.

Though the surface collection of sherds and other items is pitifully inadequate, some idea of occupation history can be extracted from the 26 sherds analyzed. There are three, possibly four, known types also found at other sites near Tupelo and [they] are listed chronologically as follows:

<u>Type</u>	<u>Remarks</u>	<u>Number</u>	<u>Period</u>	<u>Date</u>
Neeley's Ferry Plain	(live shell temper)	6	Middle Mis- sissippi	1500
Tishomingo Plain	(clay tempered)	10	Late Baytown	1300-1500
Baldwin Plain	(sand tempered)	9	Middle Baytown	800-1300
Unclassified Plain	(limestone tempered)	1	Woodland	200-500?

The small size of the sherd and lack of diagnostic decorations further detract from the value of the collection in establishing this arbitrary and rash chronology. In reality, the types listed overlap considerably where samples from sites are more sufficient.

The arrangement of the mounds and their obvious truncated pyramidal shape is perfectly normal for plaza centers that came into existence in the southeast and lower valley as early as A.D. 800 and persisted up to about 1600. The larger centers seem to have been elaborations of earlier small centers such as this.

The bi-concave discoidal and wattle are comfortably at home in Late Baytown and Mississippi times and even persist into historic times (1700), as did the shell tempered pottery.

The two largest mounds probably supported a temple and/or important chiefs' houses. The lesser mounds were occupied by a lesser temple or lesser chiefs.

/s/ Robert S. Neitzel
Chief Curator
Mississippi Department
of Archives and History

*Robert S. Neitzel was the chief curator of the State Historical Museum, Mississippi Department of Archives and History, Jackson, 1960-67. A copy of this report is in the Archaeological File (Chickasaw County) of the Department.

CONCLUSION

At the point of determining a chronology for the Owl Creek site, we begin to lament the loss of Chambers's field notes. Several stages of mound building at Owl Creek show clearly in the few remaining photographs. These stages could possibly represent pre-Mississippian mound building. This certainly seems possible on the basis of Neitzel's ceramic analysis, which places the bulk of the sherds in a pre-Mississippian period. In an attempt to present a history of occupation at the site, I have incorporated the ceramics analyzed into Rucker's (1974) ceramic chronology.

Baldwin Plain pottery, as noted in Figure 2, covers a rather long period of time, and its use as a marker is therefore very limited. The Tishomingo Plain sherds, however, help to narrow the time field. As can be seen in Figure 2, Tishomingo Plain dates from before A.D. 300 to A.D. 800, overlapping the time span of Baldwin Plain. Finally, the six sherds of Neeley's Ferry Plain (now called Mississippian Plain, var. Neeley's Ferry) point to an occupation at ca. A.D. 1000. Mississippian Plain can extend into the historic period.

A collection loaned to this writer by Richard A. Marshall contained the following types of pottery:

Bell Plain, <u>var. unspecified</u>	3
Mississippian Plain, <u>var. Neeley's Ferry</u>	18
Mississippian Plain, <u>var. Neeley's Ferry</u> strap handle	1
Tishomingo Plain	2
Baldwin Plain	2

Although at first glance this collection seems to add little new information, the appearance of Bell Plain pottery does suggest a later Mississippian occupation. Marshall's sample also includes some burned clay, but no diagnostic material other than the sherds. Some post molds were seen by Marshall when roadwork was done through a portion of the site, an indication that excavation could be profitable.

Occupation of the site, then, began at ca. A.D. 300, and it is possible that small mounds were constructed at that time. The major occupation of the site occurred just after A.D. 1000, the marker period for mound building activity. During this later occupation the site served as a major ceremonial center for outlying Mississippian villages.

According to Neitzel (personal communication), one sherd of Chickachae Combed was present in the old collections from this site, which are now lost. One sherd is scant evidence, but it could indicate Choctaw occupation of the site. It is known that some historic Chickasaw burials were recovered at the Bynum site in Chickasaw County (Cotter and Corbett 1951). In all probability, this instance of late Indian occupation represents a short visit by either hunting or trade parties.

The Owl Creek site lies on a small terrace in the alluvial floodplain of Chuquatonchee Creek. Near the site, Goodfood, Owl, and Davis creeks drain into the Chuquatonchee. This situation would have been ideal for floodplain oriented agriculturalists. Recently found

evidence points to corn cultivation as early as the Miller III Period (Blakeman, Atkinson, and Berry 1976). It is thus apparent that agriculture was the reason for the occupation of the site and that agriculture eventually led to its becoming a major site in this section of Mississippi.

No evidence that De Soto camped at this site has been offered. The ceramics seem to indicate that the site was abandoned before the Spanish passed through this area. Surface collections from the nearby site MCs10, mentioned by Jennings, yielded a large quantity of cordmarked pottery, which indicates a prehistoric occupation no later than 500 years before the birth of De Soto.

Further archaeological work is necessary for a better understanding of the construction and utilization of this imposing site. Fortunately, a part of the site is stabilized and protected and will not disappear before it can be explored.

REFERENCES

- Blakeman, Crawford H., Jr., James R. Atkinson, and G. Gerald Berry
1976 Archaeological excavations at the Cofferdam site 22-Lo-599, Lowndes County, Mississippi. Department of Anthropology, Mississippi State University, Starkville.
- Cotter, John L., and John M. Corbett
1951 Archaeology of the Bynum Mounds, Mississippi. United States Department of Interior, National Park Service, Archeological Research Series 1.
- Rucker, Marc D.
1974 Archaeological survey and test excavations in the upper-central Tombigbee River Valley: Aliceville-Columbus lock and dam and impoundment areas, Alabama and Mississippi. Mississippi State University Department of Anthropology Final Report.

[MA 12 (1977), 2, 3 (October), 3-29]

ARCHAEOLOGY OF THE ELLIS SITE (22-Cr-507) CARROLL COUNTY, MISSISSIPPI John T. Penman*

The Ellis site is situated in the loess hills of Mississippi, approximately five miles east of the Lower Mississippi Alluvial Valley, or the Delta, as it is more commonly called (Figure 1). Loess is a wind-borne deposit which originated during the dry periods of the Pleistocene. In the vicinity of the Ellis site, loess deposits are more than fifteen feet deep and make the hills rugged and the valleys narrow (Snowden and Priddy 1968). Normal reduction of loess deposits is by colluviation, or soil creep. When these deposits have tree and underbrush cover removed, erosion increases at a rapid rate with whole cliffs shearing off. Even though loess soils retain water only near

*The author wishes to thank Mr. C. G. Bryan for the sketch map of the site.

the ground surface, these deposits support some pines and a wide variety of hardwoods (Caplenor *et al.* 1968:227). Modern agricultural activity has increasingly cleared timbered lands, causing increased erosion of the delicate loess soils. Erosion, along with the meandering of Abiacha Creek, has exposed several aboriginal refuse pits at the Ellis site. These pits were first reported by Chris G. Bryan, of Carroll County, in 1972. At that time, Bryan excavated five pits which could be seen in the bank some forty feet above the water's edge (Figure 2). Bryan returned to the site in February, 1973, and excavated seven more pits which he identified as 2A-G.

Of the twelve pits excavated, eleven were approximately two feet deep with an opening of a smaller diameter than the bottom. Pit 2B is an exception in that it is shallower (approximately twelve inches deep) and is basin-shaped in cross section. All pits were vertically stripped from the exposed surface inward, and, although a screen was not used, many small artifacts were recovered.

Though the Ellis site is situated on the bluffs above the valley carved by the Mississippi River, the ceramics are more similar to wares recovered from the northern Mississippi Delta than to pottery from other upland regions farther east. Brown (1973) and Steponaitis (1974) have found that ceramics from the loess hills in the Natchez vicinity correlate well with the type/variety concept which Phillips (1970) has used successfully with Lower Valley ceramics. In Brown's analysis of sites from the loess uplands, termed the Bluff Area, it was revealed that in a majority of cases the ceramics from sites in the Bluff Area correspond to previously described varieties. Therefore, Phillips' scheme for ceramic nomenclature with regard to Delta pottery has been relied upon exclusively in the analysis of the Ellis site ceramic collection.

The author and Mr. Bryan visited the site in October, 1974, at which time a surface collection was obtained. This surface sample (Tables 1 and 2) contained one sherd which is similar in decorative technique and paste to Alligator Incised (Phillips 1970:38-39), though the specimen from Ellis differs in that the decoration is on the interior of what must have been a simple bowl or dish-shaped vessel (Plate 1). Similar sherds with incising on the interior surface have been recovered from Lightline Lake site (Le-504) and other parts of Leflore County. All sherds reported thus far have parallel incised lines or simple rectangular patterns (Penman 1977: Figures 6, 7). Since sherds of this nature have not been described previously in the literature, the designation of Alligator Incised, var. Abiacha is suggested here.

Ceramics from Pits 1, 2, 2A, 2B, 2G, 3 and 5 indicate that these pits were used during the Baytown Period (Table 3). Pits 2C and 4 contain ceramics from the Mississippi Period and the earlier Baytown Period. The presence of ceramics from both periods may indicate that Pits 2C and 4 were utilized exclusively during the Baytown Period and that subsequent activity by Mississippian peoples caused the mixing in these units; or it may indicate that Baytown series ceramics were still in use even after the Mississippi Period began. If the latter supposition is correct, then some explanation is required regarding the Coles Creek Period in the northern Delta.

The Coles Creek Period is marked by an increase in population over the previous Baytown Period. Large ceremonial centers were created, although the population remained dispersed (Brain 1971:67-68). These centers are characterized in Louisiana by a plaza bordered by three truncated mounds (Phillips 1970:555). Pottery styles change also, in that cordmarking drops off appreciably and there is an increase in incised wares, with several varieties of Coles Creek Incised being the marker types (Phillips 1970:556, 917). In the Lower Valley north of Greenwood, Coles Creek does not manifest itself in the typical manner. There are a few sites in the northern Delta with pyramidal mounds that are not Mississippian in origin. Further, Coles Creek Incised is almost absent. There is, however, an unpublished variety, var. Barner, which seems to be a hybridization of Mulberry Creek Cordmarked and Coles Creek Incised--simple bowls decorated along the top of the rim by a single cord impression. (This statement is based on examination of collections at the Mississippi Department of Archives and History, Clarksdale). Phillips (1970:906) has characterized this behavior as Baytown Culture extending into the Coles Creek Period. This continuation of life-style similar to that of the Baytown peoples well after A.D. 700 has been reinforced by recent surveys near Greenwood and Greenville (Penman 1977 and Potts 1976:6).

Phases of the Coles Creek Period have been designated as Aden and Kings Crossing in the Yazoo Basin near Greenwood (Phillips 1970:552-557). Phillips based these phases on the frequency of several varieties of Coles Creek, Evansville Punctate, Mazique Incised, and French Fork Incised ceramics. None of the specified varieties common to either phase occur at the Ellis Site.

While the surface material represents a 39/61 percent relationship between Baytown Plain and Mulberry Creek Cordmarked, the relationship is 46/54 in the pits containing Mississippi Period ceramics, i.e., the later pits. In contrast, the pits containing no shell-tempered wares which could possibly be considered earlier, have 34 percent Baytown and 66 percent Mulberry Creek, when the total sample is compared. This would substantiate Phillips' (1970:917) contention that plain wares increase in relation to cordmarking through time. The ceramic type Alligator incised var. Abiacha could be a temporal indicator for the Coles Creek Period in the area around Greenwood, Mississippi.

This author believes that the Marksville ceramics (Plate 1) are a product of a small Middle Woodland hunting party and that the main occupation at Ellis occurred during the Coles Creek Period. By its preponderance of tools, Pit 2C represents a refuse disposal unit that was used during peak hunting activity, while the vegetal remains from Pit 5 are evidence of plant processing, probably at a slightly different time of the year. The mammals represented in the Ellis sample (Table 5) are abundant and could have been captured at any season of the year (Wolfe 1971).

In addition to the vertebrate remains presented here, fresh water mussel shell occurs in all pits. This material was submitted to the Department of Biology, University of Southern Mississippi, for identification, but the results were not available when this report was written.

The faunal refuse from Ellis indicates that hunting was a major activity during the Coles Creek Period. This is not to say that corn agriculture was not the main economic base, since the absence of corn remains may be accounted for in various ways (see Belmont 1967:16).

The cultivation of different corn varieties seems to have created the cultural differences between the northern and southern Delta. While Coles Creek Culture manifests itself in the lower Delta, Baytown culture persists farther north. It has been suggested that the corn variety on which Coles Creek people relied was Mesoamerican in origin and that the climate north of Greenwood was unfavorable to this tropical breed (Brain 1971:69-70; Belmont 1967:17; and Brown 1973:44).

In the Bluff Area around the northern Delta there were apparently few changes in ceramics and stone tools if the artifacts from Ellis are any indicator (Plates 1, 2, and 3). The Abiacha variety of Alligator Incised is actually a mixing of a Coles Creek vessel shape with a previously perfected decorative technique. Some of the Cordmarked sherds (Plate 2D) are intentionally smoothed after the cord impressions are applied. The earlier Gary points persist also (Plate 3A, B). Shell-tempered ceramics have been introduced, such as the Parkin Punctate wares.

There are not, however, any absolute dates available, since no radiocarbon samples were taken. Therefore, it will be the responsibility of further researchers who analyze comparable sites in the Bluff Area to assign specific phase designations to sites which are similar to Ellis.

REFERENCES

- Belmont, John S.
 1967 The development of agriculture in the Lower Valley. Southeastern Archaeological Conference Bulletin 5.
- Brain, Jeffrey P.
 1971 The Lower Mississippi Valley in North America prehistory. Manuscript on file. Southeastern Region, National Park Service, Tallahassee, Florida.
- Brown, Ian W.
 1973 Settlement patterns in the Bluff Area of the Lower Mississippi Valley. Bachelor's thesis, Department of Anthropology, Harvard University.
- Caplenor, C. D., R. E. Bell, Judith Brook, Dale Caldwell, Charles Hughes, Anne Regan, Alice Scott, Stewart Ware, and Melanie Wells
 1968 Forests of west central Mississippi as affected by loess. Mississippi Geological Economic and Topographical Survey Bulletin 111.
- Krumbein, W. C., and L. L. Sloss
 1963 Stratigraphy and Sedimentation. W. H. Freeman and Company, San Francisco.
- Penman, John T.
 1977, Archaeological survey in Mississippi, 1974-1975.
 1980 Mississippi Department of Archives and History Archaeological Report 2.
-

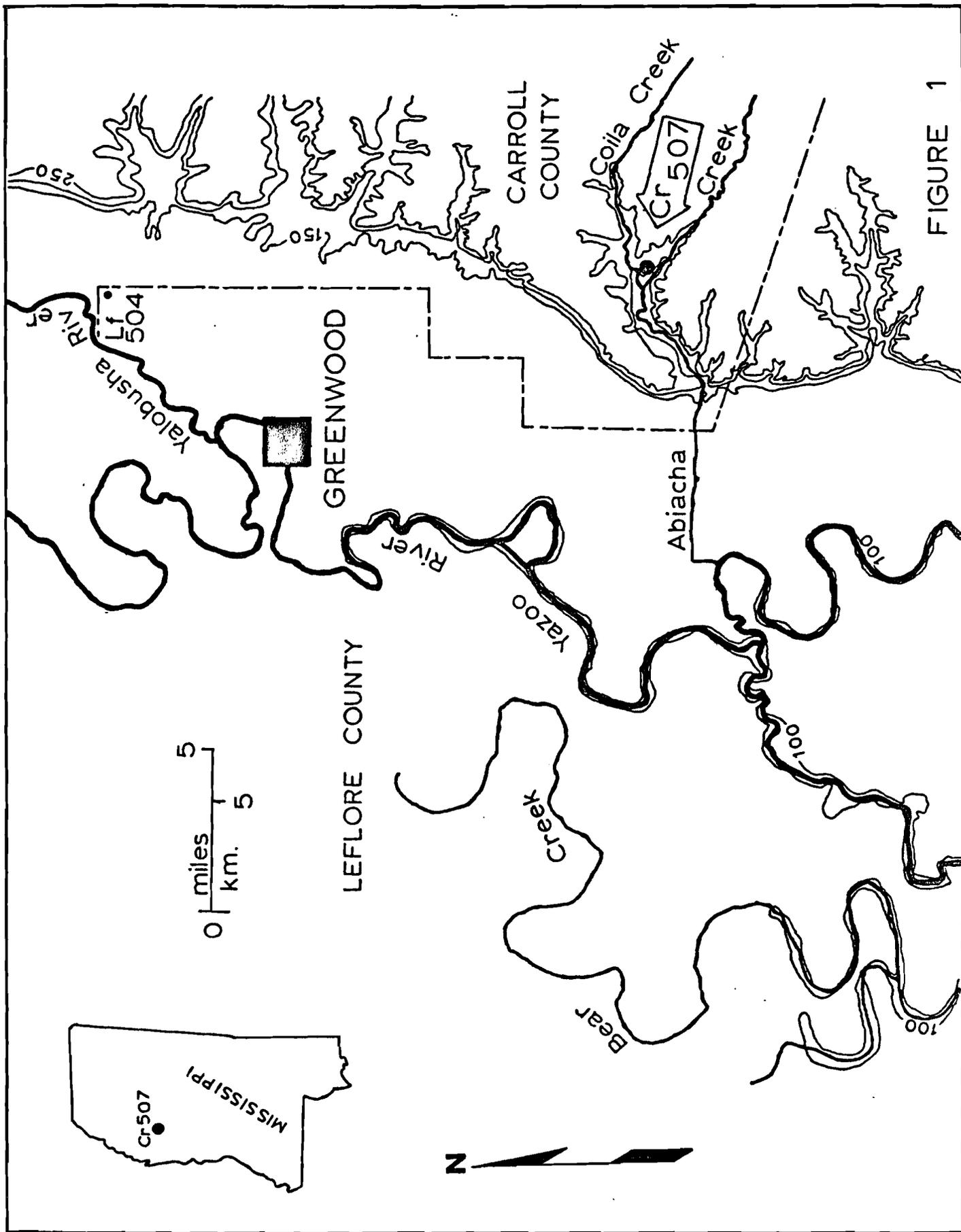


FIGURE 1

ELLIS SITE 22-Cr-507

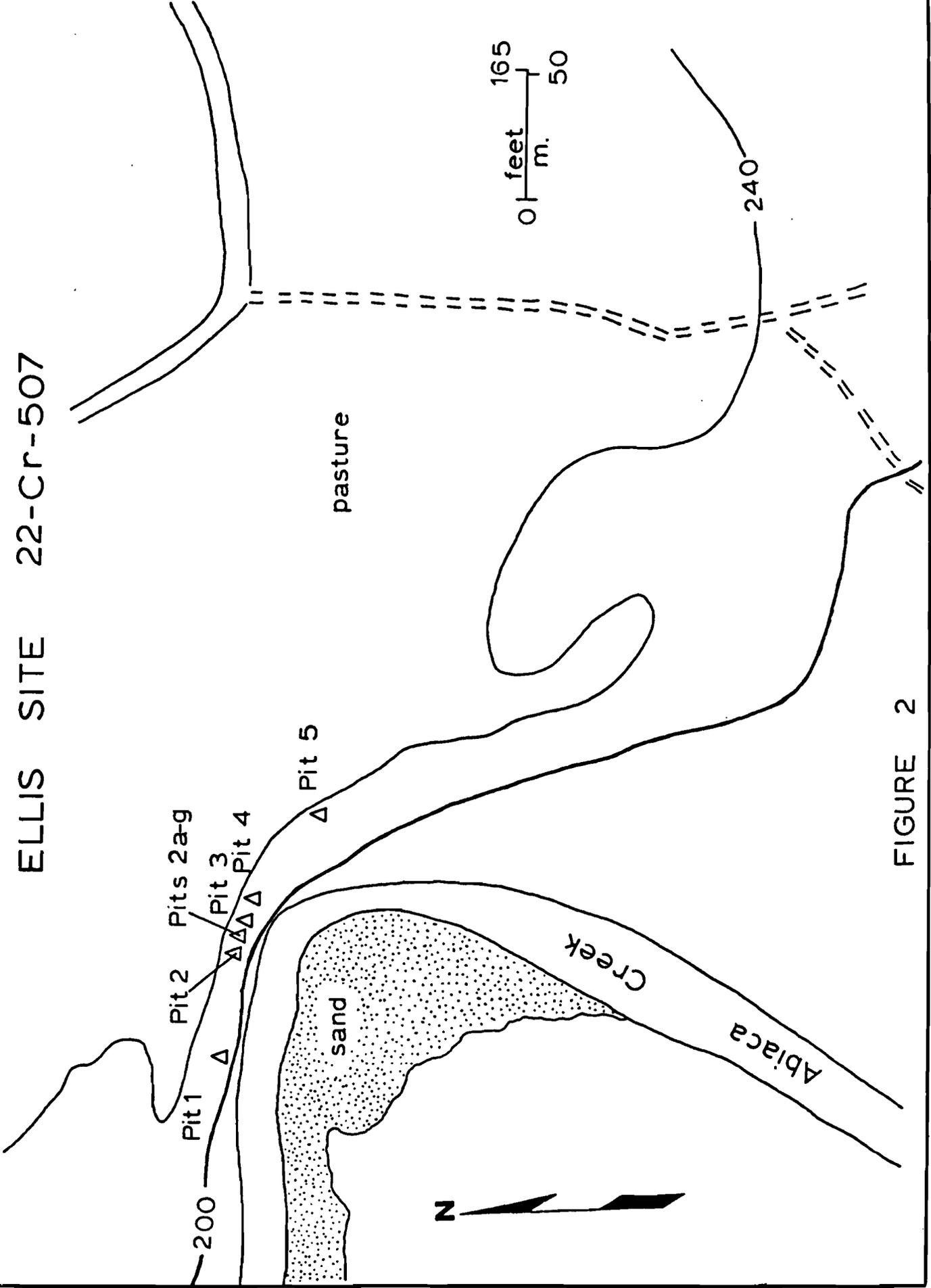


FIGURE 2

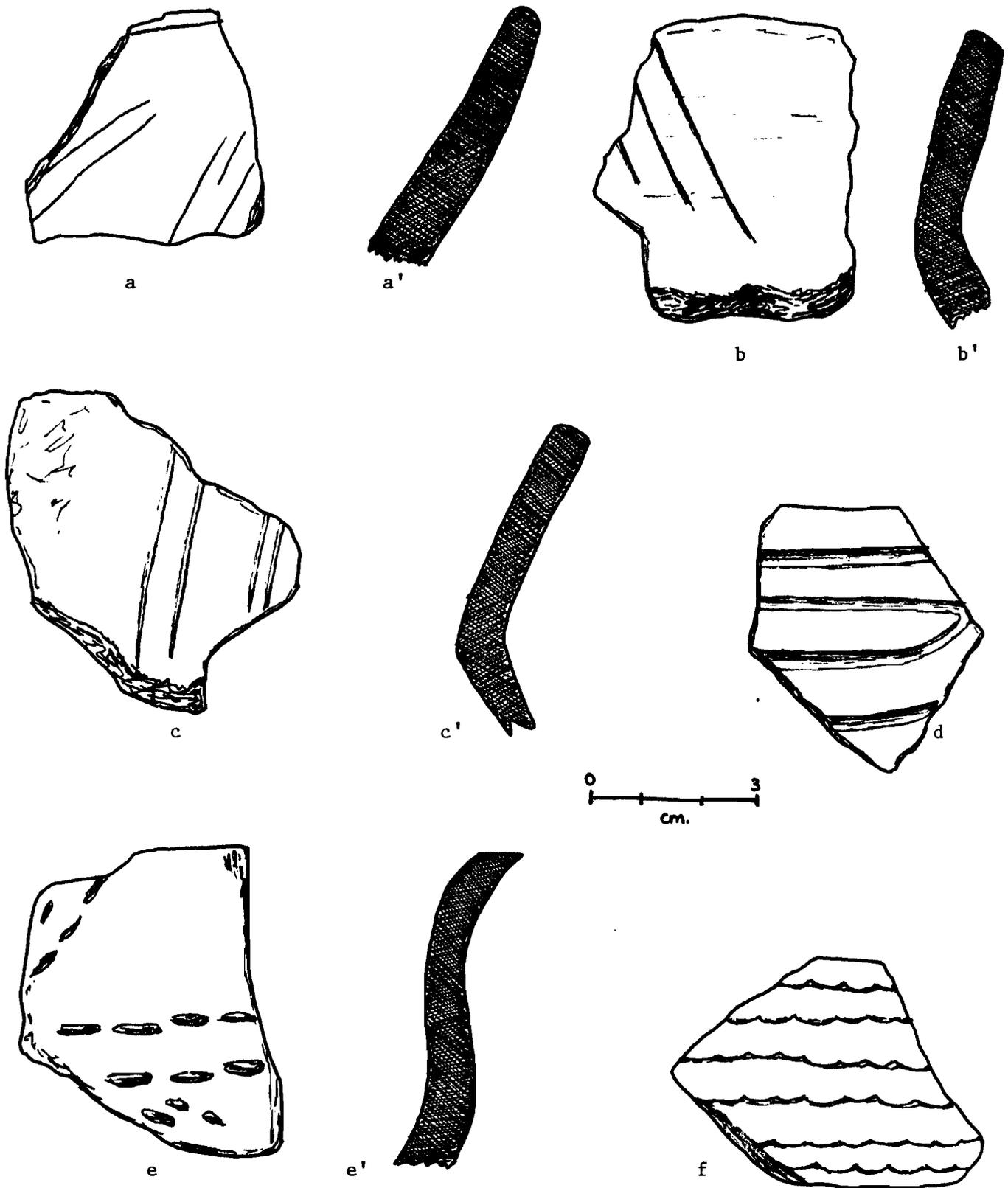


Plate 1. ARTIFACTS FROM THE ELLIS SITE: a, a' Alligator Incised, var. Abiacha; b, b' Alligator Incised, var. Alligator; c, c' Alligator Incised, var. Oxbow; d Marksville Incised, var. Yokena; e, e' Parkin Punctate, var. Parkin; f Parkin Punctate, var. Castile (all profiles have exterior to the right).

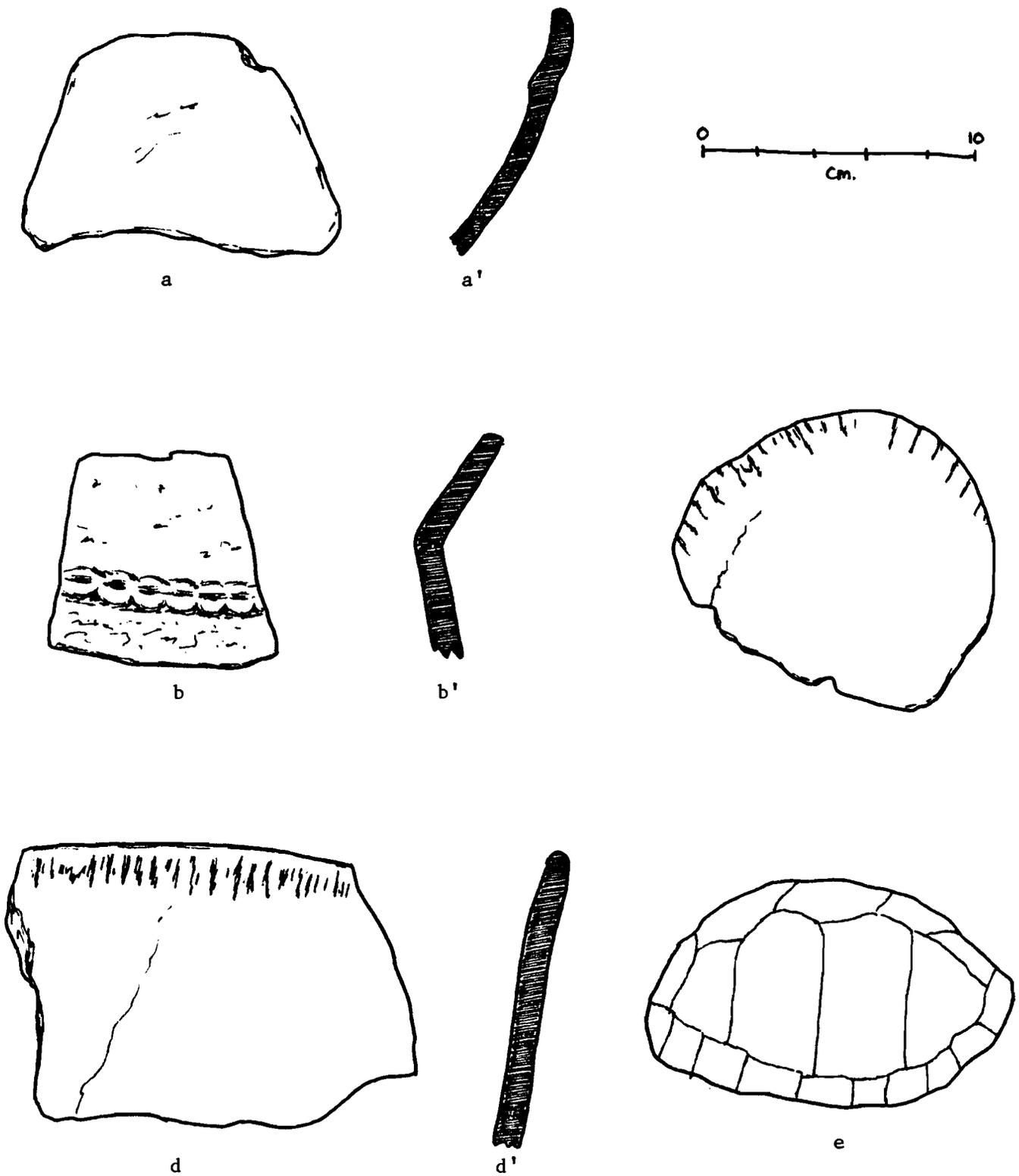


Plate 2. ARTIFACTS FROM THE ELLIS SITE: a, a' Baytown Plain, var. unspecified; b, b' Mississippi Plain, var. unspecified; c Mulberry Creek Cordmarked, var. Edwards; e box turtle shell.

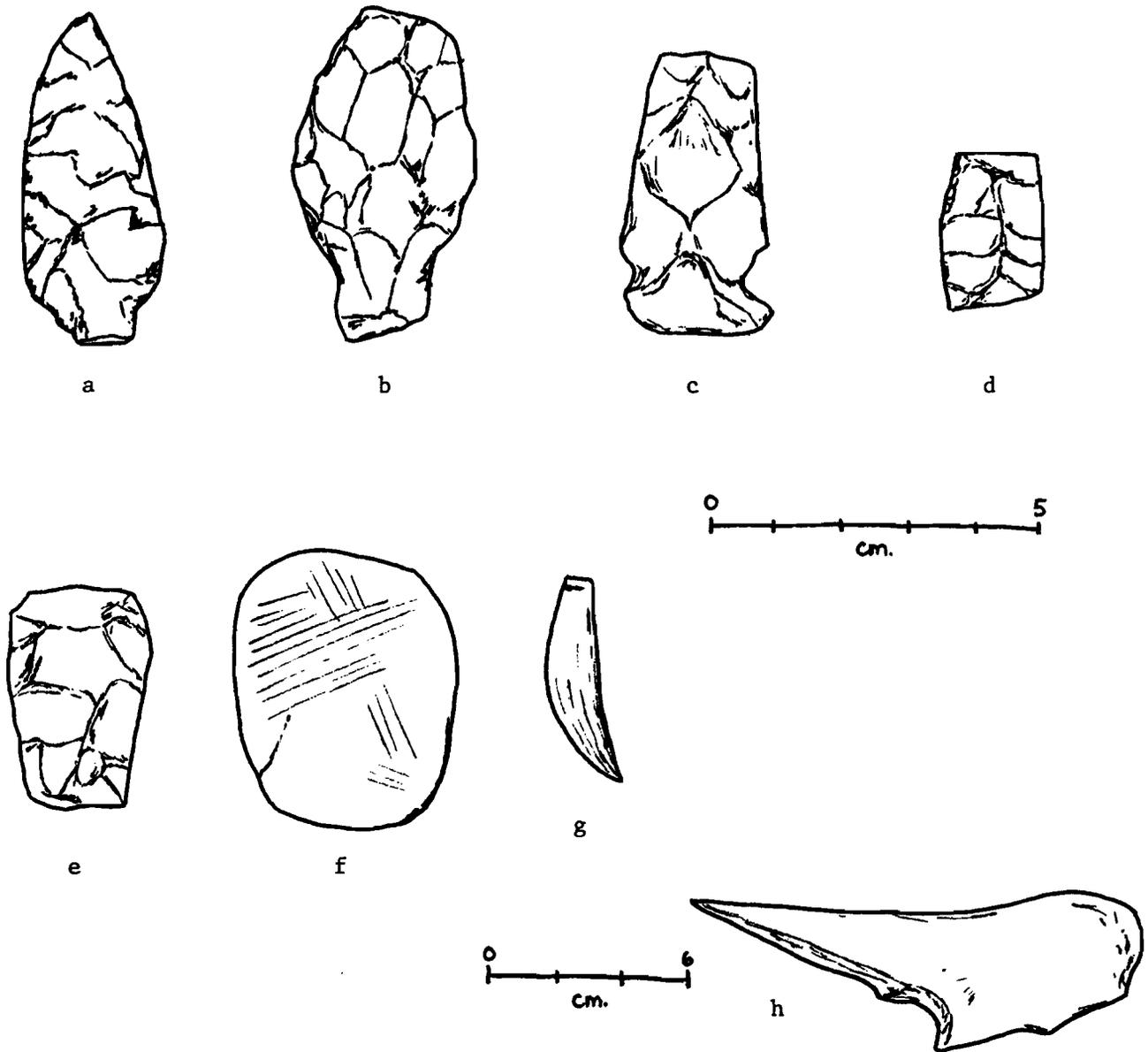


Plate 3. ARTIFACTS FROM THE ELLIS SITE: a, b Gary projectile points; c side notched projectile point; d, e core tools; f shell disk; g raccoon canine with working at proximal end; h deer ulna awl.

Table 1. Surface Ceramics from the Ellis Site.

Ceramics	Rim Sherd	Body Sherd	Round Sherd	Total Sherds
Baytown Plain				
<u>var. unspecified</u>	3	25		28
<u>var. Thomas</u>	1			1
Mulberry Creek Cordmarked				
<u>var. unspecified</u>	1	35	2	38
<u>var. Edwards</u>	7			7
<u>var. Smith Creek</u>	1			1
Larto Red Filmed				
<u>var. unspecified</u>	3			3
Parkin Punctated				
<u>var. Parkin</u>	2	1		3
<u>var. Castile</u>	1			1
Mississippi Plain				
<u>var. unspecified</u>	1	1		2
<u>var. Coker</u>	1			1
Alligator Incised				
<u>var. Alligator</u>	1			1
<u>var. Abiacha</u>	1			1
Marksville Incised				
<u>var. Yokena</u>	1			1
Daub with Wattle Impressions				4

Table 2. Surface Lithics from the Ellis Site.

	Yellow Chert	Heat Treated Yellow Chert	White Quartzite	Sandstone	White Chert	Other	Total
Flakes							
Primary	1	1					2
Secondary	8	4					12
Thinning	5	2					7
Cores	2				1		3
Preforms		2					2
Worked Thinning Flake							
Work on 1 Edge							
Work on 2 Edges							
Work on 3 Edges	1						1
Hammer Stone			1				1
Ground Stone Frags.				3			3
Agate						1	1
Fossils						5	5

Table 3. Excavated Material from the Ellis Site.

Pit 1

	Rim Sherd	Body Sherd	Yellow Chert	Heat Treated Yellow Chert	Quartzite	Other	Total
CERAMICS							
Baytown Plain <u>var. unspecified</u>	2	5					7
Mulberry Creek Cordmarked <u>var. unspecified</u>		1					1
LITHICS							
Primary Decortication Flake			1				1
Secondary Decortication Flake				1			1
Thinning Flake				1			1
Large Pebble						1	1

Pit 2

	Rim Sherd	Body Sherd	Yellow Chert	Heat Treated Yellow Chert	Other	Total
CERAMICS						
Baytown Plain <u>var. unspecified</u>	1	39				40
Mulberry Creek Cordmarked <u>var. unspecified</u>	5	20				25
LITHICS						
Primary Decortication Flake				1		1
Secondary Decortication Flake			6	3		9
Thinning Flake			1			1
Thinning Flake Worked on 1 Edge				1		1
Preform			1			1
Core				1		1
Small Pebble				1		1
Petrified Wood					2	2

Table 3. (continued)

Pit 2A

	Rim Sherd	Body Sherd	Yellow Chert	Other	Total
CERAMICS					
Baytown Plain var. unspecified	3	5			8
Cordmarked var. unspecified		3			3
Alligator Incised var. Oxbow		1			1
LITHICS					
Core			1		1
Primary Decortication Flakes			2		2
Petrified Wood				1	1
Large Pebble				1	1
Small Cobble				1	1

Pit 2B

	Rim Sherd	Body Sherd	Yellow Chert	Heat Treated Yellow Chert	Other	Total
CERAMICS						
Baytown Plain var. unspecified	1	12				13
Mulberry Creek Cordmarked var. unspecified		5				5
LITHICS						
Cores						
Secondary Decortication Flakes			2			2
Large Pebble				1	1	2
Quartz Crystals					2	2
Daub					1	1

Table 3. (continued)

Pit 2C

	Rim Sherd	Body Sherd	Yellow Chert	Heat Treated Yellow Chert	Quartzite	Other	Total
CERAMICS							
Baytown Plain <u>var. unspecified</u>	1						1
Mississippi Plain <u>var. unspecified</u>		1					1
Mulberry Creek Cordmarked <u>var. unspecified</u>		4					4
Daub with Wattle Fragments						1	1
LITHICS							
Nutting Stone					1		1
Large Pebble						1	1
Limonite Fragments						2	2
Core Tools			2				2
Gary Projectile Points Side Notched Projectile Point				2			2
Core			1	1			1

Pit 2G

	Rim Sherd	Body Sherd	Yellow Chert	Heat Treated Yellow Chert	Total
CERAMICS					
Baytown Plain <u>var. unspecified</u>	14	84			98
Mulberry Creek Cordmarked <u>var. unspecified</u>	8	36			44
<u>var. Edwards</u>	1				1
Alligator Incised <u>var. Oxbow</u>		2			2
LITHICS					
Primary Decortication Flakes			1	1	2
Secondary Decorti- cation Flakes			1	1	2
Cores			1	1	2
Very Large Pebble			1		1

Table 3. (continued)

Pit 3						
	Rim Sherd	Body Sherd	Yellow Chert	Heat Treated Yellow Chert	Other	Total
CERAMICS						
Baytown Plain var. <u>unspecified</u>		2				2
Mulberry Creek Cordmarked var. <u>unspecified</u> var. <u>Edwards</u>	1	6				1
Daub Without Wattle Fragments					2	2
LITHICS						
Cores			2	1		3
Primary Decortication Flakes			1			1
Secondary Decortication Flakes			1			1
Large Pebble			1			1
Pit 4						
	Rim Sherd	Body Sherd	Yellow Chert	Heat Treated Yellow Chert	Other	Total
CERAMICS						
Baytown Plain var. <u>unspecified</u>		11				11
Mulberry Creek Cordmarked var. <u>unspecified</u>		10				10
Alligator Incised var. <u>Oxbow</u>	1					1
Old Town Red var. <u>unspecified</u>		1				1
Daub					1	1
LITHICS						
Cores			1			1
Secondary Decortication Flakes			2			2
Sandstone Fragments					2	2

Table 3. (continued)

Pit 5

	Rim Sherd	Body Sherd	Yellow Chert	Heat Treated Yellow Chert	Other	Totals
CERAMICS						
Baytown Plain var. unspecified	1					1
Mulberry Creek Cordmarked var. unspecified		1				1
LITHICS						
Fire Cracked Rock					1	1

Table 4. Vertebrate Faunal Material from the Ellis Site Surface

Faunal Material		Number of Pieces	Number of Individuals
<u>Terrapene Carolina</u> (box turtle)	Epi Plastron	4	4
	Xi Plastron	4	
	Carapace	7	
<u>Odocoileus Virginianus</u> (white tailed deer)	Molars	4	
	Vertebra	1	1
	Ulna (worked)	1	
	Metatarsal	1	
<u>Sylvilagus</u> (rabbit)	Right Mandible	1	1
<u>Mustela</u> (weasel or mink)	Right Mandible	1	1
<u>Meleagris Gallopavo</u> (Turkey)	Right Tibiotarsus	1	1
Deer Size	Longbone Fragments	3	
	Rib Fragments	2	
Turkey Size	Longbone Fragments	3	
Catfish Size	Operculum Fragment	1	

Table 5. Vertebrate Faunal Remains from the Ellis Site Pits.Pit 1.

	Faunal Material	Number of Pieces	Number of Individuals
<u>Odocoileus Virginianus</u>	Vertebra	1	1
Deer Size	Longbone Fragments	1	1
Freshwater clam		1	1

Pit 2.

	Faunal Material	Number of Pieces	Number of Individuals
<u>Terrapene Carolina</u>	Xi Plastron	1	1
<u>Odocoileus Virginianus</u>	Calcaneum	1	1
	First Phalanx	1	
Deer Size	Longbone Fragments	4	
	Pelvis Fragments	2	
	Rib Fragment	1	
Catfish Size	Skull Fragment	1	

Pit 2A

	Faunal Material	Number of Pieces	Number of Individuals
<u>Terrapene Carolina</u>	Xi Plastron	1	1
<u>Odocoileus Virginianus</u>	Molars	3	1
	Premolars	2	
Deer Size	Skull Fragment	1	
	Longbone Fragment	1	
	Pelvis Fragment	1	
	Vertebra Fragment	1	
Rabbit Size	Longbone Fragment	1	

Table 5. (continued)

Pit 2B.

	Faunal Material	Number of Pieces	Number of Individuals
<u>Homo Sapiens</u> (Human)	Left Mandible	1	1
<u>Odocoileus Virginianus</u>	Calcaneum	1	1
	Metatarsal	1	
Rabbit Size	Longbone Fragments	3*	
<u>Terrapene Carolina</u>	Carapace	1	1
<u>Procyon Lotor</u> (raccoon)	Worked	1	1

*includes 1 owl

Pit 2C.

	Faunal Material	Number of Pieces	Number of Individuals
<u>Odocoileus Virginianus</u>	First Phalanx	1	1
	Third Phalanx	1	
<u>Lepisosteus Osseus</u> (Longnose gar)	Mandible	1	1
<u>Homo Sapiens</u>	Maxilla including P ₁ , P ₂ , P ₃ , M ₁	1	1

Pit 2G.

	Faunal Material	Number of Pieces	Number of Individuals
<u>Terrapene Carolina</u>	Carapace	18	1
	Xi Plastron	2	2
	Epiplastron	1	1
<u>Odocoileus Virginianus</u>	Astragalus	1	1
	First Phalanx	1	1
Deer Size	Longbone Fragments	4	
<u>Mephitis Mephitis</u> (skunk)	Right Mandible	1	1
<u>Sciurus cf. Niger</u> (squirrel)	Left Mandible	1	1
<u>Didelphis Marsupialis</u> (opossum)	Right Mandible	1	1
<u>Castor Canadensis</u> (beaver)	Left Mandible	1	1

Table 5. (continued)

Pit 4.

	Faunal Material	Number of Pieces	Number of Individuals
<u>Odocoileus Virginianus</u>	Molars	1	1
	Premolars	3	1
<u>Terrapene Carolina</u>	Epiplastron	2	2
	Xi Plastron	2	2
	Carapace	30	1
Deer Size	Longbone Fragments	2	1
	Vertebra Fragment	1	1
Freshwater Clam		12	

Pit 5.

	Faunal Material	Number of Pieces	Number of Individuals
Deer Size	Longbone Fragments	2	1

REFERENCES

- Belmont, John
1967 The development of agriculture in the Lower Valley. Southeastern Archaeological Conference Bulletin 5.
- Brain, Jeffrey P.
1971 The Lower Mississippi Valley in North America prehistory. Manuscript on file. Southeastern Region, National Park Service, Tallahassee, Florida.
- Brown, Ian W.
1973 Settlement patterns in the Bluff Area of the Lower Mississippi Valley. Bachelor's thesis, Department of Anthropology, Harvard University.
- Caplenor, C.D., R.E. Bell, Judith Brook, Dale Caldwell, Charles Hughes, Anne Regan, Alice Scott, Stewart Ware, and Melanie Wells
1968 Forests of west central Mississippi as affected by loess. Mississippi Geological Economic and Topographical Survey Bulletin 111.
- Krumbein, W.C., and L.L. Sloss
1963 Stratigraphy and Sedimentation. W.H. Freeman and Company, San Francisco.
- Penman, John T.
1977, Archaeological survey in Mississippi, 1974-1975.
1980 Mississippi Department of Archives and History Archaeological Report 2.
- Phillips, Philip
1970 Archaeological survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Peabody Museum of Archaeology and Ethnology Papers 60.
- Potts, Thomas D.
1976 Archaeological survey in the Will Neill watershed. Manuscript on file, Mississippi Department of Archives and History.
- Snowden, J. O., and Richard R. Priddy
1968 Geology of Mississippi Loess. Mississippi Geological Economic and Topographical Survey Bulletin 111.
- Steponaitis, Vincas P.
1974 The late prehistory of the Natchez region: excavations at the Emerald and Foster sites, Adams County, Mississippi. Bachelor's thesis, Department of Anthropology, Harvard University.
- Wolfe, James L.
1971 Mississippi land mammals: distribution identification, ecological notes. Mississippi Game and Fish Commission Museum of Natural Science, Jackson.

[MA 13 (1978), 1 (April), 1-22]

GREENWOOD ISLAND COFFIN FINDS

Carey L. Geiger

On February 1, 1979, Toby Broadus, Sr. and Toby Broadus, Jr., of Pascagoula, reported to the Pascagoula Mississippi Press their find of a coffin on Greenwood Island, an archaeological site (22-Ja-516) in Jackson County. The site is known to have been occupied by man from the Poverty Point culture (ca. 1200 B.C.) through historic times, and is at present an uninhabited part of the Greenwood Island Industrial Park.

At the request of Press reporter Chuck Brooks, I accompanied Press photographer Jerry Moulder and the coffin finders to the site February 2. Tidal action has for several years been eroding the eastern edge of a large aboriginal midden there. The midden deposit is approximately three feet deep at that point, and the erosion is removing the soil down into basal clay approximately five feet below the top of the midden. This erosion is creating a clay flat adjoining the remaining midden. The flat is usually below water level but normal low tides can vary three to four feet depending on wind direction, tide strength, and the Pascagoula River level. Abnormally low tides of up to eight feet below mean low tide occur occasionally, according to the U. S. Coast Guard. The flat is therefore completely exposed at times. The coffin was exposed during one such period. Only the upper rim of the coffin had collapsed. The kite-shaped coffin was approximately five feet long. Originally buried five to six feet, it was a historic intrusion into the aboriginal midden.

Since those of us who visited the site February 2 were not prepared for a thorough investigation, only a small area of mud and clay was cleared from the coffin until a portion of the lid was encountered. The lid proved to be flexible and thin so we lifted the edge and probed the interior by hand. Inside the coffin were soft mud and solid material with the texture of bone. No further examination was attempted at the time. Moulder photographed the find.

Sam McGahey, chief archaeologist with the Mississippi Department of Archives and History (MDAH), was notified of the find. At his request and my urging, the Press agreed to delay publishing the story until state archaeologists could examine the coffin. Moulder, Broadus, and his son returned to the site to camouflage the coffin and obtain more photographs. Upon their return to the site they located a second coffin beside the first. Inclement weather, high tides, and other delays prevented MDAH archaeologists from examining the finds immediately. The Press published the story February 8 because word of the finds was spreading.

On February 13 MDAH archaeologists Sam McGahey, John Howell, and Bill Wright examined and removed the coffins. The two skeletons inside the coffins appeared to be complete but many bones were broken and the skeletons were in general disarray.

Dr. Alton K. Fisher, a physical anthropologist at the University of Iowa who was vacationing on the coast, agreed to examine the skeletons. Initial cleaning and examining was performed by Fisher at the Ocean Springs Central Fire Station, creating quite a stir among city employees and passersby. Later, Fisher was allowed use of the

laboratory at the Jackson County campus of Mississippi Gulf Coast Junior College, facilities that were ideally suited for his examination.

The wooden coffins and several buttons found in them were studied by MDAH historical archaeologist Bill Wright. I agreed to do a record and library search to discover historical information on the site.

With the assistance of Julia Holmes, librarian at the Pascagoula Public Library, two references were found concerning burials in the vicinity of Greenwood Island. One reference, by Cyril Edward Cain (1962), states:

During the Mexican War, President Fillmore, recognizing the strategic value of Pascagoula from a military standpoint, purchased Greenwood Island and an adjacent tract on the mainland for establishing a military post and marine hospital. Up till the Civil War both were used for such purposes. The station at East Pascagoula, known as Camp Jefferson Davis, under the command of General David Triggs, took care of soldiers sent there after the war.

There are statements extant showing the strength of organizations stationed in this camp in 1848. An August 4, 1848 statement showed the First, Second, Third, Fourth and Fifth regiments of Infantry, totaling 134 officers and 1404 men together with 1538 enlisted for the period of the war who were discharged between July 18th and August 1, 1848. Another notation, dated August 16, 1848, showed the following discharged August 13th on the expiration of their term of enlistment: Headquarters Company, and Companies A, B, F, and 1st and 2nd Dragoons totaling 17 officers and 262 men. Another list showed an additional 69 men.

Soldiers who died while stationed at Camp Jefferson Davis were buried on a lot adjoining the camp. The soldiers in this burying ground were later identified by the War Department in Washington as belonging to "Shields Brigade" and that they had died in 1847, shortly after their return from Mexico. In 1907 the remains of these veterans were removed to the National Cemetery in Mobile, Alabama.

The other reference, from Jay Higginbotham (1967), reads:

The Mexican War broke out in 1846, and President Millard Fillmore purchased Greenwood Island, a now extinct island which at that time lay just off the shoreline of East Pascagoula. The Government also purchased some real estate near the Beach Park on the mainland. The purpose was to establish a military post and a Marine hospital. The station known as Camp Jefferson Davis, under the command of General David Triggs, cared for veterans sent to the camp after the Mexican War. Many of the soldiers died and were

buried at the beach site. Later, they were removed and some were taken to Greenwood Island for burial while others were reburied in Mobile.

REFERENCES

- Cain, Cyril Edward
 1962 Four Centuries on the Pascagoula, II. State College, Mississippi State College.
- Higginbotham, Jay
 1967 Pascagoula, Singing River City. Mobile, Gill Press.

[MA 14 (1979), 2 (November), 3-4]

OSTEOLOGICAL ANALYSIS OF THE GREENWOOD ISLAND SKELETONS

Alton K. Fisher

The human skeletal material that is the subject of this report was presented to me for examination after it had been cleaned by Mississippi Department of Archives and History archaeologists who had participated in its recovery. The two skeletons represented in the material had been designated by the archaeologists as Burial 1 and Burial 2, a designation retained during my examination and in the preparation of this report. The bones of each skeleton were received in clearly marked plastic containers. During the subsequent laboratory examination the two skeletons were kept apart, and the examination of the first skeleton was completed before the second was removed from its containers.

The bones of both skeletons were variously broken as the result of postmortem deterioration, those of Burial 1 being more fragmented than those of Burial 2. The first step of the examination process required assembling the fragments of each bone so that a skeletal inventory could be completed. The second step was mending, with the help of Elmer's glue and a sandbox, those bones that could provide evidence of age at time of death, sex, stature, and racial affiliation. These bones were the skull and teeth, humeri, radii, femurs, vertebral bodies, sacrum, innominate, and pubic bones. The third step involved making and recording specific qualitative observations that would provide the evidence for identification along the lines indicated above. The fourth step consisted of taking measurements of the lengths of selected long bones. Since no specialized instruments for precise osteometry were available, the lengths of femurs, humeri, and radii were determined by use of a meter stick. These measurements may have been accurate to within 2 mm. The femoral length is most useful in calculating estimated stature, while the lengths of humeri and radii are needed for calculating the brachial index useful in helping to distinguish between Negroid and Caucasoid skeletons. The fifth step was recording evidence of disease. With the subject remains the process was neither difficult nor time consuming because the various skeletal parts had already been handled and inspected so much that the few and relatively simple

abnormalities present were readily reidentified for this record. The sixth and final step of the examination consisted of correlating the recorded observations and drawing conclusions from these observations.

The inventory of bones for Burial 1 showed that most of the bones were present even though they were extensively fragmented. The missing principal bones included one calcaneus, the left clavicle, two cervical and two thoracic vertebrae, the sternum, several small bones of hands and feet, numerous rib fragments, pieces of the upper facial skeleton including the upper nasal and lower orbital parts, and several lower teeth.

Pertinent to the age of the individual in Burial 1 it was noted that while third molars had erupted not all had become fully stabilized in occlusion. Cranial vault sutures were not fused. Sacral segments and the vertebral epiphyseal rings had fused not very long before death. The moderately sharp horizontal ridges of the symphyseal faces of the pubic bones appeared intermediate between Todd's Class I and Class II. Dental evidence suggested an individual around nineteen or twenty years old at the time of death, an estimate in close agreement with the nineteen-to-twenty-one year age indicated by the characteristics of the pubic symphysis. These observations are compatible with lack of fusion of the cranial vault sutures and the stage of fusion of the sacrum and the vertebral epiphyseal rings. The bone bordering upon the sphenoccipital or basilar suture was missing and thus a valuable indicator of age was not available. That suture closes at about twenty-three years of age. But from the evidence available it is probable that the individual was between nineteen and twenty-one years old at the time of death.

Estimation of sex was based on several morphological observations. The supraorbital ridges were of moderate size, and the superior margins of the orbits were rounded. The mastoid processes were large. The greater sciatic notch of the innominate bones was narrow; the subpubic angle was narrow. The sacrum was decidedly curved and the transverse diameter of each ala was about two-thirds that of the centrum. There was no preauricular sulcus on either innominate bone. The gonial angle of the mandible approached a right angle, and the chin was intermediate between round and square. Inasmuch as all of these characteristics are predominantly masculine traits, one is compelled to conclude that Burial 1 was of a male.

The length of the left femur was approximately 49 cm. That of the right femur could not be determined because its head and condyles were broken and partially missing. The length of the left humerus could only be estimated because part of its head was missing. The estimated length was 33 cm. The right humerus was even less complete. The length of the right radius was approximately 24.7 cm, but that of the left could not be determined. Because the lengths of bones of the right are likely to be different from those of the left arm, the brachial index should be calculated from bone lengths derived from one arm only. With the subject remains such a calculation was impossible. Therefore, the brachial index of 74.8, calculated from the above measurements, must be accepted with great caution.

Inasmuch as the questionable brachial index was well within the Caucasoid range, it was decided to retain it, at least tentatively, as

a racial indicator. The skull form could not be measured for lack of equipment, but it appeared to be intermediate between dolichocrany and mesocrany, a possible Caucasoid trait. The countour of the cranial vault in the sagittal plane was high and rounded, both a Caucasoid and Mongoloid trait. The lower margin of the nasal aperture was sharp, also both a Caucasoid and Mongoloid trait. The absence of shovel-shaped incisors would seem to exclude predominantly Mongoloid stock, and the absence of an occipital bun and a postbregmatic plateau and of guttering of the lower margin of the nasal aperture appear to exclude predominantly Negroid stock. Using both positive and negative evidence, it was concluded that the skeleton was probably that of a white man.

The stature of the skeleton designated Burial 1 was estimated by using the formula developed by Trotter and Gleser (American Journal of Physical Anthropology, 1952) based on the length of the femur in white males. That formula applied to the length of the femur from Burial 1 is as follows:

$$2.32 \times 49.0 \text{ cm} + 65.53 \text{ cm} = \text{stature of } 179.21 \text{ cm} \pm 3.94 \text{ cm}$$

The only evidence of disease observed in the skeleton of Burial 1 was that of dental caries. One small cavity was present on the occlusal surface of the upper right first molar.

The inventory of Burial 2 showed all of the principal bones to be present, although many of them were broken, including those of the skull. The third molars were fully erupted and had stabilized in occlusion. Early infusion of the cranial sutures had occurred by the time of death. The basilar suture was closed. Sacral segments and vertebral epiphyseal rings were firmly united and the zone of fusion somewhat obliterated. The horizontal ridges on the symphyseal face of the pubic bones were somewhat rounded, compatible with the condition of Todd's Class III, although the symphyseal face was sufficiently disintegrated to obscure any dorsal plateau that may have been present. These pieces of evidence indicate that the individual was at least twenty-three years old and possibly a few years older.

The skull showed moderate supraorbital ridges, moderately rounded superior orbital margins, and large mastoid processes. The chin tended towards pointedness, and the gonial angle of the mandible was visually estimated to be around 120°. The innominate bones showed no suggestion of preauricular sulci, and the greater sciatic notches were narrow. The sacrum was distinctly curved, and the medio-lateral diameter of each ala was about two-thirds the transverse diameter of the centrum. The subpubic angle was narrow. Most of these characteristics point to a male individual. The evidence described for the mandible is equivocal, although the size of that bone also suggests masculinity. The skull form appeared to be broad but the apparent brachycrany was not actually measured. The skull vault was rounded in the sagittal plane but low and without any suggestion of post bregmatic plateau or occipital bun. The lower margin of the nasal aperture was sharp. All of these features suggest a Caucasoid man. The suggestion is reinforced by the absence of shovel-shaped incisors, and by the presence of prominent cusps of Caribelli on the

upper first molars. The right humerus measured approximately 32.3 cm, and the right radius approximately 23.3 cm. These data yielded a brachial index of 72.1, which is well within the Caucasoid range.

The length of the left femur was approximately 44.5 cm, and that of the right was approximately 44.4 cm. By using the formula of Trotter and Gleser for white males, the stature of the man designated Burial 2 was estimated to be 168.77 cm \pm 3.94 cm.

The evidence of disease in this second skeleton was confined to the teeth and jaws and to the right knee cap. Dental caries had produced conspicuous cavities in several teeth. The lower first molars had been lost before death, possibly because of caries, and the alveoli had largely healed. The upper outer or supero-lateral quadrant of the right patella had been destroyed by some undetermined traumatic event, but partial healing of the lesion had occurred by the time of death. The appearance of the bone at the site of injury and subsequent partial healing was clearly demarcated from the adjacent normal bone, suggesting that severe chronic infection had not followed the injury. However, a post-traumatic septicemia cannot be excluded as a possible cause of death.

In summary, the bones from Burials 1 and 2 are probably the remains of two white men. The individual identified as Burial 1 was probably between nineteen and twenty-one years old when he died. He stood about 70.5 \pm 1.5 inches. His skeleton showed no evidence of disease other than minimal attack by dental caries. The other individual, identified as Burial 2, was at least twenty-three years old and possibly slightly older when he died, and stood about 66.4 \pm 1.5 inches. He not only suffered rather extensively from dental caries and their effects but had also sustained a destructive injury to his right knee cap which was still healing at the time of his death.

[MA 14 (1979) 2 (November), 5-6, 11-12]

BUTTONS SUGGEST BURIAL DATE OF GREENWOOD ISLAND SKELETONS

William C. Wright

Identification of buttons found along with human skeletons inside two coffins recovered recently at Greenwood Island has suggested a possible date of burial of the subjects.

Burial 1 contained four pewter buttons. Each button measured 3/4" in diameter, contained four holes, and had a concave and convex side. Although badly corroded, the buttons after careful cleaning revealed an imprint of burial clothes, which, judging by the coarse weave and the number of threads per inch (forty-eight to fifty-six), appear to have been linen. Burial 2 contained three buttons made of papier-mache and varnish. Each button measured 7/16" in diameter, contained four holes, and was impressed with a double lip and a plain border.

From an examination and identification of the buttons in both burials, it may be concluded that the burials occurred before the mid-nineteenth century, a conclusion consistent with the theory held

by some investigators that the burials are those of veterans of the Mexican War (1846-47) who died at a Greenwood Island military hospital soon after the war.

[MA 14 (1979), 2 (November), 7]

HUMAN BONES UNEARTHED AT KINGS CROSSING

John Howell

Mississippi Department of Archives and History archaeologists recently examined human bones and bone fragments identified as dating from the Coles Creek period (A.D. 700-900) at the Kings Crossing community, four miles north of Vicksburg, where the remains were unearthed during installation of septic tanks. Department archaeologists examined the bones and some pottery sherds collected by local residents in response to a request from the Warren County coroner, who was summoned to the site after residents reported the bone find to the sheriff.

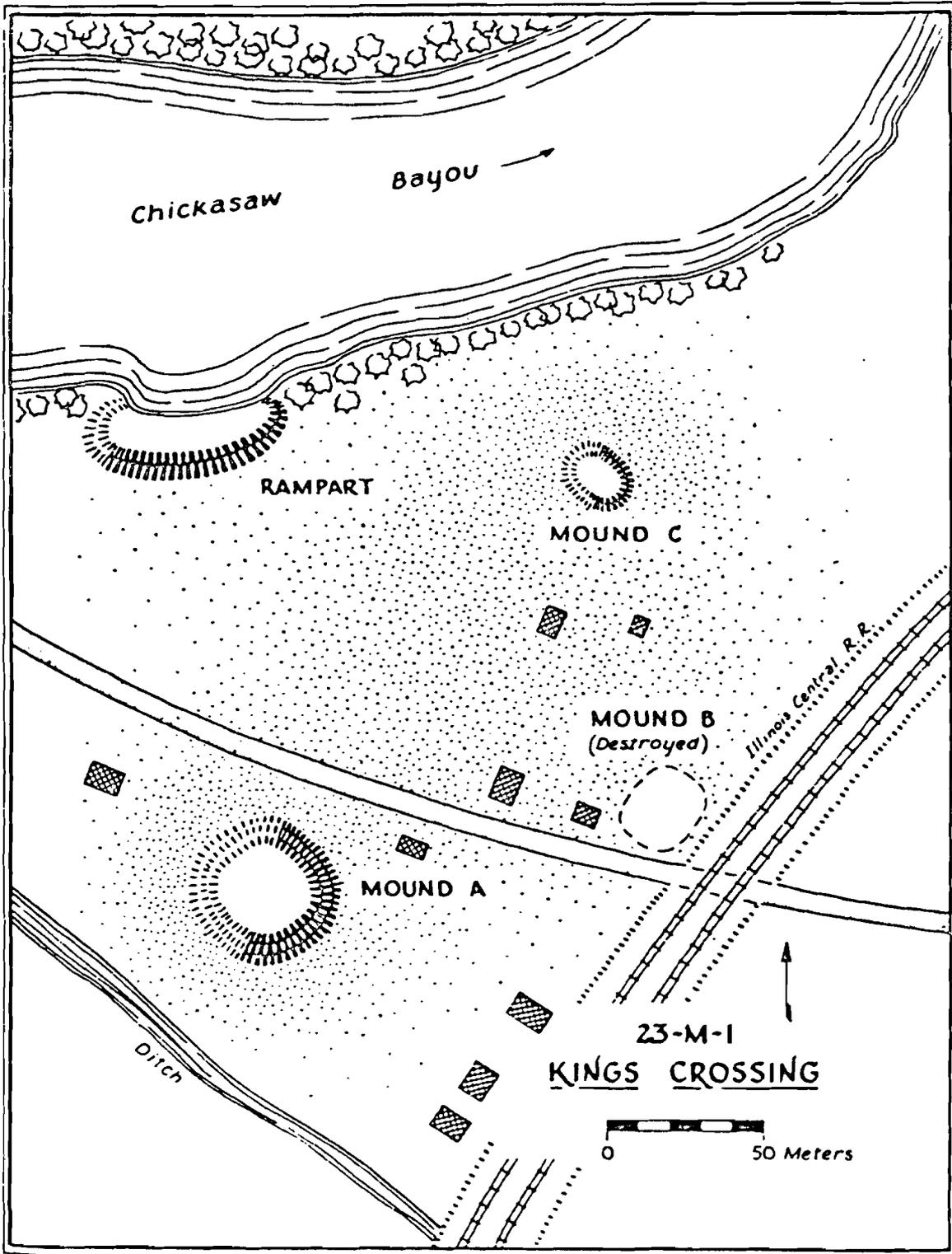
The site (22-M-1, Figure 1) where the bones were discovered contains three partially destroyed mounds and a rampart onto the Chickasaw Bayou to the north. Pottery sherds collected previously from a portion of the site include Avoyelles Punctated, Baytown Plain, Beldeau Incised, Coles Creek Incised, French Fork Incised, Marksville Incised, Mazique Incised, Mississippi Plain, and Mulberry Creek Cordmarked. According to archaeologist Philip Phillips (1970) this collection is quite significant in that it provides evidence of a distinct temporal phase of ceramic artifacts linking Late Coles Creek and Plaquemine cultures.

An interesting aspect of the bones examined is an example of cranial deformation exhibited on one of the skull fragments recovered from Mound B at the site. Cranial deformation, the practice of altering skull shape for cosmetic or other reasons, has a long history among primitive North American cultures. "The largely membranous head of the infant is easily changed in shape by flattening the forehead or occiput," according to anthropologist Charles Winick (1975). "Boards, bandaging, and similar devices were widely used to change the shape of the head in infancy."

REFERENCES

- Phillips, Philip
 1970 Archaeological Survey in the Lower Yazoo Basin, 1949-1955.
Peabody Museum of Archaeology and Ethnology Papers 60 (1).
- Winick, Charles
 1975 Dictionary of Anthropology Totowan, N.J., Littlefield,
 Adams & Co.

[MA 14 (1979), 2 (November), 9]



Map of Kings Crossing site (23-M-1). (From Philip Phillips, *Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955*, Pt. 1 [Cambridge: Peabody Museum, 1970]. Used by permission.)

REFERENCE

Not until recently have the publications of the Mississippi Archaeological Association attempted purposely to provide "sourcebook" materials for the archaeology of the state, but bibliographies and technical notes have been published sporadically in the past, and here we assemble them to provide readers with a useful compendium of information.

TREATMENT OF BONES FROM ARCHAEOLOGICAL SOURCES

Dr. Lucile E. Hoyme

Human and animal bones are often found when soil is plowed up, when river banks are undercut, or in the course of digging. Sometimes they are found on the surface when a covering of leaves or other debris is removed. The organic material and the oils that are normally present in fresh bones have by this time been washed out. These bones require a very different sort of handling for preservation than do the bones of freshly killed animals or fossilized (mineralized) bones. A zoologist or biologist is the best source of information on how to process fresh skeletons. A paleontologist or geologist should be consulted on the proper handling of fossilized or mineralized material. The step-by-step instructions given below are based on years of experience, which included undoing the mistakes of others. If they are followed carefully, extra handling and extra work will be avoided, and even a beginner should be able to obtain satisfactory results on his first attempt.

1. When the bones are fresh: If the bones have been buried or covered by leaves for any length of time they are very likely to be damp, and therefore easily broken. If possible, dirt should be brushed off, and the bones allowed to remain untouched in the open air for around 24 hours to dry and harden. Bones found in dry caves or on the surface of the ground are strong enough to be handled, but their surfaces may be flaky and weathered. The position of each bone should be carefully noted in a sketch or photograph before any of the bones are removed. This will serve later as a record not only of the position of the body when found but will explain the absence of parts. After this has been done, each skeleton should be put into a separate box and numbered or otherwise identified so as to prevent confusion of parts. When parts of two or more skeletons have been mixed by careless handling in the field, it may be impossible to separate them later; such carelessness needlessly confuses the record and makes the work of anyone who interprets the material that much harder. In general it is highly undesirable to attempt to treat the bones with any preservative of any kind in the field. If the bones are too fragile to be removed in the field, then they should be taken out in large, supporting blocks of earth for careful work in the laboratory.

It is usually undesirable to move bones until they have had a chance to dry somewhat. If they must be moved immediately, it is a good idea to remove as much of the dirt as you can because the extra weight of the dirt may cause the bones to break. The more breaking in handling, the more repair work to be done later in the laboratory. A skull that is full of heavy wet earth is very likely to crack open. Because of this the skull should be wrapped in newspaper, not only as a support but as a means of seeing that all fragments are preserved. Needless to say, cartons ought to be padded with newspaper or grass to prevent breakage in transportation.

2. Cleaning the bones in the laboratory: How the bones are to be cleaned depends largely on the condition of the bones and this is often a matter for expert judgment. If the bones seem reasonably hard

and the surfaces are not flaky and eroded-looking, the simplest way of cleaning them is to put them in a screen-bottomed tray, in a sink of warm water and detergent, brushing each piece with a soft (no nylon bristles!) brush under a gentle stream from the tap. While it is important to get all of the dirt off the broken edges (to assure neat, firm joints in mending and proper adherence of cement) it is equally important not to damage the edges further by careless, rough brushing. The washed bones can then be put in an open tray on the window sill to dry in the open air. The labels that were put with the bones in the field must be kept with them during the washing and mending process.

If, however, the bones look flaky and fragile, it may be better to brush the dirt off the surface gently with a brush. Brushes with plastic bristles are too stiff to be used for this purpose, as they may take off the surface along with the dirt. It is often wise to wait until mushy bone has dried a bit before deciding how to clean it. In some cases a little more wetting may not hurt these specimens, but needless to say it is in general better to use brushing. In cleaning specimens, needles, probes and other sharp, pointed, stiff objects should never be used to pick dirt out of what appear to be holes or crevices. The wet bone is soft and probes may go too deep and leave holes where there were none before.

During the cleaning of the bones, whether one is washing or brushing, careful attention should be paid to just what one is handling. Quite often cultural objects are found with human bones and it is useful to note the relationships between these things: whether, for example, beads or arrowheads were scattered at random through the soil or whether they lay next to a bone; or whether bones were in articulation. The debris remaining after the cleaning of the bones should be examined carefully before discarding, for often small fragments of bones or small objects remain. Do not throw out "dirt" until you are certain that it is dirt and nothing more. This is one of the reasons for using a tray with a screen bottom. Fine particles of soil and sand will wash through but larger fragments will be kept so that they can be examined. Remember that some finger bones are about 1/2" long and little over 1/4" wide. Toe bones are smaller. Some teeth are about an inch long but less than 1/4" wide. Often the presence or absence of these small parts can be significant.

3. Repairing the bones: Until the bones are thoroughly dry nothing can be done. Once they are dry, it is often necessary to go over them with a soft brush and remove any dirt still adhering to the surface. If there are any lumps of dirt still in cracks, these may be loosened with a few drops of acetone, which evaporates quickly and leaves the bone dry enough to work on. Never work on more than one skeleton at a time for otherwise parts will become mixed. The materials needed will include a plastic cement (such as Duco or Ambroid), a bottle of acetone, putty crack filler (such as Savogran), some plasticene, a box of fine sand, about 4" deep and 8" to 12" on the side. Pliers, wooden matchsticks, and lightweight wire are useful also, along with a clean rag to wipe off excess cement. Rubber cement (which is nearly impossible to remove from bone) should not be used because it is flexible, thick, and will not give firm joints.

Water-soluble glues are equally bad since they absorb moisture from the air and eventually the specimen falls apart. One is then left with the nearly impossible task of cleaning off that glue and repairing the specimen properly.

Occasionally the condition of the bone may make it desirable to treat the pieces with a preservative. The preservative most often used by anthropologists is a very thin solution of Alvar in acetone. The solution should not be much thicker than water, otherwise it will not penetrate the bone when it is painted or when the bone is dipped in. If Alvar is not available, Duco or Ambroid or even old photographic film from which the silver nitrate has been removed can be dissolved in acetone. The solutions will absorb water from the air and should be covered. If the solution is applied to a bone that is wet, it will turn white; while it will not adhere properly, it will be very difficult to remove. From the directions given for preparing this solution it should be obvious that it is a dilute cement. It will therefore glue firmly to the surface of the bone any dirt that has not been removed. This dirt not only spoils the appearance of the specimen; it may also conceal significant surface texture or markings. If the dirt is on broken edges, properly fitting joints will be hard to obtain, and the resulting specimen may be warped or otherwise distorted.

In laying out the bones for repair, work with only one lot at a time. About the only specific direction that can be given is to try to assemble smaller parts into larger pieces and then fit the larger pieces together--rather than putting a skull together, for example, by adding smaller pieces one by one to a larger piece. Freshly cemented pieces may be supported either by small pieces of plasticene wrapped around them, or they may be placed upright in the sandbox to dry. Small sticks or bits of wire may be useful for braces, but should be used only when absolutely necessary. Allow ample time for the cement to dry before handling the pieces. When the time comes to join the large pieces together, there are sometimes slight distortions due to slight inaccuracies in joining the small component pieces. Often these may be adjusted by softening the cement with a few drops of acetone. While it is necessary to work quickly at this point, speed should not lead to haste and carelessness, otherwise all the work may have to be done over again. Practice and experience are the best guides in repair work.

4. Storage. When repairs have been carried as far as possible, each piece of skeleton should be given the same identifying number or letter so that skeletons will not become mixed when put in storage; and some sort of record should be kept giving the exact locality from which the specimen came, the date on which it was found, the name of the finder, the position of the bones, and any other information available. These records may either be kept with the skeletons themselves or in a notebook or by some other filing system. Storage of the specimens depends a great deal on what sort of storage space is available and desirable. In general, strong, deep cardboard boxes are adequate, provided the storage area is not so damp that the boxes will

become unglued and the contents spill. Common sense and foresight are the best guides.

[MAAN 2 (1967) 2 (February), 2-5]

ARCHAEOLOGICAL METHOD AND THEORY: SOME SPECULATIONS AND INFERENCES

Robert M. Thorne*

The paper which follows is the result of the 1969 University of Missouri Field School in which a series of test situations were set up. Theoretical ideas and aims which resulted are not particularly those of a single staff member but evolved through the interaction between Dr. Richard A. Krause of the University of Missouri-Columbia, Dr. Nikolaas J. van der Merwe of State University of New York at Binghamton, Mr. Robert T. Bray, Resident Archaeologist, and myself.

As one of the sub-fields of anthropology, American archaeological field methods and techniques in the past have continually reflected the theoretical approaches and interests of our sister sub-disciplines. During the 19th century, for example, ethnologists oriented their research toward the demonstration of the events of social and technological evolution. Archaeologists took the same approach, but for them the artifact was of primary importance, and was taken as the major indicator of cultural progress. Then on the basis of artifactual data, broad configurational levels or stages of social development were formulated. Even though the artifact was the major focus of analytic interest, the methodology for its recovery and the subsequent analysis of the artifact-bearing contexts was, at very best, rudimentary.

With the advent of Boasian anthropology, the formerly established underpinnings of cultural evolution were rapidly modified as the interests of American anthropologists emphasized the intensive study of individual cultures. Archaeological interests shifted also, and many of the researchers of that period turned their attention to systematic attempts toward the ordering of local and regional artifact complexes in relation to both time and space. This led to the establishment of culture, focus, and phase as the basic conceptual units. These were in turn ordered in such a manner as to show the relationships involved in the development and spread of artifacts and artifact complexes. At the same time, data recovery techniques were revised and improved, but not specifically in an attempt to bring archaeological research into line with ethnographic research. Archaeological method and theory was beginning to come into its own, resulting in an additional attempt to demonstrate the usefulness and integrity of the variously defined analytical units which were gaining in popularity.

More recently, our profession has witnessed the advent of what is called the "new archaeology." While some researchers feel that

*A paper presented at the 1969 Southeastern Archaeological Conference, Macon, Georgia.

something truly new is happening in the profession in terms of method and theory, others feel that this phase is nothing more than the revitalization and re-emphasis of previously used methods and techniques, with new techniques and methodology being added as they are developed. While the argument of "new" versus "old" has its lighter moments, the serious side of the picture portrays the use of archaeologically derived data for drawing inferences about the structure of extinct social systems.

Researchers who attest to this theoretical approach view culture as being systematic and therefore composed of sub-systems, with human behavior acting as the articulating force between the various sub-systems. Demonstrable variations in human behavior are considered to be both a product of sub-system restructuring and the means for establishing systemic harmony at a different level or plane. There is also an emphasis in this approach on process in culture change, which is achieved through variation in one or more of the sub-systems. This may be viewed as growth, displacement, or the reinforcement of one sub-system by another as the systemic balance is challenged by social, economic, political, or environmental forces. The prime analytic aim is the isolation of each sub-system and its subsequent study as a separate variable within the matrix of forces to which it is exposed. The ultimate goal, of course, is to construct an archaeologically testable model to explain the variations in prehistoric human behavior.

While the systemic approach has been debated as regards both its origin and aims and goals, it has generated considerable interest among a growing number of followers. It therefore seems appropriate to examine the implications of the systemic view of culture from the perspective of archaeological field techniques and methods. It should be emphasized that archaeologists who follow this approach must still derive the major portion of their data from the analysis of artifact-bearing contexts, which makes such an examination seem still more appropriate. The principal aim of this paper is to undertake such an examination, to make suggestions as to how this approach may be improved and to substantiate these suggestions with specific examples from the field. As previously mentioned, many of the ideas presented here grew out of the 1969 University of Missouri Field School, located at the Utz site in North-Central Missouri, and specific examples will be drawn from that research.

As with any theoretical approach, the systemic view of the nature of archaeological remains is particularistic, as has been stated by Martin and Longacre who say, "All of the material remains in an archaeological site are highly patterned or structured directly as a result of the ways in which the extinct society was organized and the patterned ways in which the people behaved." Now it might be that all of the material in an archaeological site is structured or highly patterned but it appears to be theoretical folly to assume that all archaeologically derivable patterning can be directly attributed to the behavior of the site's prehistoric inhabitants.

It therefore seems that there are two distinct but interrelated problems which the field worker must resolve: (1) the identification of those instances of behavioral patterning which reflect the

inhabitant's activities as opposed to those which reflect the work of the researcher, and (2) the demarcation of kind and degree of relatedness among separate but analytically demonstrable instances of patterning which do reflect the inhabitant's activities as opposed to those which reflect the work of the researcher, and (3) the demarcation of kind and degree of relatedness among separate but analytically demonstrable instances of patterning which do reflect human behavior. This means that to those who follow the systemic approach, adequate field research should include productive statements about the relevant relationships among non-arbitrarily defined archaeological contexts and the prehistoric matrices in which they may occur.

In proposing fieldwork of this kind, the emphasis will, by necessity be placed on the interpretation, evaluation, and selection of a set of alternative statements about a particular grouping of activities within a specifiable range of demonstrable social contexts. The criteria for evaluation of these statements and their adequacy should include: (1) productivity, which should be stated in terms of the appropriate anticipation if not the actual prediction of archaeologically derivable events; (2) replicability or testability (can the stated patterning be tested and shown to re-occur?); and (3) economy (does the statement or statements produce the most information within a reasonable research framework?). The selection of such statements should in turn lead to a critical in-the-field examination of the analytically derived models of intra-cultural relationships which are being tested. This should be true regardless of whether the structural description of such relationships is based on prior analysis of particular and generalized occurrences in the archaeological record, or appears as ethnographically derived hypotheses. When the researcher is in the field, recording activities, analytic operations, and procedures for the evaluation of recovered data should be combined, thus allowing the constant adjustment and improvement of field recording techniques.

As a part of the past summer's program, the techniques of recording were continually discussed and revised to provide a more advantageous analytic situation in the laboratory. As a result of this rethinking, a series of problems emerged which are relevant to the suggestions of this paper and to the type of research suggested. The first of these is the establishment of the Criterion of Relevance, i.e., how can the behavioral patterns and relations developed by this method be shown to be culturally significant? Are the descriptions which we ultimately employ derived only from a prior notion of the occurrences which we expect to find on a prearranged mental grid? In the ideal situation, as prehistorians we should be attempting to describe what the significant behavioral patterns and relationships were and not what they should have been. The commitment to imputed definitions, either past or present, can never serve as testable criteria of relevance.

A number of our colleagues doubt the applicability of linguistic anthropological techniques to archaeological situations, but the fact remains that some linguists feel their particular sub-discipline to be

the most empirically oriented of the four in anthropology. While the merits of this idea are not pertinent to the present discussion, the two questions previously posed may be partially answered by the re-application of certain linguistic concepts. These will, in turn, provide some idea of the way in which the data recovered from the Utz site was judged in terms of its relevance.

I would like to emphasize here that the examples which will be cited are site bound. This implies that researchers in other areas who wish to utilize the techniques and methods described here may have to alter them to suit specific situations in other areas.

In attempting to evaluate the relevance of systemic research techniques used at the Utz site, repetitiveness of behavioral patterns which were demonstrable through archaeological recovery was found to be a suitable assessment entity. In this instance, repetitiveness was analytically defined as being context bound. By context bound behavior, we were considering the behavioral patterning, for example, exhibited in post setting as opposed to the behavior centered around storage pit preparation. In this manner, it was possible to show that culturally significant behavior derivable by archaeological means would not occur in free variation.

To cite an example, the excavations at the Utz site were planned in such a manner as to establish three contrastive areas. The first of these was in an area which was plowed the last time in 1955 and only once during its agricultural history with mechanically drawn equipment. The second unit was located in an area reputed never to have been plowed, while the third was placed in an area which is reported to have been regularly farmed to the present. In this third area, excavations showed that the aboriginal culture material was deposited to a depth of three feet and mixed with 20th century debris. In this instance, and in contrast to the other two areas, the aboriginal material is considered to be in a state of free variation and not significant in the attempted interpretation of prehistoric behavioral patterns.

A second criterion of relevance may be thought of as the linearity of cultural events. This is somewhat akin to the processes of taxonomic phonemics in which a series of speech events are dismantled and reassembled thus providing a means by which behavioral rules may be written.

In the context of archaeology, a similar methodological approach may be applied to the sequence of events leading to the construction of a house or the making of a ceramic vessel. In the latter instance a number of events such as acquisition of clay and tempering material, their preparation, addition of the temper to the clay, manufacture, decoration, and firing will occur. While in all instances this will be a linear sequence of events, there will be options and alternatives which the investigator must isolate as repetitious actions so that he may write significant behavioral rules.

To make reasonably accurate constructions of significant prehistoric behavioral patterns, it is necessary to establish boundaries to delimit units of contrast. Again, criteria must be proposed to justify specific boundary formation.

One such criterion which was applicable at the Utz site was the formation of sets of content contrasts. In the gross sense, it is possible to set up an in-the-field quantitative analytic framework to help in differentiating behavioral units. For example, the differential artifact count within a house as opposed to that which occurs outside may be used as an activity indicator. Therefore, one might hypothesize: (1) that the occurrence of ceramic pieces would be greater in and around a cooking area with a house; (2) that a similar count would not be high in a comparably sized general area outside of the structure; but (3) it would be higher in the trash pit or midden and in pottery manufacture areas.

Qualitatively, a similar situation can be set up for detailed laboratory analysis. In this case, however, more specific contrast sets should be established.

Another criterion of boundary formation which we found to be applicable in our research was the intensity at which some activity proceeds. These were defined as contextually specific contrastive units. The example just given concerning qualitative pottery counts is again applicable. In this instance, however, analytically derived data would be used to make interpretations of a different order. Another demonstrable example would be the number of posts per square foot within the provenience of a house as opposed to an equal area outside of the house. It can then be hypothesized that post setting involved in house construction will proceed with greater intensity than that which is associated with the construction of drying racks or storage platforms. Data so derived will form contrastive sets of behavioral clusters, e.g., house posts set by digging holes as opposed to those set by jamming the post into the ground.

In the attempt to demonstrate such an hypothesis, the traditional techniques of coring or circumferential excavation of pits and post molds was abandoned and in its stead, all potential pits and posts were cross-sectioned. In this manner, more data was made immediately available from which additional hypotheses could be derived and tested. For example, after cross-sectioning approximately a dozen potential posts, we were able to hypothesize that: (1) posts would be either rounded on the end or would be pointed with the point off-set to one side and (2) post impressions would be approximately three times as deep as their diameter. In addition, it was possible to determine the diameter of the post, how it was set--jammed into the ground vs. a dug post hole, and the angle at which it was set. It was also possible to more accurately differentiate between posts and rodent burrows.

In applying the cross-section method to pit excavation, it was possible to hypothesize single or multiple prehistoric pit excavation, and to then demonstrate singularity or multiplicity of use and, in some instances, the actual prehistoric order of excavation. In this manner also, it was possible to derive both quantitative and qualitative data from the pit fill proper.

Contrast sets may be used to provide a third criterion for formation of behavioral boundaries. In this instance, these are set up in terms of the use of spatial dimensions, and should include both

horizontal and vertical space. For example, in the horizontal dimension, one might oppose intrastructure fire basins into extrastructure fire basins or intrastructure cache pits to extrastructure cache pits.

In vertical space, a somewhat more quantitative approach may be required. In this case, one might contrast the amount of vertical space required for pits as opposed to a comparable area used for above-ground storage facilities. In a more qualitative sense, stratigraphic sets may also be derived for activity delineation.

To this point, comparisons both in terms of relevance and boundary formation have been founded principally on a statistical base. This, however, does not necessarily have to be the case, and an additional means of separation may be derived through other sorts of data or those previously mentioned may be further substantiated.

An additional means of derivation, particularly in terms of boundary formation and even more specifically in terms of space contrasts, was tested also. This included chemical soils analysis and contrastive photography through the use of infra-red, ultraviolet, standard black and white, and color media.

In the case of the chemical analysis of soil samples, the results which are currently available are preliminary, but even so, some meaningful information is available. On the basis of this data, it was possible to make in-the-field differentiations between rodent burrows and potential post stains with about 85% accuracy. Even more importantly, chemical analyses proved to be quite valuable in the vertical delineation of human activity within the site.

Through stratigraphic inspection and the relative placement of such occurrences as hearths, post stains, and trash pits and storage pits, we hypothesized at least three distinct vertical levels of human activity. Soil samples were taken every one half inch through the depths of the cultural deposit and two distinct chemical breaks were noted. These corresponded closely to the visible stratigraphic breaks.

The experimentation with different photographic media was somewhat less rewarding. A part of our difficulty may lie in yet undeveloped interpretation techniques.

An attempt was made to establish contrastive sets in all special photography situations. This proved to have some drawbacks in some instances, particularly with the ultraviolet medium. Ultraviolet requires the exclusion of all visible light, i.e., it is principally night work, and as a result, the contrastive standard photographs will have to be made by flash. The major success of ultraviolet versus normal range photography and vision came in the definition of the vertical profile of a pit. The limits of the pit were not visible to the naked eye or on black and white film but were sensitive to ultraviolet light. Once the ultraviolet print was made, and the outline of the pit became visible, it was also possible to visually delineate it under normal light.

Infrared produced two results. First, we found that slowspeed black and white infrared sensitive film produced better tonal contrasts than standard wave length film, allowing us to hypothesize earlier in the excavation sequence where pits might occur. Secondly,

- | | |
|---|---|
| 1. Incised line filled triangles  | 16. Red filming |
| 2. Multiple parallel, horizontal incising  | 17. Red zoning on natural background |
| 3. Punctations ::: | 18. Red and white zoning |
| 4. Cord impressing (making a pattern motif)  | 19. Red, white, and black zoning |
| 5. Check stamping  | 20. Negative black painting |
| 6. Cord marking (random applications) | 21. Punctations used as background (see 11) |
| 7. Engraving (as opposed to incising) | 22. Linear, parallel incising used as a background |
| 8. Drag and jab incising | 23. Incised loops  |
| 9. Zoning (textured background against plain) | 24. Line filled rectangles |
| 10. Incised zones with incised (or engraved) cross hatching | 25. Interlocking scrolls enclosing a circle |
| 11. Incised zones with punctations | 26. Exterior rim bosses |
| 12. Incised zones with rocker stamping | 27. Incised swags or scallops |
| 13. Swastika sworls | 28. Incised meandering loops |
| 14. Scroll motif | 29. Dentate rocker stamping |
| 15. Interlocking scrolls | 30. Brushing |
| | 31. Net impressing (see 6) |
| | 32. Simple stamping |
| | 33. Overall rocker stamping |

[NMAA 6 (1971) 3 (March), 1-2]

ARCHAEOLOGICAL PROVINCES OF MISSISSIPPI: A TENTATIVE DEFINITION

Richard A. Marshall

Before we can begin to understand the long and varied cultural developments, sequences, and happenings in the prehistory of Mississippi there should be in each researcher's mind a general comprehension of the many differences between the archaeological regions of the state. There is, however, no guarantee that a well founded understanding of the differences between the regions will clear the path to a speedy understanding of all cultural achievements and when they occurred. Cultural developments in one region do not necessarily have to take place in adjacent regions at the same time. Indeed, they do not even have to take place. In an area the size of what is now the state of Mississippi numerous developments did follow across the state (and adjacent states) much as the expanding concentric rings or waves follow one another after a pebble has been tossed into quiet water. Such developments may occur at approximately the same time in adjacent regions, later in distant regions, and still later in even more distant regions.

It has been suggested from time to time in meetings that a series of archaeological regions or provinces be set forth to assist the research of members of the Mississippi Archaeological Association and others. The writer is here making this offer after several years of deliberating the validity of such an approach and he does so with some misgivings. The misgivings are not so much that members and others should know these regions, but from not knowing just how valid the

proposed provinces are. There is one thing certain. After several more years of research from the different parts of the state there will be necessitated redefinitions (some combinations or additional separations) of the regions.

The provinces set forth are based largely on the meager archaeological knowledge over all of the state that this writer has observed in his few travels and on geographical characteristics such as river basins, soil types, topography, and vegetation types. All could have influenced to varying degrees the local archaeological developments.

Each of the tentatively designated archaeological provinces at present appears to have peculiar archaeological developments and regional sequences different from but somewhat related to the others. Changes which took place in one region may or may not have taken place in another or occurred at the same time or in the same manner due to distance, cultural contacts, receptiveness of the presented trait(s), or for many other reasons. These are only a few of the archaeological problems of Mississippi's prehistory. The regions have been selected due to similarities throughout the cultural materials within that province. It is hoped that the tentatively designated provinces presented here will prove of benefit to other researchers and be substantiated by their work in the future.

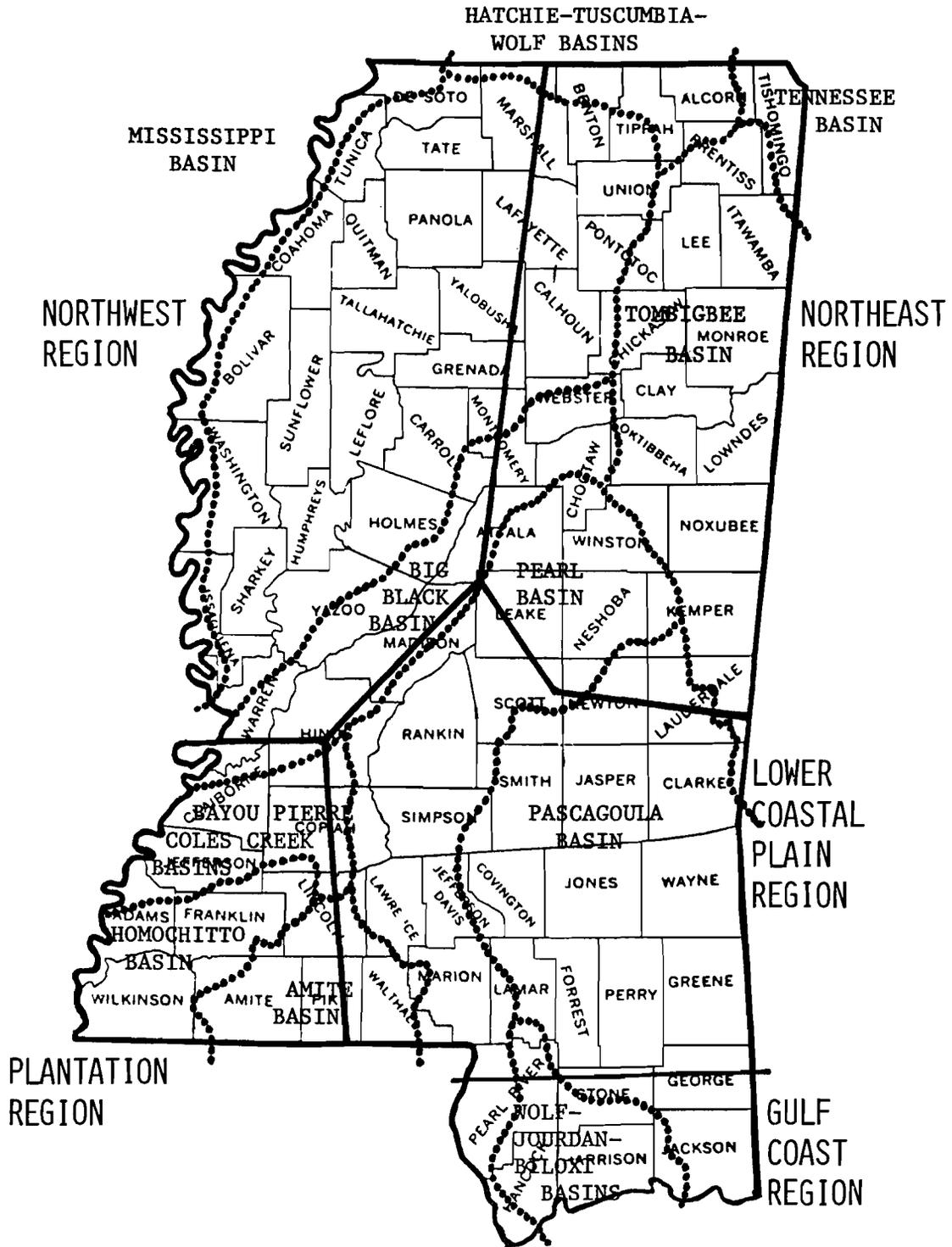
THE NORTHEAST REGION

This region encompasses all of the Tombigbee River Basin that lies within the state, the drainage which goes to the Tennessee River, and the uppermost headwaters of the streams making up the Yazoo, Black, Pearl, and the Pascagoula Rivers. It is a large area, approximating one fourth of the entire state.

Within the Northeast Region can be found the Fall Line Hills, Black Prairie, Pontotoc Hills, the Interior Flatwoods, and largely the eastern three quarters of the North Central Hills. The topography of the area is primarily uneven or low rolling hills. Hillsides facing the northeast are generally quite steep while those facing in other directions vary from moderately sloping to almost level. They are easily eroded. Stream bottoms are generally entrenched between the hills with wide, level, and not-so-fertile bottoms. Bench land or terracing can be seen usually on the northeastern banks. The Black Prairie area offers a peculiar contrast to the remainder of the region. It is a narrow band of relatively level to low rolling hills devoid of large tracts of woodlands. Bottomlands in this area are generally broad, level, and subject to flooding.

THE LOWER COASTAL PLAIN REGION

This region is essentially all of that area south of the Northeast Region of the east side of Mississippi south to the northern limits of the three coastal counties. It encompasses all of the Pascagoula and Pearl River watersheds in Mississippi less that included in the Northeast Region. The area is large and approximates one fourth of the entire state.



ARCHAEOLOGICAL REGIONS OF MISSISSIPPI

The Lower Coastal Plain Region includes the southern portion of the North Central Hills, the Jackson Prairie, and the eastern and larger half of the Pine Hills. The topography of the region is in general similar to that of the Northeast Region, but there is little evidence of the Appalachian tilting so apparent in the northern region. The soils of this region erode easily and are not fertile. There is a well developed terrace system in all of the larger stream bottoms. The characteristics of the Jackson Prairie are similar to those of the Black Prairie in the Northeast Region.

THE GULF COAST REGION

This region is composed of the three coastal counties of Mississippi. It is characterized by the Coastal Terraces. Tidal marsh and swamp land occupy large portions of this region. The soil is largely infertile but varies. Water sources are shallow and numerous artesian springs occur. The area was timbered heavily with Long Leaf Pine in aboriginal times but has largely been replaced with Slash Pine presently. The area is quite small in land mass, but due to its unique situation and close proximity to the Gulf Coast of Florida, Alabama, and Louisiana, and to the Lake Pontchartrain area, it is a very important archaeological region. The cultural developments here show continuous contacts with the adjacent coastal regions.

THE NORTHWEST REGION

This region is composed of all the area drained by the portions of the rivers flowing into the Yazoo Basin not included in the Northeast Region. It is essentially all of the Yazoo Basin in the state, the Loess Hills overlooking that basin, and the midsection of the Black River south to a point approximately even with the mouth of the Yazoo River. The area is large and roughly equals the size of the other two large regions of the state.

This region includes the majority of the Delta, the Brown or Thick Loess and the Thin Loess physiographic regions north of an east-west line drawn through the Mouth of the Yazoo River. The Delta region is alluvium, the product of stream action by both the Mississippi and the Ohio Rivers and their tributaries. It is quite level, but interspersed with elevated meander ridges outlining broad meander belts which are often part backswamp, natural levee, oxbow lakes, and active channels of the present streams. The soil is fertile and rather sandy where deposited by flowing water to very clayey where deposited in slackwater or backswamp. The Loess Hills are remarkably different to the Delta. These hills, capped with thick windblown deposits from the Delta called loess, thin rather rapidly to the east and overlay the typical soils of the Coastal Plain. The soils of these Loess belts are fertile but subject to considerable erosion. In spite of the sharp contrast between the Delta and the Loess Hills they are included in the same archaeological province. This is because of the close proximity of the hills to the alluvial flat lands and the fact that cultural materials found in the major

stream valleys contributing to the Yazoo are closely related to or the same as those found on Delta sites.

THE PLANTATION REGION

This region is small relative to the other regions with the exception of the Gulf Coast Region. It is composed mainly of the loess-covered hills overlooking the Mississippi River Valley south of the Yazoo Basin to the state boundary and east to the divide marking the western edge of the Pearl River Basin. Included also are the small discontinuous areas of alluvial deposits which form a part of the Mississippi River bottomlands. The physical characteristics of this archaeological region are much the same as for the Northwest Region, except that the major streams have less gradient and width and have very swampy valleys.

[NMAA 8 (1973) 1 (March), 2-4]

AN ANNOTATED BIBLIOGRAPHY FOR THE IDENTIFICATION OF FAUNAL REMAINS

John T. Penman

Archaeologists frequently encounter bone and shell in their excavations. Identification of these remains is performed by various specialists throughout North America. The field archaeologist is usually not trained even in basic identification of such remains, and consequently may send bird bones to a mammalogist for identification. If the excavator has a basic knowledge of bone identification, he can separate bird, fish, mammal, and reptile remains. In turn, these groups of material can be shipped to the proper specialists for identification.

The list presented below will aid the professional and amateur alike in the identification of faunal material. Olsen (1961) has published a similar list in the Texas Archaeological Society Bulletin.

Definite identification of animals as to species cannot be accomplished without comparative specimens. These references, however, will help the researcher make an educated guess as to which animals are present in his archaeological sample.

REFERENCES

- Burleigh, Thomas D.
 1944 Bird life of Gulf Coastal Mississippi. Museum of Zoology, Occasional Papers 20:329-490. Gives names and distribution of many Mississippi birds.
- Carr, Archie
 1952 Handbook of turtles. Cornell University Press, Ithaca, New York. Contains range maps and skull drawings of turtles.
- Coffey, Ben B.
 1936 A preliminary checklist of the birds of Mississippi. Unpublished manuscript, Memphis, Tennessee. The only statewide reference for birds and their seasons of occurrence.

- Cook, Fannye A.
 1942 Alligator and lizards of Mississippi. State Wildlife Museum, Survey Bulletin.
 1954 Snakes of Mississippi. State Wildlife Museum, Survey Bulletin.
 1959 The Freshwater Fishes of Mississippi. Mississippi Game and Fish Commission, Jackson.
- Cornwall, I. W.
 1956 Bones for the Archaeologist. Phoenix House, London; and McMillan, New York. Introductory text concerned with the importance of faunal remains; also contains aging criteria for cow.
- Dibble, David S., and Dessamae Lorrain
 1968 Bonfire shelter: a stratified bison kill site, Val Verde County, Texas. Texas Memorial Museum Miscellaneous Papers 1. Lorrain's section on the bone material gives metrical data for the identification of postcranial elements for two species of Bison.
- Gandy, B. E.
 1966 A preliminary checklist of the vertebrates of Mississippi. State Wildlife Museum Survey Bulletin. This volume provides the researcher with a list of almost all vertebrates that occur in the state.
- Gilbert, B. Miles
 1973 Mammalian osteo-archaeology: North America. Missouri Archaeological Society Special Publication. Excellent line drawings, life histories, dental formulas, range maps, all under one cover.
- Glass, Bryan P.
 1951 A key to the skulls of North American mammals. Burgess Publishing Co., Minneapolis. Line drawings and dental patterns. Reprinted by Oklahoma State University, Stillwater.
- Gray, H. (edited by W. H. Lewis)
 1940 Anatomy of the Human Body. Lee and Febiger, Philadelphia. This edition and other editions are useful for identification of human remains.
- Gregory, William K.
 1933 Fish skulls: A study of the evolution of natural mechanisms. American Philosophical Society Transactions 23:75-481. Excellent illustrations of fish skulls. Reprinted by Eric Lundberg, Augusta, West Virginia, 1959.
- Haag, William G.
 1948 An osteometric analysis of some aboriginal dogs. University of Kentucky Reports in Anthropology 7 (3):107-264. Excellent photographs and metrical data on dogs.

- Hall, Eugene Raymond, and Keith R. Nelson
 1959 The mammals of North America. Ronald Press, New York. The definitive study on mammals; includes range maps, skull drawings, and cites some archaeological finds.
- Harlow, Richard, and Marlin DeFoor
 1962 How to age white-tailed deer. Florida Wildlife 16:18-21. Gives line drawings of tooth wear which is a criterion for age estimates.
- Lawrence, Barbara
 1951 Post-cranial skeletal characters of deer, pronghorn, and sheep-goat, with notes on Bos and Bison. Peabody Museum of Archaeology and Ethnology Papers 25:9-44. Line drawings showing differences in wild and domestic artiodactyla are provided. Also contains a section on mammals from the Awatoui site, Arizona.
- Moore, Raymond C., Cecil G. Lauckner, and Alfred G. Fisher
 1952 Invertebrate fossils. McGraw-Hill, Inc., New York. This reference contains photographs and line drawings of shells.
- Olsen, Stanley J.
 1960 Post-cranial skeletal characters of Bison and Bos. Peabody Museum of Archaeology and Ethnology Papers 35 (No. 4):3-15. Illustrates differences in bison and the domestic cows. A valuable aid when excavating historic sites. Reprinted by Kraus Co., New York, 1969.
 1960 The fossil carnivore Amphicyon longiramus from the Thomas Farm Miocene, Part II: Postcranial skeleton. Museum of Comparative Zoology Bulletin 123:3-44. Compares skeletons of present-day bear, puma, and dog with a fossil carnivore.
 1961 A basic annotated bibliography to facilitate the identification of vertebrate remains from archaeological sites. Texas Archaeological Society Bulletin 30:217-222.
 1961 The relative value of fragmentary mammalian remains. American Antiquity 26:538-540. Gives the researcher an idea of which bones to keep and which to throw away if he is pressured by space limitations.
 1961 Problems of mammal skull identifications due to age differences in the detention. American Antiquity 27:231-234. Cites one of the problems involved in identification of archaeological materials.
 1964 Mammal remains from archaeological sites, Part I: southeastern and southwestern United States. Peabody Museum of Archaeology and Ethnology Papers 61 (No. 1):3-162. Gives photographs and points out diagnostic features of bone. Reprinted by Kraus Co., New York.
 1968 Fish, amphibian and reptile remains from archaeological sites, Part I: southeastern and southwestern United States. Peabody Museum of Archaeology and Ethnology Papers 61 (2):3-133. A follow-up volume to the above paper. The appendix on the osteology of the wild turkey is most valuable.

- 1972 Osteology for the archaeologist: the American mastodon and the woolly mammoth; North American birds. Peabody Museum of Archaeology and Ethnology Papers 56 (3 and 4):1-86. This volume contains important data for differentiating mammoth and mastodon. Due to the size of bones from both animals, this paper may prove more useful than comparative skeletons.
- Pennak, Robert W.
1953 Freshwater invertebrates of the United States. Ronald Press, New York. Contains illustrations which will aid in the identification of shells.
- Romer, Alfred Sherwood
1956 Osteology of the reptiles. University of Chicago Press, Chicago. Best single volume for identification.
- Shimer, Hervey W. and Robert P. Shrock
1944 Index fossils of North America. John Wiley & Sons, Inc., New York. Photographs and line drawings of freshwater and marine shells.
- Sisson, Septimus and James Daniels Grossman
1953 The anatomy of the domestic animals. W. B. Saunders Co., Philadelphia. This is the 4th edition of a work which has the generally accepted nomenclature for skeletal elements.
- Wolfe, James L.
1971 Mississippi land mammals: distribution, identification, ecological notes. Mississippi Museum of Natural Science Survey Bulletin. Gives range and description of mammals occurring in Mississippi.

[MA 10 (1975) 3 (March), 11-14]

MISSISSIPPI INDIANS: A BIBLIOGRAPHY. VOLUME 1: PREHISTORY

Brent W. Smith

EDITOR'S PREFACE

This bibliography of Mississippi's prehistory, compiled by Brent W. Smith, currently of the Texas Highway Department, has long been needed and should be of considerable benefit to all those interested in this period of the state's cultural heritage. It is hoped that the project can later be followed by a bibliography of the ethnography of Mississippi Indians.

Mr. Smith and the editor would like to thank Jeffrey P. Brain of the Harvard Peabody Museum, Richard A. Marshall, formerly of Mississippi State University, Dietrich Luth of the University of Southern Mississippi, and John M. Connaway of the Mississippi Department of Archives and History for their help in this work.

Adair, James

- 1775 The history of the American Indians. London. Reprint 1930 by Watauga Press, Johnson City, Tennessee, edited by Samuel Cole Williams. Reprint of 2nd. ed., 1971, by Blue & Gray Press, Nashville.

Agnew, Samuel A.

- 1868 Mounds in Mississippi. In Annual Report of the Smithsonian Institution 1867, 404-405. Washington.

- Albrecht, Andrew C.
1944 The location of the historic Natchez villages. The Journal of Mississippi History 6:67-88.
- Atkinson, James R.
1974 Test excavations at the Vaughn mound site (22-Lo-538). In Marc D. Rucker (ed.), Archaeological survey and test excavations in the upper central Tombigbee River valley: Aliceville-Columbus lock and dam and impoundment areas, Alabama and Mississippi. Department of Anthropology, Mississippi State University, Starkville.
- Banks, David W.
1972a Paleo Point find in Grenada. Mississippi Archaeologist 6 [8-10]:2-3.
1972b Work from the past. Mississippi Archaeologist 7 [2-3]:2-3.
1974 Archaeological survey of the Perry Creek sites aggregate, Grenada Reservoir, Mississippi. Report submitted to the Mississippi Archaeological Association.
- Beaudoin, Kenneth Lawrence (Editor)
1952 The Carson site. Tennessee Archaeologist 8:10-14.
- Bell, Robert E.
1958 Guide to the identification of certain American Indians projectile points. Oklahoma Anthropological Society Special Bulletin 1.
1960 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society Special Bulletin 2.
- Belmont, John S.
1961 The Peabody excavations, Coahoma County, Mississippi, 1901-1902. Unpublished honors thesis, Department of Anthropology, Harvard College.
1967a The development of agriculture in the Lower Valley. Proceedings of the 23rd Southeastern Archaeological Conference Bulletin 5:16-18.
1967b The culture sequence at the Greenhouse site, Louisiana. Proceedings of the 23rd Southeastern Archaeological Conference Bulletin 6:27-35.
- Berry, Gerald G., Jr.
1974 Archaeological reconnaissance survey of the Satartia area levee route, Yazoo and Warren counties, Mississippi. Report submitted to the National Park Service.
- Blakeman, Crawford H., Jr.
1974 Site survey and test excavations in the upper central Tombigbee valley: 1974 season. Unpublished manuscript, Southeastern Archaeological Conference.
- Bohannon, Charles F.
1963 The Mangum site: a Plaquemine necropolis in Claiborne County, Mississippi. Unpublished manuscript, Natchez Trace Parkway Library, Tupelo, Mississippi.
1964 Excavation of the Fireplace mound. Unpublished manuscript, River Basin Studies, National Park Service, Southeast Region, Tallahassee.
1965 The Boyd site: Madison County, Mississippi. Unpublished manuscript. Natchez Trace Parkway Library, Tupelo, Mississippi.
1972 Excavations at the Pharr mounds, Prentiss and Itawamba counties, Mississippi, and excavations at the Bear Creek site, Tishomingo County, Mississippi. U. S. Department of the Interior, National Park Service, Washington.
- Brain, Jeffrey P.
1969 Winterville: a case study of prehistoric culture contact in the Lower Mississippi Valley. Unpublished Ph.D. dissertation, Yale University.
1970a Early Archaic in the Lower Mississippi Alluvial Valley. American Antiquity 35:104-105.
1970b The Tunica treasure. Harvard University Peabody Museum Bulletin 2:1-8.
1971 The Natchez paradox. Ethnology 10:215-222.
1972 Excavations at the Tunica site, preliminary report. Unpublished manuscript, Peabody Museum, Harvard University.
1973 Trudeau: an 18th century Tunica village. Harvard University Peabody Museum Bulletin 3.
1974 Artifacts of the Adelantado. Conference for Historic Site Archaeology, Vol. 8.
n.d. The Lower Mississippi Valley in North American prehistory. Rev. ed. Arkansas Archaeological Survey Research Series, forthcoming, 1974.
n.d. The Tunica. In Handbook of the North American Indians. Smithsonian Press, Washington, D.C., forthcoming, 1974.
- Brain, Jeffrey P., and Drexel A. Peterson
1970 Palmetto tempered pottery. Southeastern Archaeological Conference Bulletin 13:70-76.
- Brain, Jeffrey P., Alan Toth, and Antonio Rodriguez-Buckingham
1973 Ethnohistoric archaeology and the De Soto entrada into the Lower Mississippi Valley. Conference for Historic Site Archaeology Papers 7.
- Brain, Jeffrey P., and Stephen Williams
1970 Philip Phillips Lower Mississippi Survey, 1940-1970. Peabody Museum of Archaeology and Ethnology, Cambridge, Massachusetts.
n.d. Excavations at the Lake George site, Yazoo County, Mississippi, 1958-1960. Manuscript [1984] in preparation. [Now in print.--Editor]
- Brannon, H. R. Jr., et al.
1957 Humble Oil Company radiocarbon dates I. Science 125 (3239):147-150.

- Brasher, Ted J.
1973 An investigation of some central functions of Poverty Point. Unpublished M.A. thesis, Northwestern State University of Louisiana.
- Brookes, Samuel O.
1969 Excavation at 22-Co-572. Newsletter of the Mississippi Archaeological Association 4(9):2-3.
1974 An unusual point from Monroe County. Mississippi Archaeological Association Newsletter 9(4):4.
1976 The Grand Gulf mound (22-Cb-522): salvage excavation of an early Marksville burial mound. Archaeological Report No. 1, Mississippi Department of Archives and History, Jackson.
- Brookes, Samuel O. and Byron Inmon
1973 Archaeological survey of Claiborne County, Mississippi. Mississippi Department of Archives and History, Jackson.
- Brookes, Samuel O., and Samuel O. McGahey
1974 Discovery of an early site in northeast Mississippi. Mississippi Archaeological Association Newsletter 9(1):2-7.
- Brown, Calvin S.
1926 Archeology of Mississippi. Mississippi Geological Survey, University, Mississippi.
- Broyles, Bettye J.
1967 Bibliography of pottery type descriptions from the eastern United States. Southeastern Archaeological Conference Bulletin 4.
- Burt, Jesse, and Robert B. Ferguson
1973 Indians of the Southeast: then and now. Abingdon Press, Nashville.
- Caldwell, Carolyn
1974 Excavations at the Acree site. Mississippi Archaeological Association Newsletter 9(1):7-8.
- Caldwell, Joseph R.
1958 Trend and tradition in the prehistory of the eastern United States. American Anthropological Association Memoir 88. Also in Illinois State Museum Scientific Papers 10.
- Cambron, James W., and David C. Hulse
1964 Handbook of Alabama Archaeology. Part 1: Point Types, ed. David DeJarnette. Archaeological Research Association of Alabama, University, Alabama.
- Collins, Henry B., Jr.
1927a Archaeological and anthropometrical work in Mississippi. Smithsonian Miscellaneous Collections 78:89-95.
1927b Archeological work in Louisiana and Mississippi. Smithsonian Miscellaneous Collections 78:200-207.
1927c Potsherds from Choctaw village sites in Mississippi. Journal of the Washington Academy of Sciences 17, 10:259-263.
1932 Excavations at a prehistoric Indian village site in Mississippi. In Proceedings of the United States National Museum 79:1-22.
- Conant, Alban Jasper
1879 Footprints of vanished races in the Mississippi Valley; being an account of some of the monuments and relics of prehistoric races scattered over its surface, with suggestions as to their origin and uses. C. R. Barns, St. Louis.
- Connaway, John M.
1966 Excavations at the White mound (22-Gr-41) near Grenada, Mississippi. Mississippi Archaeological Association Newsletter 1(2).
1968 Archaeological excavation of the Great White mound. University of Mississippi Museum of Anthropology Anthropological Papers 1:40-55.
1969 Current research: Mississippi. Southeastern Archaeological Conference Newsletter 13:15.
- Connaway, John M., and Samuel O. McGahey
1970 Archaeological survey and salvage in the Yazoo-Mississippi Delta and in Hinds County, 1968-1969. Mississippi Department of Archives and History, Mississippi Archaeological Survey Preliminary Report.
1971 Current research: Mississippi. Southeastern Archaeological Conference Newsletter 15, 1:8-9.
1973 Archaeological excavation at the Boyd site, Tunica County, Mississippi. Mississippi Department of Archives and History Technical Report 1.
- Connaway, John M., Samuel O. McGahey, and Clarence Webb
1970 The Teoc Creek site. Mississippi Department of Archives and History, Archaeological Report 3.
- Cotter, John L.
1951 Stratigraphic and area tests at the Emerald and Anna mound sites. American Antiquity 17:18-32.
1952a The Gordon site in southern Mississippi. American Antiquity 18:110-126.
1952b The Mangum plate. American Antiquity 18:65-68.

- Cotter, John L. and John M. Corbett
1951 Archaeology of the Bynum mounds, Mississippi. U.S. Department of the Interior, National Park Service, Archaeological Research Series 1.
- Crane, H. R.
1956 University of Michigan radiocarbon dates I. Science 124 (3224):664-672.
- Crane, H. R., and James B. Griffin
1966 University of Michigan radiocarbon dates XI. American Journal of Science Radiocarbon Supplement 8:256-285.
- Culin, Stewart
1900 The Dickeson collection of American antiquities. Pennsylvania University, Museum Bulletin 2(3).
- Curry, Hugh Kimbriel
1965 Ceramic analysis of the Womac site. Unpublished M.A. thesis, University of Mississippi.
- Cutler, Hugh C., and Leonard W. Blake
1970 Food plant remains from nine prehistoric Indian sites in the Yazoo Delta area of Mississippi. Mississippi Archaeological Association 5(2):1-7.
- Daniels, Jonathan
1962 The devil's backbone. McGraw-Hill Book Co., New York.
- Davis, Hester A.
1963 Current research: Southeast (Mississippi). American Antiquity 29:263.
1964 Current research: Southeast (Mississippi). American Antiquity 29:547.
1965 Current research: Southeast (Mississippi). American Antiquity 30:528.
1966 Current research: Southeast (Mississippi). American Antiquity 31:610-611.
1967 Current research: Southeast (Mississippi). American Antiquity 32:569.
1968 Current research: Southeast (Mississippi). American Antiquity 33:545.
- Driver, Harold E., and William C. Massey
1957 Comparative studies of North American Indians. Transactions of the American Philosophical Society 47, 2.
- Fenwick, Jason M.
1969 Excavation at 22-Co-626. Newsletter of the Mississippi Archaeological Association 4(9).
- Fisher, Georgia
1965 A new look at those early Deltans. Delta Review 2(1):41, 66-67.
- Ford, James A.
1935 Outline of Louisiana and Mississippi pottery horizons. Louisiana Conservation Review 4(6):33-38.
1936 Analysis of Indian village site collections from Louisiana and Mississippi. Louisiana Geological Survey, Anthropological Study 2.
1952 Measurements of some prehistoric design developments in the southeastern states. American Museum of Natural History Anthropological Papers 44:313-384.
- Ford, James A., and Clarence H. Webb
1956 Poverty Point, a Late Archaic site in Louisiana. American Museum of Natural History Anthropological Papers 46, 1.
- Ford, James A., and Gordon Willey
1939a Pottery type descriptions. Southeastern Archaeological Conference Newsletter 1(3).
1939b Pottery type descriptions. Southeastern Archaeological Conference Newsletter 1(4).
1941 An interpretation of the prehistory of the eastern United States. American Anthropologist 43:325-363.
- Ford, James A., and James B. Griffin
1937 A proposal for a conference on pottery nomenclature for the southeastern United States. Mimeographed. Southeastern Archaeological Conference.
1938 Report of the conference on southeastern pottery typology. In Proceedings of the First Southeastern Archaeological Conference. Ann Arbor. Mimeographed.
1960a A proposal for a conference on pottery nomenclature for the southeastern United States. Southeastern Archaeological Conference Newsletter 7(1):5-9.
1960b Report of the conference on southeastern pottery typology. Southeastern Archaeological Conference Newsletter 7(1):10-22.
- Ford, James A., Philip Phillips and William G. Haag
1955 The Jaketown site in west central Mississippi. American Museum of Natural History Anthropological Papers 45.
- Fulton, Robert D.
1898 Prehistoric Jasper ornaments in Mississippi. In Franklin L. Riley (ed.), Publications of the Mississippi Historical Society 1:91. Oxford, Mississippi.
- Fundaburke, E. L., and M. D. Foreman
1957 Sun circles and human hands. By the authors, Luverne, Alabama.
- Gage, James R.
1875 Results from investigations of Indian mounds. Proceedings of the St. Louis Academy of Science 3(2).

- Gagliano, Sherwood M.
 1963 A survey of preceramic occupations in portions of south Louisiana and south Mississippi. Louisiana State University Coastal Studies Institute; U.S. Gulf Coastal Studies Technical Report 16, Pt. E. Also in Florida Anthropologist 16.
 1967 Occupation sequence at Avery Island. Louisiana State University Coastal Studies Series 22.
- Gagliano, Sherwood M., and Clarence H. Webb
 1971 Archaic-Poverty Point transition at the Pearl River mouth. Southeastern Archaeological Conference Bulletin 12.
- Garcilaso de la Vega
 1605 The Florida of the Inca. Lisbon. Translated edition 1951 by John G. Varner and Jeannette J. Varner, University of Texas Press, Austin.
- Gibson, Arrell M.
 1973 The Indians of Mississippi. In Richard Aubrey McLemore (ed.), A History of Mississippi 1:69-89. University and College Press of Mississippi, Hattiesburg.
- Greengo, Robert E.
 1964 Issaquena: an archaeological phase in the Yazoo Basin of the Lower Mississippi Valley. Society for American Archaeology Memoir 18.
- Greenwell, Dale
 1974 Prehistoric cultural diffusion and migration in southeast Mississippi. Mississippi Geographer 2:19-26.
- Griffin, James B.
 1952a Culture periods in eastern United States archaeology. In James B. Griffin (ed.), Archeology of eastern United States, 352-364. University of Chicago Press, Chicago.
 1952b Radiocarbon dates for the eastern United States. In James B. Griffin (ed.), Archeology of eastern United States, 365-370. University of Chicago Press, Chicago.
 1967 Eastern North American archaeology: a summary. Science 156 (3772):175-191.
- Griffin, James B. (Editor)
 1950 Prehistoric pottery of the eastern United States. Ceramic Repository for the Eastern United States Museum of Anthropology, University of Michigan (loose-leaf notes issued at various times).
- Haag, William G.
 1939 Pickwick Basin pottery type descriptions. Southeastern Archaeological Conference Newsletter 1(1):1-17.
 1942 Early horizons in the Southeast. American Antiquity 7:209-222.
 1952 Archaeological survey of the Grenada Reservoir in Mississippi. Report submitted to the National Park Service, Southeast Region.
 1953 Choctaw archaeology. Southeastern Archaeological Conference Newsletter 3(3):25-32.
 1955 A prehistory of Mississippi. Journal of Mississippi History 17:81-109.
 1961 The Archaic of the Lower Mississippi Valley. American Antiquity 26:317-323.
- Haag, William G., and Clarence H. Webb
 1953 Microblades at Poverty Point sites. American Antiquity 18:245-248.
- Hahn, Paul
 1965 The Paleo-Indian era: distribution of finds, Mississippi. Southeastern Archaeological Conference Bulletin 2:18.
- Halbert, T. S.
 1899 Nanih Waiya, the sacred mound of the Choctaws. Publications of the Mississippi Historical Society 2:223. Oxford, Mississippi.
- Hanson, Lee, Jr.
 1969 Survey of Town Creek Watershed Dam No. 46A, Lee County, Mississippi. Report submitted to the National Park Service.
- Heath, R. M.
 1972 Orange Evans site. Newsletter, Mississippi Archaeological Association 6(8-10):3-5.
- Hill, Bunker
 1969 Excavations at 22-Co-516. Newsletter of the Mississippi Archaeological Association 4(9).
- Hill, Harold E., Jr.
 1969 Current research: Mississippi. Southeastern Archaeological Conference Newsletter, 13:16-17.
- Holmes, William H.
 1884 Illustrated catalogue of a portion of the ethnologic and archaeological collections made by the Bureau of Ethnology during the year 1881. In Third Annual Report of the Bureau of American Ethnology 1881-1882, 433-506. Washington.
 1886 Ancient pottery of the Mississippi Valley. In Fourth Annual Report of the Bureau of American Ethnology, 1882-1883, 367-436. Washington. Also in Proceedings of the Davenport Academy of Natural Sciences 1882-1884 4. Davenport, Iowa.
 1903 Aboriginal pottery of the eastern United States. In Twentieth Annual Report of the Bureau of American Ethnology 1898-1899, 1-237. Washington.
 1919 Handbook of aboriginal American antiquities. Bureau of American Ethnology Bulletin 60. Reprint 1972 by Blue & Gray Press, Nashville.

- Hony, William
1969 Test excavations conducted at the Murphey site. Newsletter of the Mississippi Archaeological Association 4(9).
- Hopgood, James F.
1969 Continuity and change in the Baytown pottery tradition of the Cairo lowland, southeast Missouri. University of Missouri, Columbia.
- Hough, James
1879 Mounds in Washington County, Mississippi. In Annual Report of the Smithsonian Institution 1879, 383-385. Washington.
- Howard, James H.
1968 The southeastern ceremonial complex and its interpretation. Missouri Archaeological Society Memoir 6.
- Huner, John
1967 Ecology of the Lower Mississippi Valley. Proceedings of the 22nd Southeastern Archaeological Conference Bulletin 5:11-12.
- Jennings, Jesse D.
1939 Ackia Battleground National Monument, report of 1939 excavations. Manuscript submitted to the National Park Service.
1941a Chickasaw and earlier Indian cultures of northeast Mississippi. Journal of Mississippi History 3:155-226.
1941b Lake George site...near Holly Bluff, Mississippi. U.S. Department of the Interior, National Park Service, Natchez Trace Parkway Archaeological Survey Special Site Report.
1944 The archaeological survey of the Natchez Trace. American Antiquity 9:408-414.
1952 Prehistory of the Lower Mississippi Valley. In James B. Griffin (ed.), Archeology of eastern United States. University of Chicago Press, Chicago.
1968 Prehistory of North America. McGraw-Hill Book Company, New York.
- Johnson, Glenn A.
1966 Notes on the Smith mound, Grenada County, 22-Gr-10. Mississippi Archaeological Association Newsletter 1(11).
1969 Excavation of the McCarter mound, Panola County. Newsletter of the Mississippi Archaeological Association 4(1).
- Jolly, Fletcher III
1971 A single component, Alexander assemblage from the Mingo mound site (22-Ts-511) in the Bear Creek watershed of N.E. Mississippi. Tennessee Archaeologist 27(1).
- Key, Hobart
1961 The Indian village at Blue Lake. Minter City Archaeological and Sunday Outing Society, Minter City, Mississippi.
- Koehler, Thomas Hume
1966 Archaeological excavation of the Womack mound (22-Ya-1). Mississippi Archaeological Association Bulletin 1.
- Kraus, Guy C.
1966 Notes on the Deer Island site, Harrison County, 22-Hr-500. Mississippi Archaeological Association Newsletter 1(12).
- Kroeber, A. L.
1939 Cultural and natural areas of native North America. University of California Publications in American Archaeology and Ethnology 38. Fourth printing 1963, University of California Press.
1942 On an interpretation of the prehistory of the eastern United States. American Antiquity 7:326.
- Kuly, J. Lawrence, Herbert W. Feely, and Lansing E. Tryon
1951 Lamont natural radiocarbon measurements I, Science 114 (2970):565-568.
- Lewis, Shelia D., and John D. Caldwell
1972 An initial archaeological survey along the proposed Tennessee-Tombigbee Waterway. Unpublished manuscript, Mississippi Department of Archives and History, Jackson.
- Lewis, Shelia P., and R. Barry Lewis
1972 Archaeological investigations in portions of Tishomingo County, Mississippi. Tennessee Valley Authority, Knoxville.
- Logan, W. N.
1904 Geology of Oktibbeha County. Mississippi Agricultural and Mechanical College Bulletin 1.
- Lowry, R. C.
1969 Poverty Point sites on the Mississippi Gulf coast. Newsletter of the Mississippi Archaeological Association 4(1).
- Mahan, E. C.
1956 A Clovis camp site on Moses Hill, Mississippi. Tennessee Archaeologist 12(2):28-31.
- Mangum, Paul L., Jr.
1963 An archaeological survey of the state of Mississippi east of the Lower Mississippi River Valley. Unpublished senior honors thesis, Department of Anthropology, Harvard College.

- Marshall, Richard A.
 1967 Excavation at Winterville mounds. Mississippi Archaeological Association Newsletter 2(8-9):3.
 1968a Facts and figures about Mississippi. Newsletter of the Mississippi Archaeological Association Newsletter 3(1-2):4-5.
 1968b One week in the Delta. Newsletter of the Mississippi Archaeological Association 3(5-6):1.
 1969 Current research: Mississippi. Southeastern Archaeological Conference Newsletter 13:21-22.
 1970a The Carson site. Mississippi Archaeological Association 5(6):1-2.
 1970b Progress report on field research, 1970, Fourth summer field session in Mississippi archaeology. Mississippi Archaeological Association 5(6):3-7.
 1970c Current research: Mississippi. Southeastern Archaeological Conference Newsletter 14:14-18.
 1971a An archaeological survey of the proposed Yellow Creek port and harbor associated railroad spur and industrial parks. Unpublished manuscript, Tennessee Valley Authority, Knoxville.
 1971b An archaeological survey of the proposed Yellow Creek Power Plant, Yellow Creek arm of Lake Pickwick, Mississippi. Unpublished manuscript, Tennessee Valley Authority, Knoxville.
 1971c Progress report on field research, 1971, Fifth summer field session in Mississippi archaeology. Unpublished manuscript, Mississippi State University.
 1971d An unusual house at the Brown Mountain site. Southeastern Archaeological Conference Newsletter 10:24-25.
 1972 A report of progress of field research, 1972, Sixth summer field session in Mississippi archaeology. Southeastern Archaeological Conference Newsletter 11(2):14-15.
 1973a The Aberdeen-West Point, Mississippi, and Aberdeen substation survey. Report submitted to the Tennessee Valley Authority.
 1973b Archaeological provinces of Mississippi: a tentative definition. Newsletter, Mississippi Archaeological Association 8(1):2-5.
 1973c The prehistory of Mississippi. In Richard Aubrey McLemore (ed.), A History of Mississippi 1:24-68. University and College Press of Mississippi, Hattiesburg.
 1974 Mississippian phases at Lyon's Bluff site (22-Ok-520), east central Mississippi. Mississippi Archaeological Association Newsletter 9(2):7-8.
 n.d. Guide and field key to some of the prehistoric Indian pottery of Mississippi. Unpublished manuscript, Mississippi State University.
 1982 A report on archaeological test excavations at Goode Lake, Jackson County, Mississippi. Mississippi Department of Archives and History, Archaeological Report 10. Marshall, Richard A., James Gladney, and Robert Howle
 1969 A report of preliminary archaeological survey in Lowndes and Noxubee counties, Mississippi. Mississippi State University, Starkville.
- Marshall, T. B., and G. C. Evans
 1939 They found it in Natchez. Pelican Publishing Co., New Orleans.
- Martin, Granville, and Ray Perreault
 1972 Report on archaeological survey and excavation on the Natchez Trace Parkway, August 11 and 12, 1972. Mississippi Archaeologist 7(6):13-15.
- McGahey, Samuel O.
 1968 An archaeological survey of certain sites in Sardis Reservoir. Unpublished M.A. thesis, University of Mississippi.
 1969 An unusual house construction in Mississippi. Southeastern Archaeological Conference Bulletin 11:6-9.
 1971 Archaeological survey in the Tombigbee River drainage area. Mississippi Department of Archives and History, Mississippi Archaeological Survey Preliminary Report 2.
 1974a Projectile point type? Mississippi Archaeological Association Newsletter 9(3):10-11.
 1974b Points collected by Mr. Ben Cessna, Claiborne County. Mississippi Archaeological Association Newsletter 9(4):5-6.
- McGahey, Samuel O., and John M. Connaway
 1970 Current research: Mississippi. Southeastern Archaeological Conference Newsletter 14:14.
- McGahey, Samuel O., and Robert M. Thorne
 1968 Archaeological excavation of the Clear Creek mound. University of Mississippi Museum of Anthropology Anthropological Papers 1:24-39.
- McMichael, Edward V.
 1960 The anatomy of a tradition: A study of southeastern stamped pottery. Unpublished dissertation, Indiana University.

- Moore, Clarence B.
 1901 Certain aboriginal remains of the Tombigbee River. Journal of the Academy of Natural Sciences of Philadelphia 11:498-516.
 1905 Certain aboriginal mounds of Mobile Bay and Mississippi sound. Journal of the Academy of Natural Sciences of Philadelphia 8:Art. 4.
 1908a The Blum mounds. Journal of the Academy of Natural Sciences of Philadelphia Ser. 2, 13(3):594-600.
 1908b Certain mounds of Arkansas and Mississippi. Journal of the Academy of Natural Sciences of Philadelphia Ser. 2, 13(4):Art. 10.
 1908c Mounds of the Lower Yazoo and Lower Sunflower rivers, Mississippi. Journal of the Academy of Natural Sciences of Philadelphia Ser. 2, 13(4).
 1911 Some aboriginal sites on Mississippi River. Journal of the Academy of Natural Sciences of Philadelphia Ser. 2, 12(2):125-335.
- Myer, William E.
 1928 Indian trails of the Southeast. In Forty-second annual report of the Bureau of American Ethnology 1924-1925, 727-857. Reprint 1971 by Blue and Gray Press, Nashville.
- Nash, Charles H.
 1959 Ironstone tools. Journal of Alabama Archaeology 5(2):23-25.
- Neitzel, Robert S.
 1964 The Natchez Grand Village. Florida Anthropologist 17(2):63-66.
 1965 Archeology of the Fatherland site: the Grand Village of the Natchez. American Museum of Natural History Anthropological Papers 51.
- Peabody, Charles
 1904 Exploration of mounds, Coahoma County, Mississippi. Peabody Museum of Archaeology and Ethnology Papers 3.
- Peebles, Christopher S.
 1971 Current research: Southeast (Mississippi). American Antiquity 36:507.
 1972 Current research: Southeast (Mississippi). American Antiquity 37:580.
 1973 Current research: Southeast (Mississippi). American Antiquity 38:504.
- Penman, John T.
 1973 The zooarchaeology of the Fatherland site, Natchez, Mississippi. Unpublished M.S. thesis, Department of Anthropology, Florida State University.
 1975 Archaeological survey in Mississippi, 1974-1975. Mississippi Department of Archives and History Archaeological Report 4. (Research, covering most of the geographical regions of the state, conducted for the United States Soil Conservation Service.)
- Perino, Gregory
 1968 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society Special Bulletin 3.
 1971 Guide to the identification of certain American Indian projectile points. Oklahoma Anthropological Society Special Bulletin 4.
- Phelps, Dawson A. (Translator and Editor)
 1945 Narrative of the hostilities committed by the Natchez against the concession of St. Catherine 1722. Journal of Mississippi History 7:3-10.
 1952 The Chickasaw Agency. Journal of Mississippi History 14:119-137.
- Phillips, Philip
 1939 Introduction to the archaeology of the Mississippi Valley. Unpublished Ph.D. dissertation, Department of Anthropology, Peabody Museum, Harvard University.
 1970 Archaeological survey in the Lower Yazoo Basin, Mississippi 1949-1955. Peabody Museum of Archaeology and Ethnology Papers 60.
- Phillips, Philip, James A. Ford, and James B. Griffin
 1951 Archaeological survey of the Lower Mississippi Valley 1940-1947. Peabody Museum of Archaeology and Ethnology Papers 25.
- Quimby, George I., Jr.
 1942 The Natchezan culture type. American Antiquity 7:255-275.
 1956 The locus of the Natchez pelvis find. American Antiquity 22:77-79.
 1957 The Bayou Goula site, Iberville Parish, Louisiana. Fieldiana: Anthropology 47(2).
- Rands, Robert L.
 1958 Archaeological survey of the Pearl River reservoir area, Mississippi, preliminary report. Unpublished manuscript, Department of Sociology and Anthropology, University of Mississippi and Mississippi Department of Archives and History.
 1959 The Wills site: Poverty Point - Woodland remains on the Pearl River, Mississippi. Southeastern Archaeological Conference Newsletter 6:15-18.
- Roman, Ken, and David Banks
 1972 Field work. Mississippi Archaeologist 7(4-5):3-4.
- Rowland, Dunbar
 1927 A symposium on the place of discovery of the Mississippi River by Hernando De Soto. Mississippi Historical Society Special Bulletin 1.

- Rowland, Dunbar, and Moreau B. Chambers
 1937 A selected list of significant archaeological sites in the various counties of Mississippi, with approximate locations of all sites named. Unpublished manuscript, Mississippi Department of Archives and History, Jackson.
- Rucker, Marc D.
 1974 Archaeological survey and test excavations in the upper central Tombigbee River Valley: Aliceville-Columbus lock and dam and impoundment areas, Alabama and Mississippi. Report submitted to the National Park Service.
- Rucker, Marc D. and James R. Atkinson
 1974 Archaeological survey of the upper-central Tombigbee River Valley. Mississippi Archaeological Association Newsletter 9(2):8-12.
- Sears, William H.
 1954 The sociopolitical organization of pre-Columbian cultures on the Gulf Coastal Plain. American Anthropologist 56:339-346.
 1958 Burial mounds on the Gulf Coastal Plain. American Antiquity 23:274-284.
 1960 The Gulf Coastal Plain in North American prehistory. In Anthony F. C. Wallace (ed.) Men and cultures. Selected papers of the Fifth International Congress of Anthropological and Ethnological Sciences, 632-638. University of Philadelphia Press, Philadelphia.
 1962 The state in certain areas and periods of the prehistoric southeastern United States. Ethnohistory 9(2):109-225.
 1964 The southeastern United States. In Jesse D. Jennings and Edward Norbeck (eds.), Prehistoric man in the New World, 259-287. University of Chicago Press, Chicago.
- Shafer, Happy J.
 1971 An excavation of the Natchez occupation at the Fatherland site. Journal of Mississippi History 34:215-236.
- Shea, John G.
 1853 Discovery and exploration of the Mississippi Valley. Redfield, New York.
- Shetrone, Henry Clyde
 1930 The Mound-builders. D. Appleton & Co., New York.
- Smith, Brent W.
 1974 A preliminary identification of faunal remains from the Claiborne site. Mississippi Archaeology 9(5):1-14.
- Spencer, Robert F., Jesse D. Jennings, et al.
 1965 The native Americans. Harper & Row, Publishers, New York.
- Squier, E. G., and E. H. Davis
 1848 Ancient monuments of the Mississippi Valley comprising the results of extensive original surveys and explorations. Smithsonian Contributions to Knowledge 1.
- Stuart, George E.
 1972 Who were the "mound builders"? National Geographic 142 (6):782-799. Supplement map "Indians of North America."
- Swanton, John R.
 1911 Indian tribes of the Lower Mississippi Valley and adjacent coast of the Gulf of Mexico. Bureau of American Ethnology Bulletin 43. Reprint 1970, Johnson Reprint Corp., New York.
 1918 An early account of the Choctaw Indians. American Anthropological Association Memoirs 5(2). Reprint 1964, Kraus Reprint Corp., New York.
 1922 Early history of the Creek Indians and their neighbors. Bureau of American Ethnology Bulletin 72. Reprint 1970, Johnson Reprint Corp., New York.
 1928 Social and religious beliefs and usages of the Chickasaw Indians. In Forty-fourth Annual Report of the Bureau of American Ethnology 1926-1927, 173-273. Washington.
 1929 Myths and tales of the southeastern Indians. Bureau of American Ethnology Bulletin 88.
 1931 Source material for the social and ceremonial life of the Choctaw Indians. Bureau of American Ethnology Bulletin 103.
 1952 The Indian tribes of North America. Bureau of American Ethnology Bulletin 145.
- Tesar, Louis D.
 1974 Archaeological assessment survey of the Tallahala Reservoir area, Jackson County, Mississippi. Report submitted to the National Park Service.
- Tesar, Louis D., and Donna L. Fichtner
 1974 A preliminary report on archaeological investigations conducted at the Humber site (22-Co-601) in west central Coahoma County, Mississippi. Cottonlandia Notes 1(1), Greenwood.
- Thomas, Cyrus
 1894 Report of the mound explorations of the Bureau of Ethnology. In Twelfth Annual Report of the Bureau of American Ethnology 1890-1891 (Mounds in Mississippi on pp. 267-278). Washington.
 1903 The Indians of North America in historic times. In Guy Carleton Lee (ed.), The History of North America 2:305-324. George Barrie and Sons, Philadelphia.

- Thorne, Robert M.
 1968a Archaeological excavation of the Baker's Creek mound. University of Mississippi Museum of Anthropology Anthropological Papers 1:1-15.
 1968b Archaeological excavation of the Tyson mound. University of Mississippi Museum of Anthropology Anthropological Papers 1:16-23.
- Thorne, Robert M., and Bettye J. Eroyles (eds.)
 1968 Handbook of Mississippi pottery types. Southeastern Archaeological Conference Bulletin 7. Also in Mississippi Archaeological Association Bulletin 2.
- Wailles, Benjamin L. C.
 1854 Report on the agriculture and geology of Mississippi. Lippincott, Grambo, and Co., Philadelphia for E. Barksdale, Jackson.
 1880 The Mississippi Valley and prehistoric events. R. T. Root, Burlington, Iowa.
- Waring, Antonio, Jr.
 1968 The southern cult and Muskogean ceremonial. In Stephen Williams (ed.), The Waring Papers. Peabody Museum of American Archaeology and Ethnology, Papers 58:30-69.
- Weaver, Elizabeth O.
 1963 Technological analysis of prehistoric Lower Mississippi ceramic materials: a preliminary report. American Antiquity 29:49.
- Webb, Clarence H.
 1968 The extent and content of Poverty Point culture. American Antiquity 33:297-321.
 1969 Current research: Mississippi. Southeastern Archaeological Conference Newsletter 13:17-21.
 1971 Archaic and Poverty Point zoomorphic locust beads. American Antiquity 36:105-114.
- Webb, Clarence H., James A. Ford, and Sherwood M. Gagliano
 n.d. Poverty Point culture and the American formative. Unpublished manuscript in preparation.
- Webb, William S., and David L. DeJarnette
 1942 An archaeological survey of Pickwick Basin in the adjacent portions of the states of Alabama, Mississippi and Tennessee. Bureau of American Ethnology Bulletin 129.
- Willey, Gordon R.
 1966 An introduction to American archaeology 1: North and Middle America. Prentice-Hall, Edgewood Cliffs, New Jersey.
- Willey, Gordon R., and Jeremy A. Sabloff
 1974 A history of American archaeology. W. H. Freeman & Co., San Francisco.
- Williams, Mark J.
 1974 Excavations at earthworks on Mulatto Bayou. Mississippi Archaeological Association Newsletter 9(3):5-9.
- Williams, Stephen B.
 1956 Settlement patterns in the Lower Mississippi Valley. In Gordon R. Willey (ed.), Presistoric settlement patterns in the New World, 52-62. Wenner-Gren Foundation for Anthropological Research Viking Fund Publications in Anthropology 23.
 1962 Historic archaeology in the Lower Mississippi Valley. Southeastern Archaeological Conference Newsletter 9(1):53-63.
 1963 The eastern United States. In William G. Haag (ed.), Early Indian farmers and villages and communities, 267-325. U. S. Department of the Interior, National Park Service, National Survey of Historic Sites and Buildings, Themes II and III.
 1966 Pottery complexes in the Lower Mississippi Valley. Southeastern Archaeological Conference Newsletter 10(1):15-18.
 1967 On the location of the historic Taensa villages. Fifth Conference on Historic Site Archaeology Papers 1965-1966 1:2-13.
- Williams, Stephen B., and Jeffrey P. Brain
 1970 Philip Phillips, Lower Mississippi survey 1940-1970. Peabody Museum of Archaeology and Ethnology, Cambridge, Massachusetts.
- Williams, Stephen B., and John M. Goggin
 1956 The long nosed god mask in the eastern United States. The Missouri Archaeologist 18(3).
- Williams, Stephen B. et al.
 n.d. Excavations at Lake George, Yazoo County, Mississippi. Peabody Museum of Archaeology and Ethnology Papers, forthcoming volume, 1974.
- Willoughby, Charles C.
 1897 An Analysis of the decorations upon pottery from the Mississippi Valley. Journal of American Folklore 10(36):9-20.

THE USE OF THE CONTEMPORARY ECOLOGICAL MODEL IN ARCHAEOLOGICAL
RESEARCH: AN EXAMPLE FROM NORTHWEST LOUISIANA

Brent W. Smith

ABSTRACT

The ecological zones which are situated in close proximity to an archaeological site can be viewed as possible resource areas for past procurement systems. Implications of past patterns of settlement can be made from the study of such factors as the seasonal availability of specific contemporary flora and fauna in each ecological zone. In this study a model of the contemporary ecology of the Young's Bayou area in Natchitoches Parish, Louisiana, was constructed through field surveys of floral and faunal resources in local adjacent microenvironments. The biomass potential of these microenvironments suggests that prehistoric sites located on ecotones could have provided localities of maximum ecological efficiency. (Data for Tables 1 and 2 compiled by Lee Wood and William Verret).

INTRODUCTION

Recently, faculty and students at Northwestern State University in Natchitoches, Louisiana, have been involved in research to determine the extent and form of prehistoric settlement in the Young's Bayou drainage in Natchitoches Parish, northwest Louisiana. Data-gathering focused on archaeological site surface survey, on the excavation of one site, the Young's Bayou site, and on ecological surveys in local microenvironments. This paper is concerned with the latter methodology. The contemporary ecological model was correlated with evidences of prehistoric technological exploitation from nine sites in the survey area. During Archaic times, each of these sites was part of a semi-sedentary settlement system which focused on seasonal hunting, gathering, and fishing activities. A complete report of the research findings can be found in "Prehistoric Settlement Patterns of the Young's Bayou Drainage, Natchitoches Parish, Louisiana" (Smith 1974).

THE CONTEMPORARY ECOLOGICAL MODEL

Archaeologists no longer place emphasis solely on technological aspects of prehistoric societies as reflected in material cultural remains. Contemporary archaeologists are also concerned with the prehistoric cultural ecology, or the interrelationships of past technological exploitation and the environment, as reflected in systems of subsistence, settlement, and procurement.

Implicit in most archaeological site reports is the use of the contemporary situation as a model for the prehistoric ecology. It is hypothesized that the ecological zones which are situated in close proximity to an archaeological site were resource areas for past procurement systems (Coe and Flannery 1964:650). If this is true,

FIGURE 1. A DIAGRAMMATIC SKETCH OF THE YOUNG'S BAYOU AREA

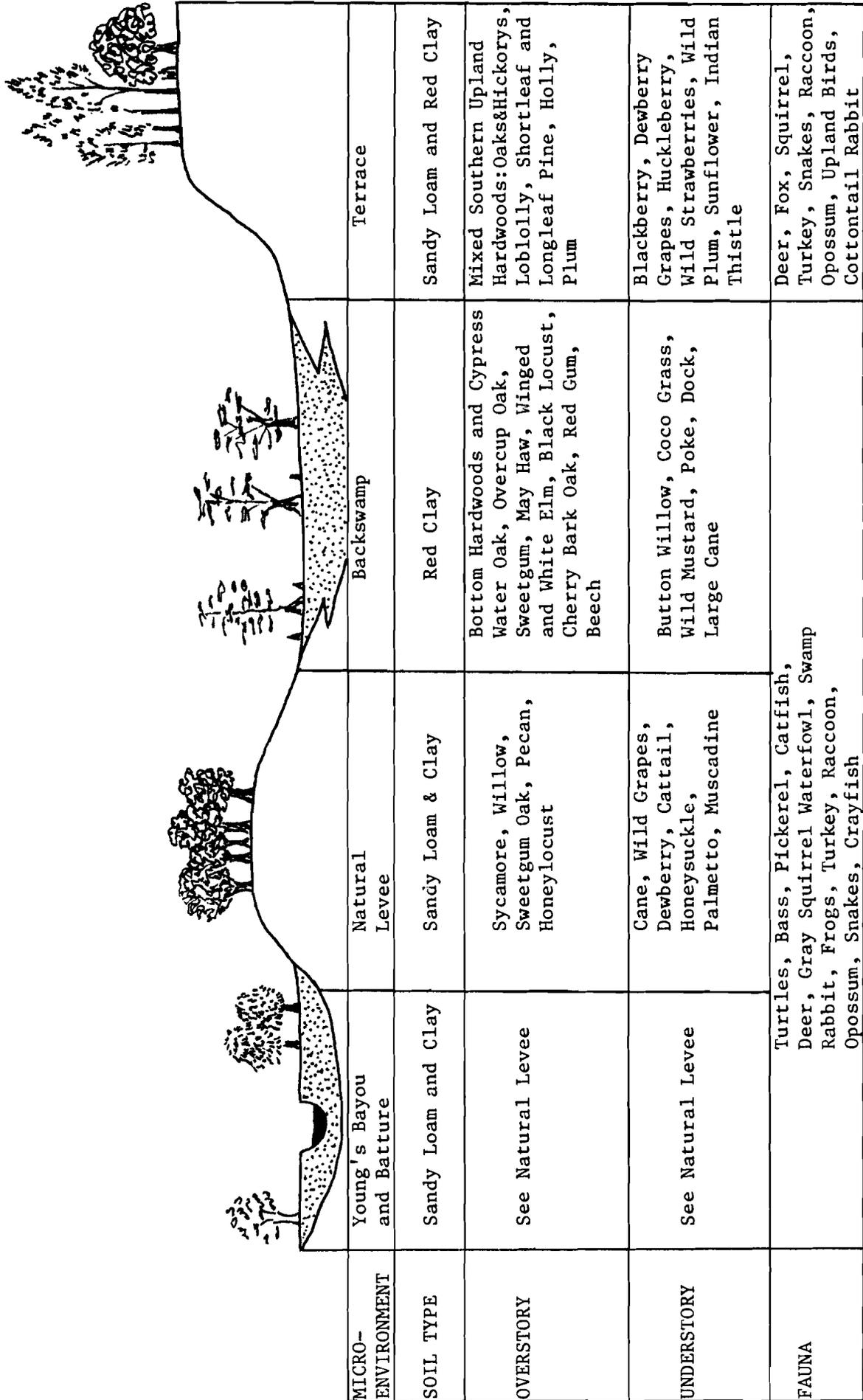


TABLE 1. FLORA OF THE YOUNG'S BAYOU AREA

COMMON NAME	SCIENTIFIC NAME	PRESENT KNOWN USES	PART UTILIZED	SEASON AVAILABLE
Terrace				
Microenvironment:				
Longleaf Pine	<u>Pinus palustris</u>	Baskets, Food, Glue	Needles, Seed, Gum	Spring
Shortleaf Pine	<u>Pinus echinata</u>	Baskets, Food, Glue	Needles, Seed, Gum	Spring
Black Walnut	<u>Juglans nigra</u>	Food, Dyeing, Tanning	Nut	Fall
Sweetgum & Redgum	<u>Liquidambar straciflua</u>	Medicine, Gum	Sap	Spring, Summer
Southern Crab Apple	<u>Malus angustifolia</u>	Food	Fruit	Spring, Summer
Sumac	<u>Rhus dopallinum</u>	Pipestems, Drink	Berries	Spring, Summer
Poison Ivy	<u>Toxicodendron radicans</u>	Herb	Leaves	Spring
Red Buckeye	<u>Aesculus pavia</u>			
Devil's Walking Stick	<u>Aralia spinosa</u>			
American Holly	<u>Ilex opaca</u>			
Blackgum	<u>Nyssa sylvatica</u>	Food (Preserves)	Fruit	Spring, Summer
Persimmon	<u>Diospyros virginiana</u>	Food	Fruit	Fall, Winter
White Ash	<u>Frayinus americana</u>			
Bitternut Hickory	<u>Carya cordiformis</u>	Food, Stickball	Nuts	Summer, Fall
Cherry	<u>Prunus sp.</u>	Food	Fruit	
Osage Orange	<u>Maculura pomifera</u>	Food, Bow Wood	Fruit, Wood	
Muscadine	<u>Vitis rotundifolia</u>	Food	Fruit	Summer
Dewberry	<u>Rubus procumbens</u>	Food, Dyes	Berry	Summer
Blackberry	<u>Rubus canadensis</u>	Food, Dyes	Berry	Spring, Summer
Broomsedge Grass	<u>Andropogon virginicus</u>	Food	Seed	Fall
Swithgrass	<u>Panicum virgatum</u>	Food	Seed	Fall
Sunflower	<u>Helianthus annuus</u>	Food	Seed	Fall
Dandelion	<u>Taraxacum officinata</u>	Herb	Roots, Leaves	Winter, Spring
Indian Thistle	<u>Carduus edulis</u>	Food	Roots	Spring
Milkweed	<u>Asclepias syriaca</u>	Fiber for Darts	Fiber	Fall
Yaupon	<u>Ilex vomitoria</u>	Black Drink	Root, Leaves	Spring
Black Hickory	<u>Carya texana</u>	Food	Nut	Fall
Mockernut Hickory	<u>Carya tomentosa</u>	Food	Nut	Fall

COMMON NAME	SCIENTIFIC NAME	PRESENT KNOWN USES	PART UTILIZED	SEASON AVAILABLE
Backswamp Microenvironment:				
Bald Cypress	<u>Taxodium distichum</u>	Boat-making	Trunk	All
Pecan	<u>Carya illinoensis</u>	Food	Nut	Fall
Ironwood (Blue Beech)	<u>Ostrya carolinian</u>	Food	Fruit	Fall
American Hornbeam	<u>Ostrya carolinian</u>	Food		Fall
Carolina Beech	<u>Fagus granifolia</u>	Food		Fall
Chinquapin	<u>Castanea pumila</u>	Food	Fruit	Fall (September)
White Oak	<u>Quercus alba</u>	Food, Drink, Flower	Nut	Fall (September)
Burr Oak	<u>Quercus macrocarpa</u>	Food	Nut	Fall
Overcup Oak	<u>Quercus lyrata</u>	Food	Nut	Fall
Cow Oak	<u>Quercus prinus</u>	Food	Nut	Fall
Basket Oak	<u>Quercus prinus</u>	Food	Nut	Fall
Cherryback Oak	<u>Quercus falcata</u>	Food	Nut	Fall
Southern Red Oak	<u>Quercus falcata</u>	Food	Nut	Fall
Water Oak	<u>Quercus nigra</u>	Food	Nut	Fall
American Elm	<u>Ulmus americanus</u>	Food	Seed	Fall
Winged Elm	<u>Ulmus alata</u>	Food	Seed	Fall
Hackberry	<u>Celtis laevigata</u>	Food	Fruit	Late Summer and Fall
Sugarberry	<u>Celtis laevigata</u>	Food	Leaves	Late Summer and Fall
Magnolia	<u>Magnolia grandiflora</u>	Food	Leaves, Fruit	
Southern Sweetbay	<u>Magnolia virginiana</u>	Food		
Tuliptree	<u>Liriodendron tulipifora</u>	Food		
Yellow Poplar	<u>Liriodendron tulipifora</u>	Food		
Sassafrass	<u>Sassafrass albidum</u>	Food, Drink	Roots, Leaves	Summer
Redbud	<u>Cercis canadensis</u>			
Judas Tree	<u>Cercis canadensis</u>			
Honeylocust	<u>Gleditsia triacanthos</u>	Food	Pod, Seed	Spring and Summer
Black Locust	<u>Robinia pseudoacanthos</u>	Food	Pod, Seed	Spring and Summer
Hercules Club	<u>Zanthorylum calaua</u>	Deadening Effect	Bark	Spring and Summer
Toothache Tree	<u>Zanthorylum calaua</u>	Deadening Effect	Bark	
Prickley-Ash	<u>Zanthorylum calaua</u>	Deadening Effect	Bark	
Swamp Hickory	<u>Carya leidodermus</u>	Food	Nut	Fall

COMMON NAME	SCIENTIFIC NAME	PRESENT KNOWN USES	PART UTILIZED	SEASON AVAILABLE
Backswamp				
Microenvironment:				
Red Maple	<u>Acer rubrum var. rubrum</u>	Food	Sap	Spring and Fall
Soapberry	<u>Sapindus drummondii</u>	Food	Root	
Chinatree	<u>Sapindus drummondii</u>	Food	Root	
Basswood	<u>Tilia floridana</u>	Tea	Flower	Spring
Dogwood	<u>Cornus florida</u>			
Water Tupelo	<u>Nyssa pouatica</u>	Food	Fruit	Spring and Summer
Wild Azalea	<u>Rhododendron canescens</u>			
Honeysuckle	<u>Rhododendron canescens</u>	Juice, Scent	Flower, Twigs	Spring and Summer
Cottonwood	<u>Populus deltoides</u>			
Water Hickory	<u>Carya aquatica</u>	Food, Bows, Stickball	Nuts	Summer and Fall
Palmetto	<u>Sabal sp.</u>	Food	Seed, Bud	Summer
Coco Grass	<u>Cyperus rotundus</u>	Food	Tuber	Spring and Summer
Wild Strawberry	<u>Fragaria virginiana</u>	Food	Berry	Summer
Cattail	<u>Typha latifolia</u>	Food	Tuber	Spring
Wild Potato	<u>Solanum sp.</u>	Food	Tuber	Summer
Wild Mustard	<u>Brassica arvensis</u>	Food	Leaf	Fall
Rice Grass	<u>Oryzopsis hymenoides</u>	Food	Seed	Summer
Arrowhead	<u>Sagittaria latifolia</u>	Food	Root	Summer
Tawkee	<u>Orontium aquaticum</u>	Food	Root, Seed	Summer
Natural Levee				
Microenvironment:				
Red Mulberry	<u>Morus rubra</u>	Food	Fruit	Summer (July)
Pickereel Weed	<u>Lactuca scariola</u>	Food	Leaf	Spring
Poke	<u>Phytolacca decandra</u>	Food	Leaf, Stalk	Spring
Dock	<u>Rumex crispus</u>	Food, Dyestuff	Leaf	Spring
Wild Lettuce	<u>Lactuca canadensis</u>	Food	Leaf	Spring and Summer
Large Cane	<u>Arundinaria macrosperma</u>	Food, Baskets, Darts, Blowguns, Knives, Spears	Seed, Stalk	Summer and Fall

COMMON NAME	SCIENTIFIC NAME	PRESENT KNOWN USES	PART UTILIZED	SEASON AVAILABLE
Batture				
Microenvironment:				
Black Willow	<u>Salix nigra</u>			
Pin Oak	<u>Quercus phellos</u>	Food	Nut	Fall
Lotus Water	<u>Nelumbo lutea</u>	Food	All of Plant	Summer
American Sycamore	<u>Platanus occidentalis</u>	Food (sugar)	Sap	Spring

REFERENCES:

- Brown 1964
 Gibbons 1962
 Kingsbury 1965
 LSU Cooperative Extension Service 1958
 Miedsger 1939, 1966
 USDA 1948
 Wilson, et al. 1962
 Wilson and Larson 1940
 Wood, personal communication, 1974

TABLE 2. Fauna of the Young's Bayou Area

REFERENCES:

Baumgardner, personal communication, 1974; Blair, *et al.* 1968; Collins 1959; Murphy 1967; Stalling, Verret, Viers, personal communication, 1974.

COMMON NAME	SCIENTIFIC NAME
MAMMALS	
Opossum	<u>Didelphis marsupialis</u>
Short Tailed Shrew	<u>Blarina brevicauda</u>
Least Shrew	<u>Cryptotis parva</u>
Eastern Mole	<u>Scalopus aquaticus</u>
Eastern Pipistrelle Bat	<u>Pipistrellus subflavus</u>
Big Brown Bat	<u>Eptesicus fuscus</u>
Red Bat	<u>Lasiurus borealis</u>
Hoary Bat	<u>Lasiurus cinereus</u>
Evening Bat	<u>Nycticeius humeralis</u>
Yellow Bat	<u>Lasiurus intermedius</u>
Seminole Bat	<u>Lasiurus seminolus</u>
Silver-Haired Bat	<u>Lasionycteris noctivagans</u>
Eastern Freetail Bat	<u>Tadarida brasiliensis</u>
Eastern Cottontail Rabbit	<u>Sylvilagus floridanus</u>
Swamp Rabbit	<u>Sylvilagus aquaticus</u>
Fox Squirrel	<u>Sciurus niger</u>
Southern Flying Squirrel	<u>Glaucomys volans</u>
Marsh Rice Rat	<u>Oryzomys palustris</u>
Fulvous Mouse	<u>Reithrodontomys fulvescens</u>
Cotton Mouse	<u>Peromyscus gossypinus</u>
Golden Mouse	<u>Peromyscus Nuttalli</u>
Hispid Cotton Rat	<u>Sigmodon hispidus</u>
Eastern Wood Rat	<u>Neotoma floridana</u>
Pine Vole	<u>Pitymis pinetorum</u>
Muskrat	<u>Ondatra zibethicus</u>
Red Wolf	<u>Canis niger rufus</u>
Red Fox	<u>Vulpes fulva</u>
Gray Fox	<u>Urecyon cinereoargenteus</u>
Black Bear	<u>Ursus americanus</u>
Raccoon	<u>Procyon lotor</u>
Long Tailed Weasel	<u>Mustela frenata</u>
Mink	<u>Mustela vison</u>
Eastern Spotted Skunk	<u>Spilogale putorius</u>
Striped Skunk	<u>Mephitis mephitis</u>
River Otter	<u>Lutra canadensis</u>
Bobcat	<u>Lynx rufus</u>
Cougar	<u>Felis concolor</u>
White Tailed Deer	<u>Odocoileus virginianus</u>
American Bison	<u>Bison bison</u>
Eastern Pocket Gopher	<u>Geomys bursarius</u>
White Footed mouse	<u>Peromyscus leucopus</u>
Beaver	<u>Castor canadensis</u>

COMMON NAME	SCIENTIFIC NAME
AMPHIBIANS	
Mudpuppy	<u>Necturus maculosus</u>
Lesser Siren	<u>Siren intermedia</u>
Spotted Salamander	<u>Ambystoma maculatum</u>
Marbled Salamander	<u>Ambystoma opacum</u>
Mole Salamander	<u>Ambystoma talpoideum</u>
Small Mouthed Salamander	<u>Ambystoma texanum</u>
Newt	<u>Diemictylus viridescens</u>
Amphiuma	<u>Amphiuma means</u>
Dusky Salamander	<u>Desmognathus fuscus</u>
Woodhouse's Toad	<u>Bufo woodhousei</u>
Cricket Frog	<u>Acris gryllus</u>
Green Tree Frog	<u>Hyla cinerea</u>
Spring Peeper	<u>Hyla crucifer</u>
Gray Tree Frog	<u>Hyla versicolor</u>
Squirrel Tree Frog	<u>Hyla squirella</u>
Chorus Frog	<u>Pseudacris nigrita</u>
Narrow Mouthed Toad	<u>Gastrophryne carolinensis</u>
Bullfrog	<u>Rana catesbiana</u>
Green Frog	<u>Rana clamitans</u>
Leopard Frog	<u>Rana pipiens</u>
American Alligator	<u>Alligator mississippiensis</u>
REPTILES	
Snapping Turtle	<u>Chelydra serpentina</u>
Alligator Snapping Turtle	<u>Macrochelus temmicki</u>
Stinkpot	<u>Sternotherus odoratus</u>
Mud Turtle	<u>Kinosternon subrubrum</u>
Box Turtle	<u>Terrapene carolina</u>
False Map Turtle	<u>Graptemys pseudogeographica</u>
Cooter	<u>Pseudemys floridana</u>
Pond Slider	<u>Pseudemys scripta</u>
Spiny Softshell	<u>Trionyx spinifer</u>
Smooth Softshell	<u>Trionyx muticus</u>
Green Lizard	<u>Anolis carolinensis</u>
Eastern Fence Lizard	<u>Sceloporus undulatus</u>
Slender Glass Lizard	<u>Ophisaurus attenuatus</u>
Six-Lined Racerunner	<u>Cnemidophorus sexlineatus</u>
Ground Skink	<u>Lygosoma laterale</u>
Five-Lined Skink	<u>Eumeces fasciatus</u>
Broad-Headed Skink	<u>Eumeces laticeps</u>
Graham's Water Snake	<u>Natrix grahami</u>
Glossy Water Snake	<u>Natrix rigida</u>
Green Water Snake	<u>Natrix cycloplan</u>
Plain-Bellied Water Snake	<u>Natrix eryrogaster</u>
Diamond-Backed Water Snake	<u>Natrix rhombifera</u>

COMMON NAME	SCIENTIFIC NAME
REPTILES (continued)	
Common Water Snake	<u>Natrix sipedon</u>
Brown Snake	<u>Storeria dekayi</u>
Red-Bellied Snake	<u>Storeria occipitomaculata</u>
Ribbon Snake	<u>Thamnophis sauritus</u>
Common Garter Snake	<u>Thamnophis sirtalis</u>
Rough Earth Snake	<u>Haldea striatula</u>
Smooth Earth Snake	<u>Haldea valeriae</u>
Eastern Hognose Snake	<u>Heterodon platyrhinos</u>
Eastern Ringneck Snake	<u>Diadophis punctatus</u>
Mud Snake	<u>Farancia abacura</u>
Racer	<u>Coluber constrictor</u>
Eastern Coachwhip	<u>Masticophis flagellum</u>
Rough Green Snake	<u>Opheodrys aestivus</u>
Rat Snake	<u>Elaphe obsoleta</u>
Prairie Kingsnake	<u>Lampropeltis calligaster</u>
Common Kingsnake	<u>Lampropeltis getulus</u>
Eastern Coral Snake	<u>Micrurus fulvius</u>
Copperhead	<u>Agkistrodon contortrix</u>
Cottonmouth	<u>Agkistrodon piscivorus</u>
Pigmy Rattlesnake	<u>Sistrurus miliarius</u>
Timber Rattlesnake	<u>Crotalus horridus</u>
FISH	
Golden Minnow	<u>Notemigonus crysoleucas</u>
Suckermouth Minnow	<u>Phenacobius mirabilis</u>
Silvery Minnow	<u>Hybognathus nuchalis</u>
Channel Catfish	<u>Ictalurus punctatus</u>
Blue Catfish	<u>Ictalurus furcatus</u>
Black Bullhead	<u>Ictalurus melas</u>
Flathead Catfish	<u>Pylodictis olivaris</u>
Spotted Bass	<u>Micropterus punctulatus</u>
Largemouth Bass	<u>Micropterus salmoides</u>
Longear Sunfish	<u>Lepomis megalotis</u>
Black Crappie	<u>Pomoxis nigromaculatus</u>
Yellow Perch	<u>Perca flavescens</u>
Freshwater Drum	<u>Aplodinotus grunniens</u>
Spotted Garfish	<u>Lepisosteus oculatus</u>
Largemouth Buffalofish	<u>Ictiobus cyprinellus</u>
Smallmouth Buffalofish	<u>Ictiobus bubalus</u>
Grass Pickerel (Jackfish)	<u>Esox americanus</u>
Chain Pickerel	<u>Esox niger</u>
Redear Sunfish	<u>Lepomis microlophus</u>
Bluegill Sunfish	<u>Lepomis macrochirus</u>
Warmouth (Goggleeye)	<u>Chaenobryttus gulosus</u>
Green Sunfish	<u>Lepomis cyanellus</u>

COMMON NAME	SCIENTIFIC NAME
FISH (continued)	
Longnose Gar	<u>Lepisosteus osseus</u>
Alligator Gar	<u>Lepisosteus spatula</u>
Shortnose Gar	<u>Lepisosteus platostomus</u>
INVERTEBRATES	
Mussel	<u>Mytilus sp.</u> ; <u>Modiolus sp.</u>
Crayfish	<u>Procambarus sp.</u>
BIRDS	
Pied-Billed Grebe	<u>Podilymbus podiceps</u>
Double Crested Cormorant	<u>Phalacrocorax auritus</u>
Great Blue Heron	<u>Ardea herodias</u>
Common Egret	<u>Casmerodius albus</u>
Louisiana Heron	<u>Hydranassa tricolor</u>
Black-Crowned Night Heron	<u>Nycticorax nycticorax</u>
Yellow-Crowned Night Heron	<u>Nyctanassa violacea</u>
Least Bittern	<u>Ixobrychus exilis</u>
American Bittern	<u>Botaurus lentiginosus</u>
Canada Goose	<u>Branta canadensis</u>
White-Fronted Goose	<u>Anser albifrons</u>
Mallard	<u>Anas platyrhynchos</u>
Black Duck	<u>Anas rubripes</u>
Gadwall	<u>Anas strepera</u>
Pintail	<u>Anas acuta</u>
Green-Winged Teal	<u>Anas carolinensis</u>
Blue-Winged Teal	<u>Anas discors</u>
American Widgeon	<u>Mareca americana</u>
Wood Duck	<u>Aix sponsa</u>
Ring-Necked Duck	<u>Aythya collaris</u>
Canvasback	<u>Aythya valisneria</u>
Lesser Scaup	<u>Aythya affinis</u>
Common Golden-Eye	<u>Bucephala clangula</u>
Bufflehead	<u>Glaucionetta albeola</u>
Ruddy Duck	<u>Erismatura jamaicensis rubida</u>
Hooded Merganser	<u>Lophodytes cucullatus</u>
Common Merganser	<u>Mergus merganser</u>
Turkey Vulture	<u>Cathartes aura</u>
Black Vulture	<u>Coragyps atratus</u>
Goshawk	<u>Accipiter gentilis</u>
Sharp-Shinned Hawk	<u>Accipiter striatus</u>
Cooper's Hawk	<u>Accipiter cooperii</u>
Red-Tailed Hawk	<u>Buteo jamaicensis</u>
Red-Shouldered Hawk	<u>Buteo lineatus</u>
Bald Eagle	<u>Haliaeetus leucocephalus</u>

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>
BIRDS (continued)	
Marsh Hawk	<u>Circus cyaneus</u>
Sparrow Hawk	<u>Falco sparverius</u>
Bob-White	<u>Colinus virginianus</u>
Turkey	<u>Meleagris gallopavo</u>
American Coot	<u>Fulica americana</u>
Kildeer	<u>Charadrius vociferus</u>
American Woodcock	<u>Philohela minor</u>
Common Snipe	<u>Capella gallinago</u>
Herring Gull	<u>Larus argentatus</u>
Mourning Dove	<u>Zenaidura macroura</u>
Barn Owl	<u>Tyto alba</u>
Screech Owl	<u>Otus asio</u>
Great Horned Owl	<u>Bubo virginianus</u>
Barred Owl	<u>Strix varia</u>
Ruby-Throated Hummingbird	<u>Archilochus colubris</u>
Snowy Egret	<u>Leucophoyx thula</u>
Belted Kingfisher	<u>Megaceryle alcyon</u>
Yellow Shafted Flicker	<u>Colaptes auratus</u>
Pileated Woodpecker	<u>Dryocopus pileatus</u>
Red-Bellied Woodpecker	<u>Centurus carolinus</u>
Red-Headed Woodpecker	<u>Melanerpes erythrocephalus</u>
Yellow-Bellied Sapsucker	<u>Sphyrapicus varius</u>
Hairy Woodpecker	<u>Dendrocopus villosus</u>
Downy Woodpecker	<u>Dendrocopus pubescens</u>
Red-Cockaded Woodpecker	<u>Dendrocopus borealis</u>
Eastern Kingbird	<u>Tyrannus tyrannus</u>
Great Crested Flycatcher	<u>Myiarchus crinitus</u>
Acadian Flycatcher	<u>Empidonax virescens</u>
Rough-Winged Swallow	<u>Stelgidopteryx ruficollis</u>
Purple Martin	<u>Progne subis</u>
Blue Jay	<u>Cyanocitta cristata</u>
Common Crow	<u>Corvus brachyrhynchos</u>
Carolina Chickadee	<u>Parus carolinensis</u>
Tufted Titmouse	<u>Parus bicolor</u>
White-Breasted Nuthatch	<u>Sitta carolinensis</u>
Brown-Headed Nuthatch	<u>Sitta pusilla</u>
Brown Creeper	<u>Certhia familiaris</u>
House Wren	<u>Troglodytes aedon</u>
Carolina Wren	<u>Thryothorus ludovicianus</u>
Mockingbird	<u>Mimus polyglottos</u>
Catbird	<u>Dumetella carolinensis</u>
Brown Thrasher	<u>Toxostoma rufum</u>
Robin	<u>Turdus migratorius</u>
Eastern Bluebird	<u>Sialia sialia</u>
Water Pipit	<u>Anthus spinoletta</u>
Loggerhead Shrike	<u>Lanius ludovicianus</u>

COMMON NAME	SCIENTIFIC NAME
BIRDS (continued)	
Starling	<u>Sturnus vulgaris</u>
Pine Warbler	<u>Dendrocia pinus</u>
House Sparrow	<u>Passer domesticus</u>
Eastern Meadowlark	<u>Sturnella magna</u>
Red-Winged Blackbird	<u>Agelaius phoeniceus</u>
Brewers Blackbird	<u>Euphagus cyanocephalus</u>
Common Grackle	<u>Quiscalus quiscula</u>
Brown-Headed Cowbird	<u>Molothrus ater</u>
Cardinal	<u>Richmondia cardinalis</u>
Purple Finch	<u>Carpodacus purpureus</u>
American Goldfinch	<u>Spinus tristis</u>
Lark Sparrow	<u>Chondestes grammacus</u>
Bachmans Sparrow	<u>Aimophila aestivalis</u>
Chipping Sparrow	<u>Spizella passerina</u>
Field Sparrow	<u>Spizella pusilla</u>

implications of past patterns of settlement can be made from such factors as the seasonal availability of specific contemporary flora and fauna in each ecological zone (Chang 1968, 1973). The contemporary ecological model, in conjunction with archaeological evidences of floral and faunal remains and technology, can provide valuable evidences of past exploitative economies.

THE MACROENVIRONMENT: NORTHWEST LOUISIANA UPLANDS

The Young's Bayou area is located in the ecological division of Louisiana described by St. Amant (1959:68) as the Northwest Louisiana Uplands. This division, the largest one described by St. Amant, makes up all or part of 18 parishes. An area of hills, it is geologically the oldest division of the state. St. Amant describes the division as follows:

The forests of this division are extensive, consisting of more than 5,300,000 acres or some 68 percent of the total area. This vast forest is basically divided into pure pine (43 percent), pine-hardwood (28 percent), and mixed bottom land hardwood (27.8 percent)(St. Amant 1959:68-79).

Climate

The climate of Natchitoches Parish is described by Newcome, et al. (1963:9-12) as follows:

Natchitoches Parish has a humid subtropical climate. The average annual temperature is 67°F, and daily temperatures rarely exceed 100° in the summer or drop below 20° in the winter. Spring and fall weather is pleasant, but considerable rainy weather occurs during the winter. The average length of the growing season is about 240 days. Average annual rainfall, for the standard 30-year period 1921-50, is about 53 inches.

Soils

According to the United States Department of Agriculture Soil Conservation Service (1972), the predominant soils in the Young's Bayou area are soils of the Shubuta-Boswell association, described as follows:

This is an area of gently sloping, acid soils with clayey subsoils that occur throughout most of the parish. The area is dissected by numerous small drainageways. These soils are used mostly for woodland with a small acreage being used for pasture. The well-drained Shubuta soils, mostly on side slopes, make up about 43 percent of the association. They have a grayish-brown fine sandy loam surface and a red sandy clay subsoil. Ironstone fragments are common in some of these soils. The moderately well drained Boswell soils on ridgetops and side slopes make up about 33 percent of the association. They have a dark brown very fine sandy loam surface and a red clay subsoil mottled in the lower part with gray. Ruston, Sawyer, Susquehanna, and Vaiden soils and soils along the small drainageways make up most of the remaining 24 percent of the association (USDA-SCS, May 1972).

MICROENVIRONMENTS OF THE YOUNG'S BAYOU AREA

Microenvironments have been described as "smaller sub-divisions of large ecological zones (macroenvironments)" (Coe and Flannery 1964:650). In this study, the term "microenvironment" is used to describe a physiographic unit which has distinctive floral and faunal associations.

Five microenvironments have been defined for the immediate Young's Bayou area: Young's Bayou, batture, natural levee, backswamp, and terrace. These are illustrated in Figure 1 with the soil types and some of the predominant floral and faunal associations listed. Ecological traverses were made by two Northwestern State University students, Lee Wood and William Verret, for the purpose of defining what floral and faunal resources may have been available to aboriginal occupants. The results of these field surveys are listed in Tables 1 and 2. The biomass potential of these microenvironments suggests that prehistoric sites, located on ecotones, or "edge" areas between microenvironments, could have provided localities of "maximum forest efficiency" (Caldwell 1958, 1965) and maximum swampland efficiency (Gregory 1965:70-72). The suggestion here is that the archaeological sites in the Young's Bayou are situated in locations where maximal utilization of floral and faunal resources, through hunting, fishing, fowling, and gathering, could have made the development of an agricultural economy unnecessary.

Theoretically, interrelationships between socio-cultural remains and phenomena and the microenvironment are the concern of cultural ecology (Chang 1966:94), but the three "fundamental procedures of cultural ecology" listed by Steward (1955:40-41) are equally applicable to archaeology:

1. The analysis of the interrelationship of exploitative or productive technology and environment;
2. The behavior patterns involved in the exploitation of a particular area by means of a particular technology;
3. The extent to which the behavior patterns entailed in exploiting the environment affect other aspects of culture.

Variations between cultures are viewed archaeologically as different adaptations to specific environments; accordingly, varying ecological potentialities are linked to different exploitative economies and to differing integrative requirements met by differing forms of social structure (Streuver 1968:133).

REFERENCES

- Blair, W. Frank, Albert P. Blair, Pierce Brodkrob, Fred R. Cagle, and George A. Moore
1968 Vertebrates of the United States. McGraw-Hill Book Company, New York.
- Brown, Clair A.
1964 Commercial trees of Louisiana. Louisiana Forestry Commission Bulletin 10.
- Caldwell, Joseph R.
1958 Trend and tradition in the prehistory of the eastern United States. American Anthropologist 60:6; American Anthropological Association Memoir 88; and Illinois State Museum Scientific Papers, 1958.
1965 Primary forest efficiency. Southeastern Archaeological Conference Bulletin 3. Proceedings of the Twenty-first Southeastern Archaeological Conference, 1965.
- Chang, K. C.
1966 Rethinking archaeology. Random House, Inc., New York.
1968 Settlement archaeology. National Press, Palo Alto, California.
1973 Settlement pattern in archaeology. Addison-Wesley module in anthropology 24:1-26.
- Coe, Michael D., and Kent V. Flannery
1964 Microenvironments and Mesoamerican prehistory. Science 143:650-54.
- Collins, Henry Hill, Jr.
1959 Complete guide to American wildlife. Harper and Brothers, Publishers, New York.
- Gibbons, Euell
1962 Stalking the wild asparagus. David McKay and Company, Inc., New York.

- Gregory, Hiram F.
 1965 Maximum forest efficiency: swamp and upland potentials. Southeastern Archaeological Conference Bulletin 3. Proceedings of the Twenty-first Southeastern Archaeological Conference 1965.
- Kingsbury, John M.
 1965 Deadly harvest, a guide to common poisonous plants. Holt, Rinehart, and Winston, New York.
- Louisiana State University Cooperative Extension Service
 1958 Louisiana trees. Extension Publication 1093. Louisiana State University Press, Baton Rouge.
- Miedsger, Oliver Perry
 1939 Edible wild plants. MacMillan Company, New York. Reprint, 1966.
- Murphy, Robert Cushman
 1967 Larousse encyclopedia of animal life. Paul Homlyn, Publishers, New York.
- Newcome, Roy, Jr., Leland V. Page, and Raymond Sloss
 1963 Water resources of Natchitoches Parish, Louisiana. Louisiana Geological Survey, Department of Conservation and Louisiana Department of Public Works, Baton Rouge.
- St. Amant, Lyle S.
 1959 Louisiana wildlife inventory and management plan. Louisiana Wildlife and Fisheries Commission, Pittman-Robertson Section, Fish and Game Division, Baton Rouge.
- Smith, Brent W.
 1974 Prehistoric settlement patterns of the Young's Bayou Drainage, Natchitoches Parish, Louisiana. Unpublished master's thesis, Department of Social Sciences, Northwestern State University of Louisiana.
- Steward, Julian H.
 1955 Theory of culture change. University of Illinois Press, Urbana.
- Streuver, Stuart
 1968 Problems, methods and organization: a disparity in the growth of archeology. In B. Meggers, Anthropological archeology in the Americas. Anthropological Society of Washington, Washington.
- United States Department of Agriculture
 1948 Grass. In The Yearbook of Agriculture. U.S. Government Printing Office, Washington.
- United States Department of Agriculture, Soil Conservation Service
 1972 General Soil Map, Natchitoches Parish, Louisiana, Alexandria.
- Wilson, Carl L., Walter E. Loumis, and Taylor A. Steeves
 1962 Botany. Holt, Rinehart and Winston, New York.
- Wilson, K. Harold and Alvin H. Larson
 1940 Identification and judging crops, weeds, and diseases. Interstate, Danville, Illinois.

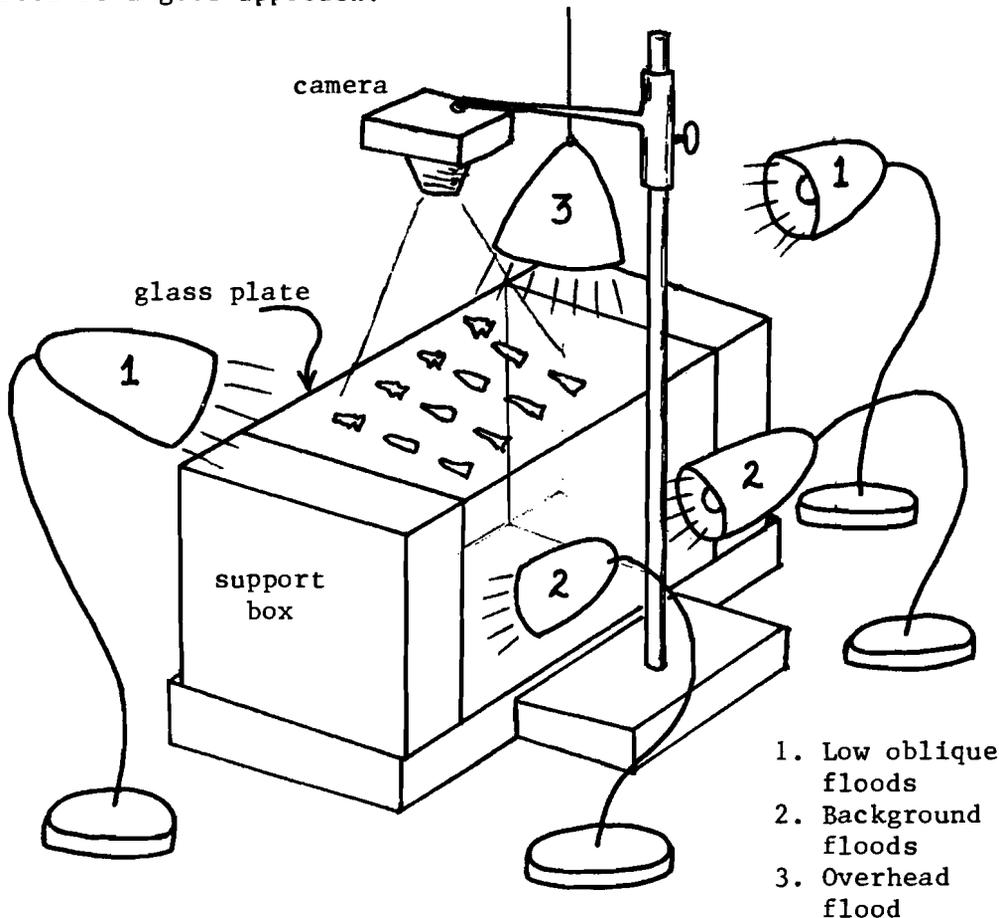
QUESTION BOX: ARCHAEOLOGICAL PHOTOGRAPHY

Question: How would you set up an artifact to photograph it properly?

Answer: Richard A. Marshall, Cobb Institute of Archaeology, MSU

There are many ways that work satisfactorily. The purpose of any photography of an artifact is accurate portrayal. The "best" way varies with what is to be photographed. I have enclosed a bibliography regarding archaeological photography. It more or less covers the whole subject.

I have found that the best way to photograph artifacts is to group the artifacts according to thickness, and, when there is a considerable range in color, by color. These then are placed on a glass plate and arranged in the desired order. The glass plate is elevated some 12 to 18 inches above a white background. The background is lighted with a strong light. By going this route, you eliminate all shadows. The artifacts are also lighted from above and low oblique. The low oblique should be from two sources, or perhaps three if there is considerable relief. The camera is suspended over the artifacts high enough to take all of them in. The exposure should be with slow "f" stop and long exposure. During the exposure, one might want to slowly rotate the main low oblique light source to "build" the relief. The following drawing will rather illustrate what I feel is a good approach.



ARCHAEOLOGICAL PHOTOGRAPHY
A Bibliography

- Bascom, W. R.
1941 Possible application of kit photography to archaeology and ethnology. Illinois Academy of Science Transactions 34:2.
- Blaker, A. A.
1965 Photography for Scientific Publication: a handbook. W. H. Freeman. San Francisco.
- Buettner, Janusch J.
1954 Use of infrared photography in archaeological field work. American Antiquity 20:84-87.
- Clark, W.
1946 Photography by infrared, its principle and application (second edition). Wiley, New York.
- Cole, Fay-Cooper, and Deuel, T.
1937 Rediscovering Illinois. University of Chicago Press.
- Cookson, M. B.
1954 Photography for the archaeologist. Max Parrish, London.
- Erskine, C. H.
1965 Photographic documentation in archaeological research; increasing the information content. Science 148:1089-1090.
- Gebhard, D.
1960 Prehistoric paintings of the Diablo region of western Texas. Roswell Museum and Art Center Publications in Art and Science 3.
- Guy, P. L. O.
1932 Balloon photography and archaeological excavation. Antiquity 6:148-155.
- Ives, R. L.
1941 Photographing translucent, transparent, and multicolored artifacts. American Antiquity 6:263-265.
- John, D. H. O.
1965 Photography on Expeditions. Focal Press Inc., New York.
- Kelemen, P.
1946 PreColumbian Art and Art History. American Antiquity 11:145-154.
- Lutz, B. J., and Slaby, D. L.
1972 A Simplified Procedure for Photographing Obsidian. American Antiquity 37(4):262-263.
- MacDonald, G. F., and Sanger, D.
1968 Some Aspects of Microscope Analysis and Photo micrography. American Antiquity 33(2):237-240.
- Merrill, R. H.
1941a Photo-surveying assists archaeologists. Civil Engineering 11:233-235.
1941b Photographic Surveying. American Antiquity 6:343-346.
- Rovner, Irwin
1974 A Simpler Simplified Procedure for Photographing Obsidian. American Antiquity 39(4,1):617-618.
- Sanger, David
1973 Extreme Closeup Photography and Photomacrography. American Antiquity 38(2):210-215.

- Solecki, R. S.
1957 Practical aerial photography for archaeologists. American Antiquity 22:337-351.
- Swartz, B. K., Jr.
1963 Aluminum powder: a technique for photographically recording petroglyphs. American Antiquity 28:400-401.
- Webster, W. J. B.
1966 Ultra-violet photography of Australian rock paintings. American Antiquity 40:144.
- Whittlesey, J.
1967 Balloon over Sardis. Archaeology 20: 67-68.
- Wood, F. D.
1945 Color photography applied to stratigraphy. Connecticut Academy of Arts and Sciences, Transactions 36:879-882.

[NFPD 13 (1978) NL-3 (May), 2-4]

